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260   Meadville, Pa. $bGeorge H. St. John,
300   v. $bill. $c55 cm.
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500   Publisher: H.C. Crawford, <1896>.
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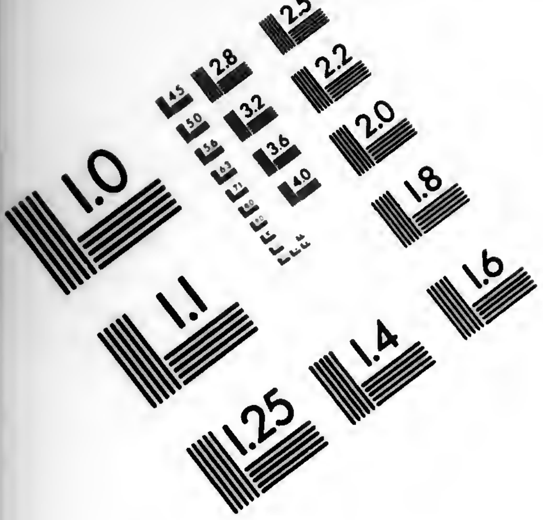
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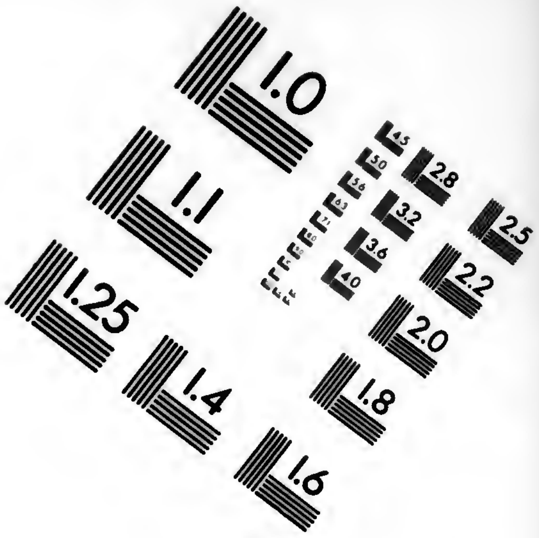
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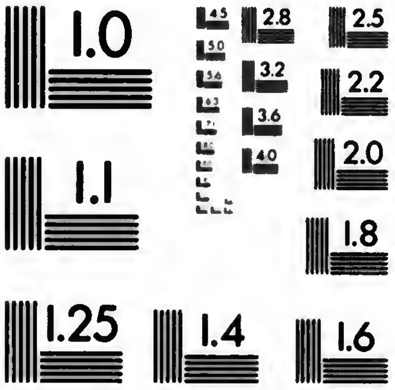
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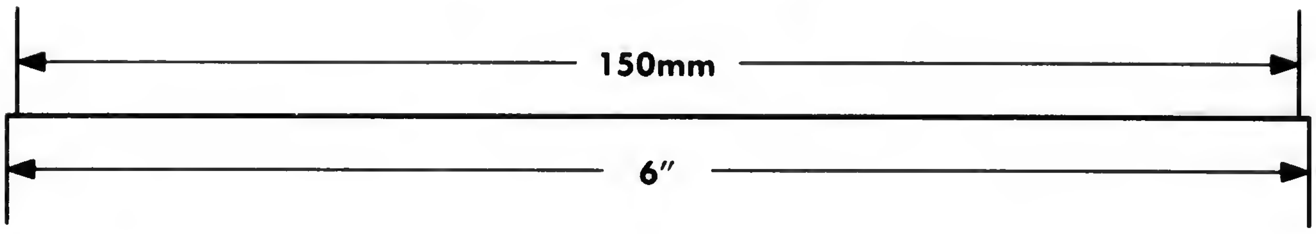

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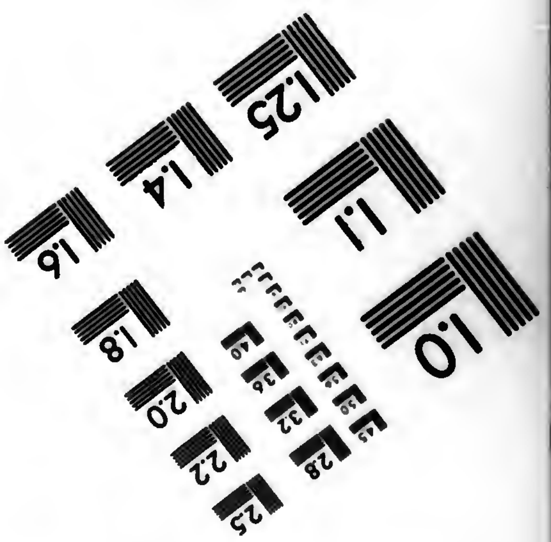
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M. J. Agr.

"The Banner American County"

Facts and Figures Presented to Show That Monmouth County, N. J., Holds the Honor

By C. C. HULSART

In the "Rural New Yorker" of September 20, page 1387 there appears an article under the above heading, and over the signature of Elmer J. Weaver.

I have read Mr. Weaver's article several times and note carefully what he says. Why I read this article more than once was: first, to digest and assimulate the facts contained therein; second, because I did not wholly agree with the author. However, I am proud of a man who has the courage and is imbued with sufficient Americanism to stand up for home, county or country. I certainly admire the author for expressing himself as his convictions dictate.

The writer of this article spent 14 days in Lancaster County a few years back, doing farmers' institute work, making the Wheatland Hotel in Lancaster City our headquarters. From there we radiated daily all over the County to attend the various meetings. During that fourteen days' stay, the writer saw much of the county, as well as meeting and conversing with thousands of the good people that reside therein. I can truthfull say I never spent a more pleasant or profitable like period in all my travels. I made the statement several times while in Lancaster County, that Monmouth County, N. J. (My home county) outclassed Lancaster in agricultural production. Since that time it has been conceded thru the public press that Monmouth leads. It is no fair comparison to take 472,795 improved farm acres as is contained in Lancaster County while Monmouth County has only 156,583 improved farm acres; over three times as much area and then make a blanket statement as to the total wealth and production of the County.

On an acre basis Monmouth County can snow Lancaster under and I propose to prove that statement before I conclude this article. Mr. Weaver emphasizes the fact that the farmers of Lancaster County do not gather their eggs all in one basket; meaning of course, diversity of cropping. Why my dear sir, Monmouth County is noted for its diversified farming. Furthermore, this County is fast becoming specialized with some of our leading crops. For example, Monmouth is rapidly surging to the front with many commercial apple orchards. Potato growing has become more or less specialized. Mr. Weaver says the Laurels are theirs "by right of organized industry." I fail to catch this thought in that expression, unless he means by their method of marketing. If he means by intensive methods, he loses out because Monmouth has Lancaster done to a finish on that score.

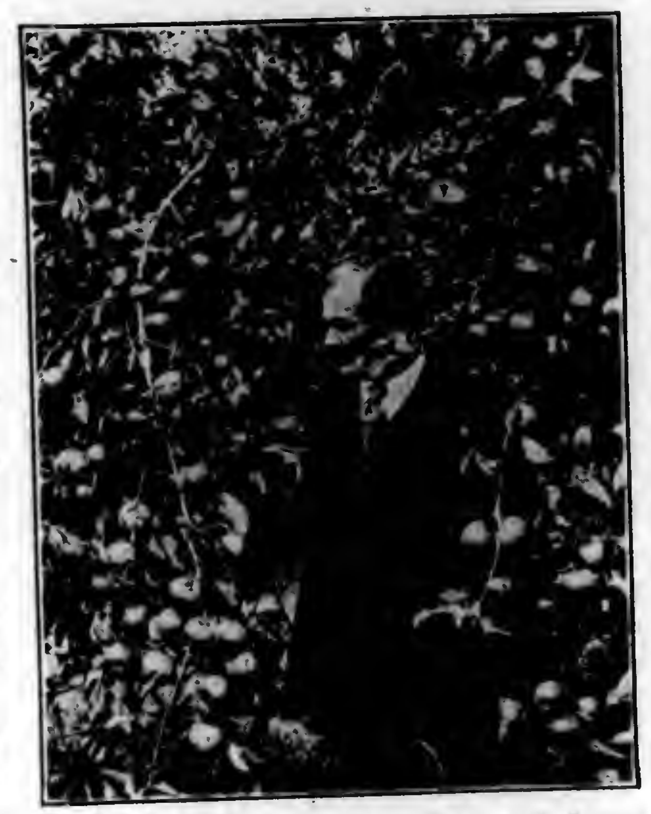

Fig. 1.—This Man's Orchard Returned $1,000 Per Acre

I have a farmer in mind this moment that is now harvesting a crop of spinach worth three or four hundred dollars per acre net. This crop was grown on same land that had produced this season a crop of early potatoes worth more than the spinach. The blackberry and strawberry crop was worth this season to those who grow it from 12 to 15 hundred dollars net per acre. A neighbor sold one thousand dollars worth of red raspberries in three days while it took three weeks to gather the whole crop.

I also know where as much as $200 was taken from an acre of egg plants. These are not isolated cases either. "Ours by right of organized industry" says Weaver. That reminds me of the story of a boy who had never been farther from home than the back pasture for the cows. This boy, Johnnie, was called on one day to go for the doctor; his little sister was very sick, and father away from home. Johnnie bridled the old mare, got astride her back and after receiving instructions from his mother, started for the doctor seven miles away. He made th trip and arrived home all right. As soon as opportunity offered, mother asked Johnnie what he thought of the country so far away from home. His answer was, "Whew, Mom, If it is as big tother way as it is the way I went, its a wopper."

Mr. Weaver says all anyone has to do to convince himself where Lancaster stands, is to look at the census figures. I refer him to the Josh Billings philosophy who says "There is three types of liars in this country; a liar, a d—m liar and statistics."

On more than one occasion the writer has endeavored to secure statistical data on truck and market garden crops. I have written Washington, to the State Department, and to field agents. My answer has invariably been: "We do not take and tabulate truck and garden crops." $2,001,775 is credited to Monmouth County in the 1910 census for vegetables. It won't cover the tomato crop alone, to say nothing about a dozen or more other crops that are grown com-

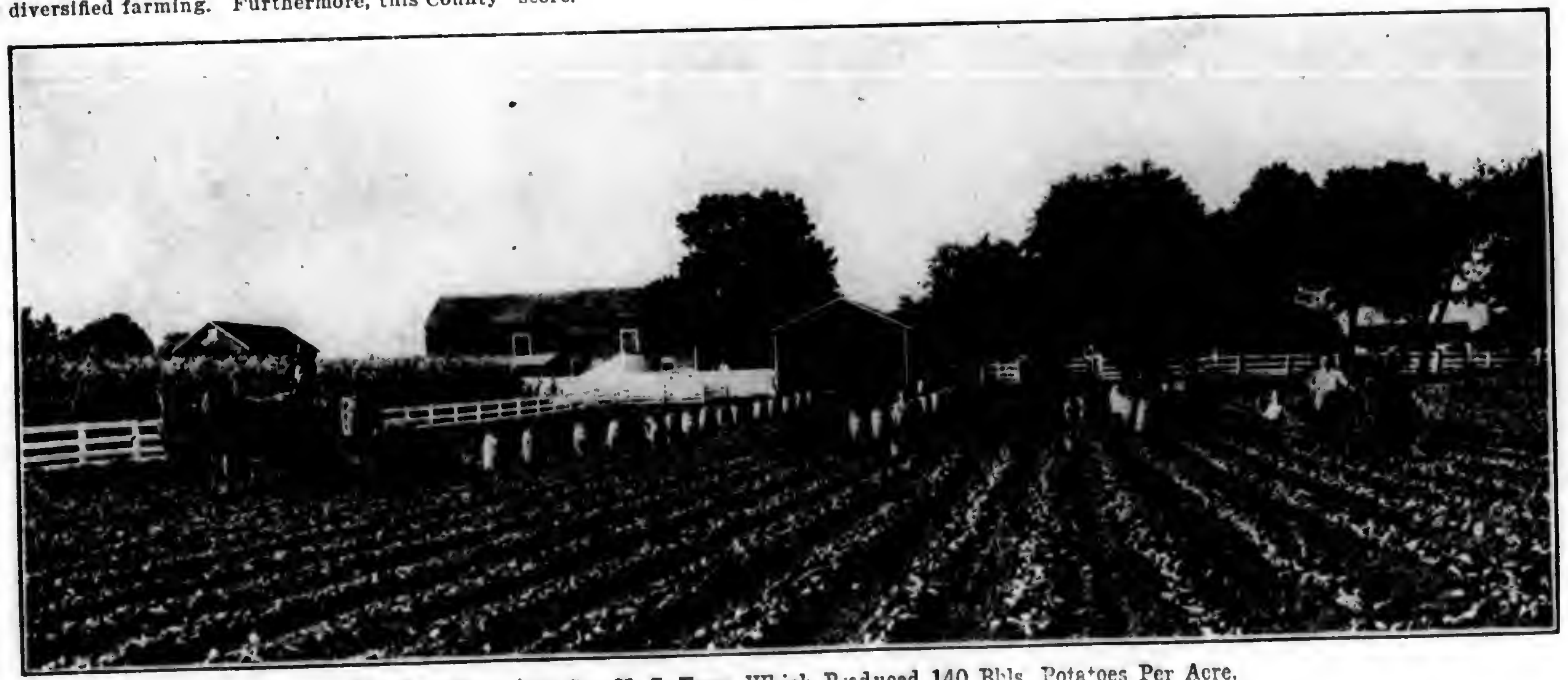

Fig. 2.—Monmouth Co., N. J. Farm Which Produced 140 Bbls. Potatoes Per Acre.

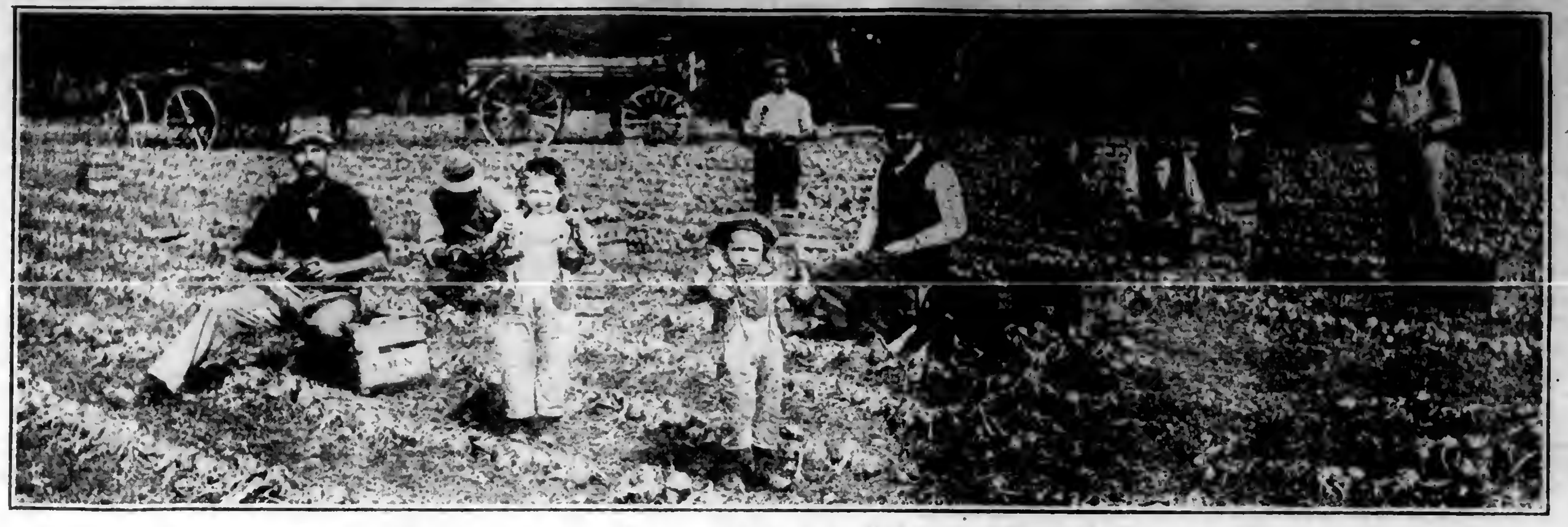

Fig. 3.—300 Bbls. Onions Per Acre.. On Farm of J. H. Stemler, Monmouth County, N. J.

mercially.

The average value of farm land per acre in 1900 was for Monmouth County $43.09; for Lancaster $55.71. In 1909 it had advanced to $71.57 for Monmouth County; and $69.90 for Lancaster. This is a gain for Lancaster of 20 percent. plus; also, a gain for Monmouth of 66 percent. over three times the gain in 10 years. Now, may I ask what causes gain or increased valuations? Is not the earning power the only thing to be considered? There was nothing in the history of this country during the period that would tend to inflate valuations. For the last 10 years, or since the last census was taken, farm values in this county have in many instances doubled. Farms that could be bought 10 years ago for 10 to 12 thousand dollars, are selling more quickly now for 20 to 25 thousand.

Let us look at this from a topographical viewpoint. Lancaster County is an inland county with Lancaster City its sole consuming centre of any size. Philadelphia is 60 miles away, rather a long distance to ship and dispose of perishable produce to good advantage; hence this class of produce must be limited in quantity to what can be disposed of near home. Monmouth is a coast county with 26 miles of ocean front beginning at Sandy Hook and ending at Manasquan River. That 26 miles is almost one continuous city. The stranger is unable to tell when motoring down the coast when he runs out of one municipality into another. The permanent population on this ocean front and villages and towns adjacent thereto will aggregate between 50 to one hundred thousand people, with a summer population of a million people.

Aside from the coast front Monmouth has some 10 miles of bay front that is becoming rapidly settled by city people, all of whom are consumers of the fresh vegetables grown in the county. Furthermore, on most Sundays and all holidays, one can see parked along Monmouth's 26 miles of ocean front and 10 miles of bay shore, together with those that are rolling to and from these, more automobiles than there is inhabitants in Lancaster County. More than 10,000 autos have entered Asbury Park in one day by actual count and that only covers one mile out of 26. The whole ocean and bay shores are alive with motors cars. These motorists come from many cities. Doubtless, some come from Lancaster County. It would be strange indeed, if the good people of Lancaster County did not want to see fine country and have a good time occasionally. Most everyone knows that Monmouth with her shore resorts can furnish all the pleasure anyone can wish. This motoring is mainly done by people of means; they usually stay one or more days, hence they must be fed. Now suppose they consume $2.50 for each person and 4 persons to each car and 25,000 cars come into an thru our county during the week and duplicate that number over Sunday; we have a grand total of half a million dollars weekly. This condition exists and it lasts from three and one half to four months. Furthermore, a motorist cannot travel two miles on any of the main thoroughfares leading to the shore without passing fruit and vegetable stands by the roadside where all sorts of produce from the farm are offered for sale. There are a hundred or more such stands thruout the county doing a season's business of from $1,000.00 all the way to $15,000 each.

Aside from the shore and motor car trade there are markets at Red Bank, a town of 12,000 or more inhabitants during the summer months. A thriving market is growing at Freehold where buyers come from other towns and shore sections. A very good curb market is at Perth Amboy; altho this city which is in itself larger than Lancaster City and located in the adjoining county of Middlesex, the produce sold in that market is mainly produced in Monmouth. This market is patronized every market day by buyers from numerous out-lying districts as far away as New Brunswick and Elizabeth.

Last, but not least are the great markets of New York City, Brooklyn and Newark. Remember that Monmouth County, N. J. is located within 4 hours by motor truck to the extreme market centre of 8,000,000 consumers.

I would like to know what a city of 50 or 55 thousand population like Lancaster would do with some of the leading crops produced in this county? Potatoes for one example, of which between one and two hundred carloads leave the county daily. What would it do with 10 to 15 thousand crates of tomatoes that frequently leave this county daily during the height of the picking season? Or, 9 to 10 thousand barrels of peppers that I have known to leave this county for market daily for two weeks or more during the fall pick. If one day's shipments from this county were dumped into the streets of Lancaster City there would not be inhabitants enough in the city to shovel it out the next day, including men, women and children.

Monmouth County is noted for its diversified farming; first, this is made possible by many types of soil. The central section being of the heavier type lends itself to maximum potato production, together with corn, wheat, hay, etc., all of which go to make an ideal rotation or cropping system. On the coastal and bay front—now remember there is over 35 miles—and along the tide water rivers and creeks leading thereto is the truck, small fruit and market garden section of the county. It is on these lighter soils that vast quantities of vegetables, small fruit, together with apples, peaches, pears, etc., are produced. This vast vegetable industry is made possible as well as profitable because of the fact that Monmouth is located within easy hauling distance of 8,000,000 consuming people. There is a thought right in that connection too, that I do not want to overlook! There are thousands of loads of this small fruit and produce delivered and sold to the hundreds of thousands of city people sojourning somewhere along Monmouth's many summer resorts, as well as thousands of dollars worth sold to the same class of people at home. In the aggregate these sales amount to a million dollars or more and they never enter official statistics.

Now as to yields on this sandy soil that many of my Pennsylvania friends may think too poor to raise even a disturbance upon, I beg privilege to quote. The writer has produced as high as 262 bbls. of carrots on a measured acre in one instance; and exceeded 200 bbls. frequently. He has also exceeded 200 bbls. of cantaloupes, per acre, and over 8,000 pints of red raspberries. I enclose a photograph Fig. 3, showing a 300 bbls. onion yield per acre from seed, and the rows sufficiently wide apart to permit horse cultivation at that. I also furnish photograph, Figure 2, showing a potato yield of 140 bbls. per acre; another, Figure 1, of an apple tree laden with fruit. This is the 1919 crop; an off year in this section for apples, yet this orchard netted $1,000 per acre.

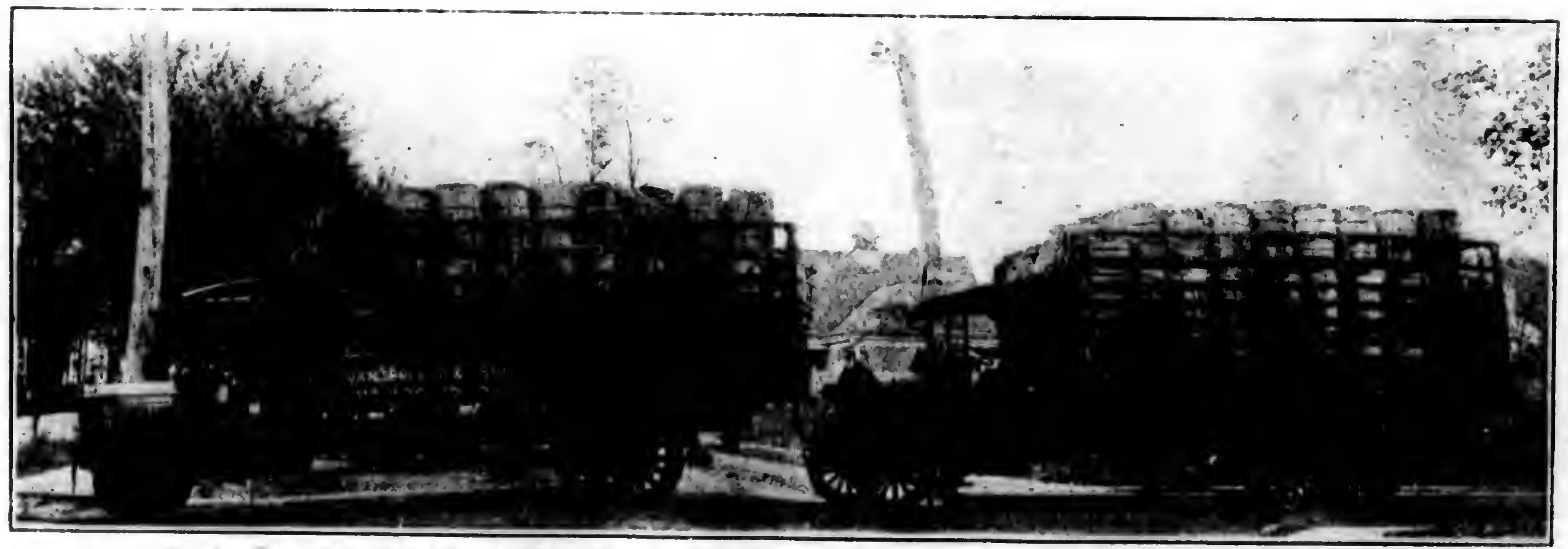

Fig. 4.—Two of the Five Trucks Which Carried 100,000 Packages to Market Last Season Without a Single Failure.

Evolution.—Ten years ago and prior a great bulk of the produce shipped out of this county went by boat. At that time there were five or six, boat lines carrying produce from various points in the county, leaving daily except Saturday. The writer has stood with team and load for hours in a line half a mile or more long, waiting to be unloaded. This became so monotonous that railroads were patronized as an improvement. This lasted till 1918 when motor trucks were introduced to carry the less heavy and perishable product. This last season (1919) more were used. I include a photograph, Fig. 4 of two trucks, a part of a fleet of five used the past season in this community. This line has been quite a success both to the shipper as well as the owner and operator. Much time has been saved to the farmer and the produce delivered in the city market on time and in far better shape; no pilfering or damaged packages as was the case by railroad, and last but not least, no lost packages. The two trucks shown in the photograph are 5 ton trucks. They are loaded with empties just as they returned from the market. The writer would much rather have shown these same trucks loaded with produce ready to start for market carrying an average load of 650 packages daily for approximately 150 days; but that was impossible because they were never loaded till after sundown, hence no good photograph could be taken. There are now several lines of trucks doing a like business in the county.

Now, you say, I have written somewhat of a lengthy and tiresome article, but have proved nothing. In some of the statements made or about to be made, the facts were obtained from our County Demonstrator and some of the pictures here shown are thru his kindness in loaning them for this article. According to evidence at hand obtained thru various channels and more than verified in the year book of agriculture for 1918, just received, I find when studying the various crops grown in the two counties in question in competition that every crop compared acre for acres, Monmouth exceeds Lancaster in a ten year average. The tobacco crop excepted, because it is not grown here at all. Monmouth's potato crop will cut great inroads into Lancaster's wonderful tobacco crop, and it is a wonderful money crop too. However, it is the only real heavy money crop Lancaster has viewed from the point of dollars per acre.

A Modern Granary and Implement House

The corn crop compares favorably one against the other in volume per acre. However, Monmouth's prices are higher. The potato crop, wheat rye, hay, in fact all comparable crops Monmouth excells, both in volume per acre and price received. The averages, yields and crop values about to be stated have all been examined and passed on by our County Demonstrator. In some few instances he says I am too low.

Monmouth's agricultural crops for 1918 that were grown and sold reached the handsome little sum of $22,000,000. The potato crop comes first with 20,000 acres with a yield of 80 bbls. per acre, making a total of $5,600,000. The early tomato crop together with the canhouse crop is a close second, valued at $3,025,000. The apple crop of 2500 acres with a yield of 800,000 bushels adds $1,200,000 more. The asparagus crop, a crop for which Monmouth is noted, yields 3,000,000 bunches and adds $250,000 to her credit. The pepper crop will add $1,000,000 more. Small fruits, berries, etc., add $600,000 or better. Peaches, pears, plums and cherries increases the total by $250,000. The roadside stands and shore trade will add $1,500,000 or more. Poultry and eggs reach the handsome sum of $3,500,000. Pork and pork products $670,000. Dairy and dairy products sold, not including home consumption adds $513,000, animals sold 170,000. Sweet potatoes increases the amount by $150,000. Wheat of which there was 4,550 acres, and a 20 bushel yield (which is low for this County) raises the total $193,830. Rye, 11,840 acres, with a yield that totals 220,000 bushels priced at $1.75 amounts to $385,000. Straw from this crop ¾ as much more or $288,750. Corn that is quoted as averaging 40 bushels per acre (which is again too low most seasons) totals 1,200,000 bushels or $1,800,000 in clean cold cash. Hay 28,000 acres, 42,000 tons at $30 per ton (price too low for this county) adds another million 260,000 dollars.

I predict a greater increase in farm values since 1910 than that quoted for the 10 years previous.

It is out of the question for an inland town like Lancaster to hope to compete with a county situated as is Monmouth. Furthermore, we have the farmers who have the knowledge and the markets. Monmouth is the Banner County, acre for acre, and don't forget it.

Disposing of Dead Animals

When a farm animal dies the careful farmer will dispose of the body at once, and in such a manner that dogs or carnivorous birds cannot feast on the carcass. Especially when animals die of a contagious disease,as hog cholera, should the bodies be disposed of in such a manner that there will be no likelihood of scavengers spreading the disease over the entire neighborhood. A little carelessness in such matters on the part of one man may be responsible for a large loss to the whole community.

In many parts of the country there are fertilizer reducing plants which will remove all carcasses of hogs and other farm stock from the farm free of cost to the farmer; in fact, the basis of the business of such plants is the farm stock which dies from diseases or accidental causes in the territory covered by the fertilizer plant, and their removal of the bodies of dead animals is a service which is of considerable value to the man whose drove of hogs is stricken with a virulent disease. However, altho collecting wagons and equipment are supposed to be disinfected thoroly every day, some farmers will not allow the wagons from the fertilizer plants to come on their farms when all their stock is free from contagious diseases, because of the danger that disease germs will thereby be introduced into their herds of healthy animals. A few farmers prefer to dispose of such animals as die from any contagious disease, right on their farms rather than to run the risk of having the disease spread to the herds of their neighbors because of any negligence on the part of themselves or the drivers of the wagons from the fertilizer plants. In those cases the bodies of dead animals are either burned or buried. The former method is generally preferred, as it involves much less work than does the digging of a deep grave. Then, too, when burned, dogs have no oportunity of digging up the remains and thus spreading disease germs. There are nearly always brush and log piles in the farm woods upon which dead animals may be placed and in a few hours nothing is left except a little pile of ashes. Whenever cremation is not possible, a carcass should be buried two or three feet underground, and heavy stones or logs should be placed over the covered grave in order that dogs and other animals may be prevented from digging down to the body before it has decomposed.—W. F. Purdue.

Full Value From Manure

The manure should be hauled out and put on the soil as soon after being formed as convenient, the sooner the better. If manure is allowed to stand as long as six months it may lose more than 60 percent of its plant-food value.

There are several ways in which the food value may be lost. Some of it is lost by leaching. For example, when a manure pile is placed under the eaves of a barn, water passes thru it and there is waste. The liquid excrement, which contains more than half the food value, may seep out of the manure and be lost when it is allowed to stand long.

One may get the full value of the manure if he will only take precautions which prevent the losses mentioned. The manure may be thrown into a spreader and hauled to the field as soon as a spreaderful has accumulated. A shed-like roof large enough to protect the pile from the weather and so situated that water will not drain to and stand around it will prevent much loss in the value of manure.

Manure may be stored in a manure pit situated conveniently near the barn. The pit need not be expensive. It may consist of a cement floor and cement sides two or more feet high. The dimensions of course will depend upon the amount of manure made on the farm. Such a pit retains all the excrement, with small loss in food value. It need not be covered.

People should realize how great their loss is and then use some method to prevent such a loss. If one will get the manure to the soil without appreciable loss of plant-food value the fertilizing power will be double that it would be if the manure were allowed to stand.

Spread the manure as it is found and spread it evenly. Much of the manure distributed is put on the field too unevenly and too thickly.—Leonard F. Strickler.

Save the Liquid Manure.—Investigations by experiment stations have shown that the urine voided by animals contains over half of the fertilizing value of the excreta—about three-fourths of the total nitrogen and four-fifths of the total potash. Practically all the phosphorus is found in the solid manure. It has been shown also that the nitrogen and potash in the urine is more readily available to plants than that in the solid excrement. The mixing of solid and liquid manure, therefore, insures not only a richer but a better balanced fertilizer.

The waste of liquid manure may be largely prevented by the use of sufficient bedding, or in case of stabled cattle, by the construction of manure cisterns which should be provided with special diaphragm pumps for removing the liquid manure to the field sprayer or distributor now manufactured for this purpose. The mixing of the liquid with the solid manure and bedding and hauling directly to the field is doubtless the plan which is best suited to the average farmer, or with a concrete manure pit, the liquid manure may be run into the pit with the solid manure and thus preserve both, since the liquid prevents the fermentation and firing of the solid manure.

Professional uplifters and all regulators should be licensed and required to give bond.

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Our job is to serve our readers. Whenever and wherever we can help you, write us.—The Editors.

If So, Why?

HERE IS a query we received the other day but which we will not try to answer now. We pass it along to our readers. Answers will be published in our "Voice of the People" department. Names must be signed but need not appear in print.

"Why is it that leaders and officials of farmers' organizations almost always form into an office-holding clique which it is difficult to break? Is it not as much to be condemned as a political "machine?" Is not politics often back of it?"

We are not admitting here that the question is justified by fact, but if many farmers have the same thought as expressed in the query the subject should be aired.

Poor Recommendations

A MAN doing general farming and having purebred cattle writes that he must stop his farm paper at the end of the year because he is unable to pay for it, altho he likes it very much. He will continue to take it however if he may write some for us and pay his subscription in that way.

Of course the offer was turned down. Pennsylvania Farmer endeavors to have only live wires write for its columns—men and women who are making good or have made good at their business and who can pass their ideas on to others. Whatever justification there might have been in the past for the charge that cynics and failures wrote the matter for farm papers that criticism is no longer justified concerning the reliable ones. Every article submitted to Pennsylvania Farmer is given a rigid examination, not merely as to its grammatical construction but more especially to be sure that it is scientifically true and practically worth while. Space writers and those who evidently give more time to writing than they do to farming are given scant attention. Those who cannot make a success at farming cannot become successful writers for Pennsylvania Farmer.

Is the Beef Trust Busted?

IT was announced in the press the other day that the Big-Five had acceded to the demand that they (or it) should unscramble. As a result of this decision the Government is to withdraw its suit prosecuting them for monopoly in restraint of trade. Now comes the criticism from some farmers' organizations and stock raisers that the whole thing is simply pretense; that the arrangement in no ways relieves either producers or consumers from the grip of the packers, and that the move is made chiefly to pacify the public and relieve the pressure for the passage of the Kenyon-Kendrick bills before Congress. The Department of Justice is sharply criticised for its action in this matter and twelve Western stock raising associations have appealed to President Wilson to upset the Palmer compromise.

The stock raisers claim that the compromise does not give them any relief from their chief trouble, which is the packer control of terminal stock-yards and markets. Others, speaking for the public, say that the plan as agreed upon does not prevent the monopoly of retail trade in food products. The whole subject will bear the closest scrutiny, for if the situation reported by the Federal Trade Commission does exist, or is threatened even, no compromise in the fight for justice should be made.

What Does a Day's Work Cost?

DID you every try to figure the cost of a day's work? We do not mean what the employer pays for it, but what does it cost the worker, his parents, and the public to raise and prepare him for the performance of a day's work? After we have determined the amount that is invested in a worker (hand or brain) should the wages or returns resulting from his work be such as to include a profit on that investment in addition to a "living wage?" Our business system is based upon profit on investment, in addition to interest, for the purpose of covering risk and depreciation. This is over and above the cost of running and maintaining the business. By the same token, should the cost of a day's labor be reckoned upon what it costs to live during the working period, or should it include, in addition to this, a "profit" upon the cost of raising and training a human being to the point of efficiency? Or, shall the "joy of living" be charged to the individual to off-set any investment profit? On the other hand, if everybody forgives this "debt" owed by society does anybody lose anything?

These are but reflections of the writer after hearing a statement by a speaker that it oests $10,000 to raise a modern boy or girl to the point of self-maintenance, and that at least 6 percent, or $600 per year should be paid in addition to the usual wages, salary or income. But after all this thinking the writer is not able to figure out to whom this $600 should be paid, because the $10,000 investment was not made by the worker in question. Whether it is just or not, it would seem that a day's labor should be returning pretty good dividends in these times—judged by the number of dollars exchanged for it and the value received.

A Question and Answer

IN answering the question, "What do farmers want," asked by Hon. Keating of Washington and directed to Gifford Pinchot, Mr. Pinchot replied in the statements following. They are given as the best judgment of the writer and are not considered by him to be either perfect or complete. We publish them because they are representative of the views of large numbers of farmers, either wholly or in part.

WHAT THE FARMERS WANT

"Effective recognition that the farmers make up a full third of our people, that in feeding all the people they perform the first and most necessary of all services, and that their right to be heard in the consideration of the great problems which face the nation is second to none.

"Representation of farmers in proportion to their numbers and their services in the government of the nation and especially on general boards and commissions (in whose membership various interests are recognized) whether directly concerned with agriculture or not.

"Effective recognition of the fact that the decline of agriculture constitutes the central danger to civilization, and that the demand for cheap food at the expense of a decent standard of living on the farm, if successful, always has and always will lead to agricultural decline, food scarcity, and national decay.

"Effective recognition of the fact that agriculture is declining in America, and that decline in agricultural production compared with population, in the number of our people who live and work on farms, and in the fertility of our soils, must be stopped.

"Effective recognition of the fact that the farmer is not a profiteer, that less than half of the consumer's dollar gets back to the farmer, and that since crops are not produced thruout the year, the storage of food supplies is absolutely necessary if the people are to be fed; but that hoarding must be severely punished and vigorously suppressed.

"The full, free, and unquestioned right to organize and to bargain collectively, thru cooperation purchase and sale, (and to that end the passage of the Capper-Hersman bill, thus providing cheaper food for consumers, better prices for farmers, and better living for both.)

"For every sound and normal man a fair and workable chance to earn a good living and get what he earns; a fair and workable chance for a decent, useful, and desirable life; a fair and workable chance to marry and support a family, and to give his children a reasonable start.

"The complete and immediate restoration of the right of free speech, free press, and free assembly guaranteed by the Constitution of the United States.

"Extension of the benefits of modern civilization to the open country, if necessary in part at the common expense.

"Universal free education for farm children universally accessible and specifically directed toward life on the farm.

"Substantial equality of reward for equal services, equal time, and equal skill with men and women engaged in other occupations.

"Substantial equality for farm people with those of other callings in social, political, and educational opportunities.

"A Secretary of Agriculture in sympathy with farmers, and satisfactory to the great farm organizations of America.

"Closer studies on a broader scale of farm production costs at home and abroad, and uncensored publication of the facts.

"Calculation of the cost of farm production on the basis of a standard working day.

"A system of sale and distribution thru direct dealing between producer and consumer which will secure to farmers a fair share of the wealth they create, while reducing the burdens of a needlessly high cost of living for the consumer.

"A law providing that supplies and service furnished to cooperative organizations of farmers must be equal to those furnished to private dealers under like circumstances, and equally accessible.

"Credit on reasonable terms for farmers whose lands are not free and clear is required by the Farm Loan Board, but who need accommodation all the more on that account.

"With the exception of lands adapted mainly for farming, the natural resources still in the public hands should be held and utilized for the public benefit.

"National control of developed and undeveloped domestic fertilizer supplies, of the importation of fertilizer bases, and of the quality and contents of commercial fertilizers.

"Effective National control over the packers and all other great interstate combinations of capital engaged in the manufacture, transportation, or distribution of farm products.

"State or national control and supervision of stock yards and wherever necessary of elevators, drying and cold storage plants, and warehouses, and other terminal facilities.

"Whatever solution of the railroad question as will best insure reasonable rates to the shipper, good wages with good conditions of work and living to the railroad employees, steady and reliable transportation for passengers and freight to the general public, and fair treatment, without fear or favor, to all concerned.

"A national Budget that will permit and require foresight, efficiency, and economy in public expenditures.

"A system of good roads, national, state, and local, that will benefit the farmer not less than the transient automobilist.

"The gradual abolition of farm tenancy, on the theory that no land should be held permanently for rental, and to that end a graduated land tax that will favor the operating farmer as against the non-operating landlord.

"The creation of an agricultural commission composed of persons in sympathy with and satisfactory to the organized farmers of America to inquire into the conditions and needs of the farmers, to report the facts, and to recommend means of relief."

HARRISBURG LETTER

Constitutional Revision. — Members of the State Constitutional Revision Commission will resume their deliberations next week and while there are many things which may intervene it commences to look as tho the commission would recommend a whole new constitution. This means that the legislature and the people would have to record their ideas, but it is safe to assume that there will not be any radical changes in the State governmental scheme, but rather some adaptations of matters to a more modern basis including the installation of a budget system and the getting rid of some anacronisms in state affairs, the establishment of the legality of some practices which go on by common consent and the abolition of certain pretenses and fictions. Reduction of jobs and expenses will hardly be given much consideration in Pennsylvania any more than in Washington the last half dozen years. It seems to be a safe assumption that the question of whether the state should give any money to charities that give it no voice in management or disbursement will be settled and some system evolved whereby if the commonwealth is to go on making grants that the sums should be taken out of the realm of politics. The educational problems of the state will also be settled for a time. If these two matters are adjusted it will be well worth the cost and effort of the whole discussion. It is likely that in the winter people will wake up to the importance of the meetings now being held here and that there will be numerous hearings.

To Make a Survey.—It is the plan of Dr. Lee L. Driver, the chief of the bureau of rural education just established, to study the rural problem of the State. Coming from another state he will be able to approach it without any of the distractions that would beset a Pennsylvanian and with expert assistance on information desired it is believed that some plan which can be recommended to the legislature for adoption can be worked out. Dr. Driver has let it be known that he does not intend to change things over night, but to try and get a system of country education for Pennsylvania that will give good facilities, some show for children and not bankrupt the district. Incidentally, an educational legislative program for a general assembly would be a good idea.

No More Free Serum.—Secretary of Agriculture Fred Rasmussen has put into effect a new regulation which will abolish free distribution of hog cholera remedies in Pennsylvania, but at the same time retain State control as regards sale, administration and other details. The state will sell the materials and veterinarians will be in charge as far as practice goes so that there will not be much difference, except that owners of hogs will pay for the remedy just as they pay for means to get rid of scale. The secretary says that he feels that this is the best business plan for the state and that, altho there will be the usual criticism, it will be of advantage to all concerned in the end.

Fair Price Commissioner.—Governor William C. Sproul has complied with the request of the president and recommended a fair price commissioner for Pennslvania whose duty it will be to see that the power of public opinion is pressed against persons who seek exorbitant profits. Theoretically, it is a magnificent idea, but public opinion has had so many baths of words and immersions in ideas since 1917 that it will likely follow the old principles. Publicity, wholesomely administered, is a fine thing and that is about all that there is left.

The Mid-Winter Show.—The plans for the mid-winter food products show, as just announced, indicate that it will be a larger affair than usual and the programs call for important discussions. There will be something like a dozen organizations meeting here and in the evenings there will be open sessions at which the governor and various state officials will speak, representative farmers and government experts, college men and business men will present their ideas. The organizations and State College will have more to do with the show and the meetings than ever this year, the Department of Agriculture being more in the line of a patron than anything else.

Wages and Prices.—According to some figures just issued by the State Department of Agriculture's statistical bureau Pennsylvania has been very fortunate in good crops because values have been high in the country and the aggregate of the worth of the staple crops is away up in the hundreds of millions of dollars. Of course, the farmers did not get the prices mentioned for some crops, but some one did and this should be a fair field for inquiry by the Pennsylvania people who are interested in bringing down living prices. The same figures show that while prices for crops went up, there were greater increases in the rates paid to labor on the farm and in the house. The average wages jumped a dollar or more a week, while harvest hands got almost half a dollar more on the average for the whole State.—Hamilton, Harrisburg, Dec. 29.

NEW YORK LETTER

Market Notes.—Potato shipments last week reached 265 cars, making the total 400 cars ahead of the movement at this time a year ago. The state ranks third in onions this year. The crop so far as moved is 400 cars short of last fear. Present prices are $5.50 per cwt. for No. 1 stock. A few growers expect $7.50 before the season closes. Cabbage is going higher and shipments have been few because of the extreme cold of last week.

Ice Harvest Early.—Due to the unusual cold of last week, it being 20 to 25 degrees below zero in Central counties, the ice harvest is to begin the earliest it has in years. Good ice can be had now on small bodies of water, and the Hudson is frozen over down to Tarrytown, an unusual condition at this time.

Dairy Notes.—The Borden Company in Syracuse has sold its business to the Netherland Dairy Co., which will retail milk 1 cent cheaper than the former firm did. This is the fourth large upstate city where Borden's have closed out their distributing business as not being profitable enough. They are building a new plant at Belmont, to cost five million dollars, to manufacture powdered milk. State official figures recently published show the profits on the manufacture of powdered milk in 1918 to be enormous—about 176 percent over the cost of the fluid milk—which averaged only $2.60 per 100 lbs. to farmers. The profits on the making of evaporated and condensed milk were shown to be 157 percent. The city of New York's officials want legislation forbidding the manufacture of these by-products within 150 miles of New York—as they fear too much is being manufactured for the good of the retail liquid milk business. Farmers know however that high retail prices on liquid milk make its use impossible to many, and that the dealers are carrying a surplus of milk nearly all the year. So far, there has been little competition in the powdered and condensed milk business. If there were more locally-owned plants of this sort the price of these by-products could be lowered and consumption increased. But it is hard to get men who understand its manufacture. The State College has no equipment to train men in this work and dairymen are demanding that the Legislature grant a liberal appropriation to enable the college to give this necessary training.

State Wide Home Bureau Program. —The first meeting of the State Federation of Home Bureaus occurred in Syracuse this week. Twenty-five counties were represented, having a membership of 17,000 women. Special committees made recommendations on the following topics: Finance, legislation, cooperation relationship, state wide program, education and speaking bureau. A statewide program to be worked out in county home bureaus was adopted. It covers such topics as recreation, civics, nutrition, health and social hygiene. The work done by the Home Bureaus is recognized as more and more important. A well known state leader says its finest results do not and cannot appear in any report. Boards of supervisors of the state are quite generally making liberal appropriations for its support.

Bond Issue For Roads.—Former state highway commissioner, Edwin Duffy, in an address to the State Federation of Farm Bureaus attacked the proposal to issue $100,000,000 in bonds to build concrete trunk line roads. He urged the up-keep of present roads and the building of needed county roads—with state aid for the work. The farmers present endorsed this policy.

Commercial Feed Men Fight.—The State Council of Farms and Markets listened for 3 hours to arguments of national feed manufacturers at a hearing in Syracuse this week, who protest the farmers' demand for a pure feed law which shall require the labelling of commercial feeds with a statement of the amount of adulterants contained therein. The chief arguments they could put up was that the quality of adulterants varies. The farmers of the state were in session at the same time at the State Federation of Farm Bureaus in the same city and demanded such a law. Last winter this law missed enactment by just one vote.

Conference on State College Policies.—On several occasions this fall leading farmers and agricultural experts of the state have been to the State College in large groups to inspect the work and equipment of the college, and to learn the demands being made on it. Some 300 people have thus been asked to learn facts at first hand. After careful investigation and deliberation this conference has adopted a building program that calls for a liberal appropriation from the new legislature if the work of the college is not to be needlessly hampered and crippled. A similar conference has adopted a building program that calls for a liberal appropriation from the new legislature if the work of the college is not to be needlessly hampered and crippled. A similar conference to inquire into the work of the college will hereafter be an annual event.

State Federation of Farm Bureaus. —The annual meeting of the Farm Bureaus of the state was held in Syracuse this week, with every county represented. A comprehensive program for 1920 was adopted, and new officers elected. Not many changes were made in the list of officers. The constitution of the American Federation was enthusiastically adopted, and the work of the coming year promises more good to agriculture than any one year has ever seen so far. The announcement of Samuel Gompers that he speaks for farmers as well as wage earners in asking for a continuance of government control of railroads was repudiated so far as this state is concerned and he was asked to explain. Farmers of the state demanded the return of railroads to their owners in a condition that shall make possible fair returns on the investment and reasonable transportation rates. The meeting demanded a pure fabric law, and a duty on imported beans. Also, a pure seed law, more stringent laws against trespassing, and a strict enforcement of the dog tax law. The passage of the Capper-Hersman bill was urged and such demands were to be sent to the Senators and Representatives of our State. A pure-feed law was urged also the repeal of the State's daylight saving law. A program to develop better marketing methods was outlined. A liberal appropriation for raising salaries of the faculty of the State College and for building purposes in enlarging of the college was urged. Compulsory health insurance was protested and active timber conservation and reforestation in all sections was approved.—F.

NEW JERSEY NEWS

Education For Farmers.—The New Jersey State Museum operated by the commonwealth in the Capitol has started a campaign of education among the farmers of the state. This education will be conducted thru the medium of the school houses in the rural and other sections in the way of exhibits, stereopticon views, lectures, motion pictures and small industrial exhibits. Granges and similar organizations, which are willing to pay the cost of transportation of the exhibits and other things from the State House to their localities, will be supplied with what is contained in the stock at the museum at the time of the filling of the request.

Dairymen's League Endorses Bill. —More than 2,000 dairymen from a thousand communities in six states covered by the Dairymen's League at the annual meeting of the stockholders of the organization held at Jersey City adopted a resolution in which hearty endorsement was given to the Capper-Hersman Bill now pending in Congress and which is designed to clarify the law so as to clearly permit collective bargaining by farmers and their organizations, while it voiced the conviction that the farmers of the country should no longer be subject to discrimination under provisions of the present Anti-Trust Law. The resolution also stated, that where an increase in the retail price of milk over the present high prices would probably very materially reduce the consumption of the product to the ultimate injury of the producer and where milk cannot be produced by the farmer at the present prices at a reasonable profit to him, principally owing to the high cost of by-product protein feed being out of all proportions to the amount paid the farmer for his whole grain, it was decided that a committee from the organization should take up the matter of getting for the farmers a "square deal" in the purchase of by-product protein feeds. The resolution also read that the functions of the league are only partly performed in placing its whole power in the direction of better milk prices, and that the question of feed prices is fully as important, if not more so, than selling milk.

IN NEXT WEEK'S ISSUE—DON'T MISS IT

"Explosives and Fertilizers"

An interesting article by Dr. Jacob G. Lipman of New Jersey Experiment Station on the possible effect the conversion of the powder-making works of Europe into fertilizer factories may have on food production.

"The Ice Harvest"

Data and information for those who wish to put up ice for summer use.

"An Electric Egg Plant"

A discussion of the effect which artificial lighting of poultry houses has upon egg production.—By Howard Mitman.

"A Discussion of the Fertilizer Situation"

In which the author, Dr. J. P. Stewart, calls attention to the persistent advance in fertilizers, and recommends home-mixing. Other articles explaining the cause of the advances, and commenting upon the effect of borax in fertilizers will also appear.

In addition to these valuable features the usual departments will be filled with information and entertainment. You will be the loser if you miss them.

AGRICULTURAL WEEK AT TRENTON

Januarv 13, 14, 15 and 16, 1920

Will include the following annual or adjourned meetings of the
New Jersey State Horticultural Society.
New Jersey State Poultry Association.
New Jersey Holstein-Friesian Breeders' Association.
New Jersey Guernsey Breeders' Association.
New Jersey State Dairymen's Association.
New Jersey State Potato Association.
New Jersey Alfalfa Association.
New Jersey Sheep and Wool Growers' Association.
New Jersey Beekeepers' Association.
New Jersey State Swine Growers
Home Economics Workers.
Marketing Conferences.
Veterinarians' Conference.
State Council of County Boards of Agriculture.

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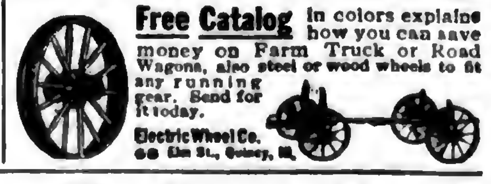
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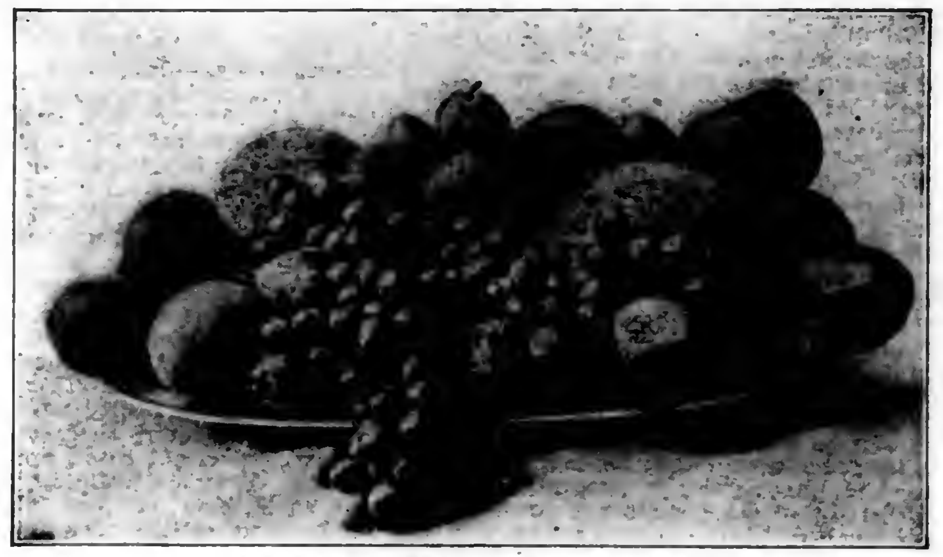
HORTICULTURE

FINANCING THE YOUNG APPLE ORCHARD

With apples bringing from $6 to $10 per barrel and bearing orchards being sold at from $500 to $1,000 for an acre, it is hard to dispute the fact that a good bearing apple orchard is about the best investment we can have on the farm. By "a good bearing orchard" I mean one composed of good standard varieties and well located in a section adapted to the growing of apples.

Many men realize this fact but hesitate about planting because of the time and expense required to bring a young apple orchard into profitable bearing. Some varieties naturally bear earlier than others, but we can generally figure that an apple orchard will not support itself until the trees are from eight to ten years of age. This problem of financing the young apple orchard until it comes into bearing is, I think one of the hardest problems confronting most men who would like to get into the business and one of the greatest drawbacks to much heavier planting in this state. Nevertheless, if properly handled, apples trees can be brought into profitable bearing with practically no expense upon them.



Fruit Makes For Health, Wealth and Happiness

The method of intercropping will naturally depend quite largely upon soil, climatic and marketing conditions. In Southeastern Pennsylvania I would always advise peach fillers because I know of no other crop that will yield as large a return. I know that many advise against the use of peach fillers for various reasons. I have always used them and would not think of using anything else wherever the land is not too hilly to cultivate. Many will tell you that peaches and apples conflict in fertilizing and spraying methods but I have never had the slightest difficulty in my own orchards. If the apples are planted 40 feet each way with the fillers 20 feet apart, by the time the apples need all of the space, the peaches will have passed there prime and be ready to come out. By this time, however, all expenses should be paid and the apple orchard be free from debt.

In a small orchard, located close to a good market, truck crops are undoubtedly the most profitable intercrop. Also, because of the intensive cultivation required for these crops a splendid growth is secured on the trees. I have used truck crops quite extensively in my work and have never found anything equal to them in bringing the young orchard into bearing. We should be somewhat careful not to use too much manure on soils which are naturally very fertile. Neither would I use a crop like celery which requires a lot of late cultivation, because the trees will not harden their wood properly. Young peach trees should not be cultivated later than from July 1st to July 15th.

Small fruits, on the other hand, make a very poor intercrop in my estimation. I have seen them used time and again, but always to the detriment of the orchard. They do not come into profit until they are two or there years of age, or in other words until they should come out, with the result, that they are used four or five years as intercrops and do more harm than good.

In a larger proposition of 50 to 100 acres or more, it is almost impossible to use truck crops entirely and here field crops must be used. Of all the field crops, potatoes are undoubtedly the best. If the soil is at all adapted to the growing of potatoes, nothing better can be used for intercropping. I have used potatoes and melons quite extensively with very good results. I plant practically all of my trees in the fall and usually with a plow. After the trees are in and before they are plowed shut I put three heaps of manure between the trees; this is then plowed shut in the fall.

After the soil between the tree rows has been plowed in the spring, we harrow it crosswise very thoroly. Six rows of potatoes are planted in each space while watermelons or cantaloupes are planted over the manure in the tree rows, which are kept clean and well cultivated. By the time the melons are starting to vine, the potatoes cover the ground and cultivation is stopped. Neither crop seems to interfere with the other and all the ground is utilized.

Corn does fairly well as an intercrop, altho you usually do not secure as much tree growth as in truck crops or potatoes. There is also a tendency for the trees to grow taller and more lanky without spreading out as they should. I do not think it pays to intercrop corn more than two years, staying away four feet from the trees the first year and six feet the second year.

Hay is another intercrop which I have used with splendid results. It has several distinct advantages over the cultivated crops, altho the returns are not large. I use it almost

entirely on my steeper hillsides because it prevents the washing of gullies in the orchard. At the same time, by feeding the grass heavily with either manure or commercial fertilizer, I not only take off immense crops of hay, but at the same time help to hold up the organic content of the soil. It is not difficult to harvest and by plowing off one or two furrows each year it can be carried as an intercrop for three years. The first year I use a crop of melons, squashes, or cucumbers in the tree rows and let them run over the sod after the hay has been removed. I have also tried corn in these tree rows but the results are rather poor because of improper fertilization.

Grain crops are, I think, the most unsatisfactory of all intercrops. Not only from the standpoint of profit but tree growth as well. First of all, it is necessary to harvest them by hand, which at the present price of labor is very expensive; then again, the grain requires a greater amount of moisture than hay and I find it very hard to get as much tree growth in grain as I desire.

With, all the intercrops which I have mentioned the most important operation is the cultivation of the trees rows. There seems to be nothing in the young orchard which yields as much profit as thoro cultivation, regardless of the intercrop. Therefore, be sure not to crowd the trees at any time. With a one-horse cultivator and a short single tree it is quite easy to cultivate the first two years, but the third year it becomes quite difficult and for that reason I do not intercrop more than two or three years at most. By using intercrops in this manner I am able to get from four to six feet of wood growth on peach and from three to four feet on apples during the first three years, and at the same time the intercrops pay all expenses on the trees until the peach come into bearing; after which they make some profit.

Some people may think that by using intercrops and fillers in this way the apples will be neglected and stunted, but I might say that in one thirteen-year orchard where the peaches were taken out last winter I had trees this year that yielded as high as 29 bushels of apples while a great many produced 18 to 20 bushels.—Sheldon W. Funk.

EXPERIENCE WITH PEARS

The knowledge I have gained by experience in pear culture would have saved me many losses had I had it at first. Those who have had but little experience with pears, and who are thinking of planting trees next spring may be in doubt as to varieties to plant and methods of culture. The one thing that has most discouraged pear growers, and is keeping many from planting trees is pear blight. I have lost more than one-half the trees I planted from blight. I complained to a nuseryman about my losses, and he said "cut it out. Don't let it develop in the trees!" This I found to be good advice, but it has not prevented the loss of some trees. One does not wish to have in his orchard a lot of mutilated trees that have been cut so much they are not well balanced. The leaves are the stomach of the trees and the more branches cut off, the less leaf surface and the less growth the tree can make.

I am still planting pear trees, but plant mostly trees that have proved to be most resistant to blight. It should be known that some varieties

(Continued on Page 16.)

CREW LEVICK
MOTOR OIL
"Lubricates Longer"
A
A PURE PENNSYLVANIA PRODUCT
CREW LEVICK CO.
PHILADELPHIA
U.S.A.

How Much Power Are You Losing Between Engine and Drawbar?

YOUR power loss can be enormous if you slight lubrication. When your oil begins to run low or grease cups get dry, never take that "extra turn" around the field. Stop right there to "oil up", or you may pay dearly for the time you "think" you have gained. When bearings start to wear, their waste motion knocks them out in short order.

If you try to "save money" by using cheap oils and greases which go bad under high engine heat, your power loss and unnecessary wear will be many times greater than your false "saving".

It is a well known fact that the best lubricating oil today is made from Pennsylvania crude. Every ounce of Crew Levick oil is refined from Pennsylvania crude. There's a right type and quality for every use.

If your dealer doesn't carry Crew Levick oils, write us at once, and tell us his name. We'll see that you are supplied, and will send you free our booklets on truck, auto and tractor lubrication.

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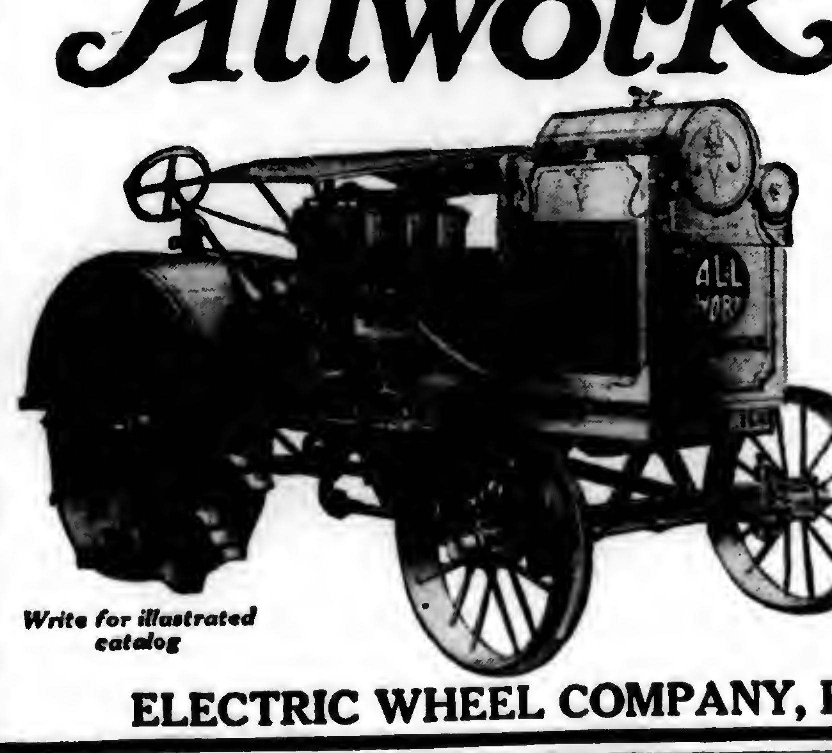
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For All Kinds of Field and Belt Work

HERE is a lightweight tractor with a big four-cylinder 5 x 6 motor which gives you a substantial margin of reserve power for pulling three plows easily through the toughest kind of soil. The *Allwork* also furnishes sufficient belt power for a 24-in. separator, 16-in. ensilage cutter, etc.

Guaranteed to Burn Kerosene Successfully

This reliable tractor is a safe investment which will pay you big returns, and its excellent past performance insures satisfactory service and long life. During the six years the *Allwork* Tractor has been in actual use on thousands of farms in all parts of the country, it has retained the same sturdy design, while numerous improvements and refinements have been added from time to time, most of them being prompted by the farmers using this tractor.

ELECTRIC WHEEL COMPANY, Box 68A, Quincy, Illinois

Assistant Herdsman Wanted
Excellent opportunity for competent man, good wages and modern living conditions.
CRESTMONT FARM, SUNBURY, PA.

HAY
W. D. POWER & CO. 601 W. 33 St., New York.
are the largest handlers of commission hay in greater New York: if you have hay to dispose of communicate with them.
HAY

PIPE second hand. Large stock all sizes furnished with new threads & couplings. Prompt shipment.
J. F Griffith. 416 Meyer St., Phila

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WHAT pride the housewife takes in her glistening glassware! And likewise the careful dairyman rejoices in the smooth-as-glass walls of Natco Hollow Tile. He cleans them as readily as the housewife cleans her glassware, and he appreciates the fact that there are no crevices in which disease germs can lurk.

Section of Natco Silo Wall. Note the steel reinforcing.

Natco Hollow Tile

walls do not gather moisture as other forms of masonry do. The still-air spaces in the walls resist temperature changes—afford protection against cold in winter and heat in summer. Cows kept in Natco Barns are healthy and comfortable—contented. Consequently they give more and better milk.

More and more, farmers are using Natco Hollow Tile for dairy barns, silos, horse stables, hog houses, sheep pens, garages, dwellings, etc. These uses are fully described and pictured in our free book, "Natco on the Farm." Send for it today.

What do you intend to build? One of our building plans may help you—free while they last.

Ask your building supply dealer to quote you prices

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23 Factories assure a wide and economical distribution

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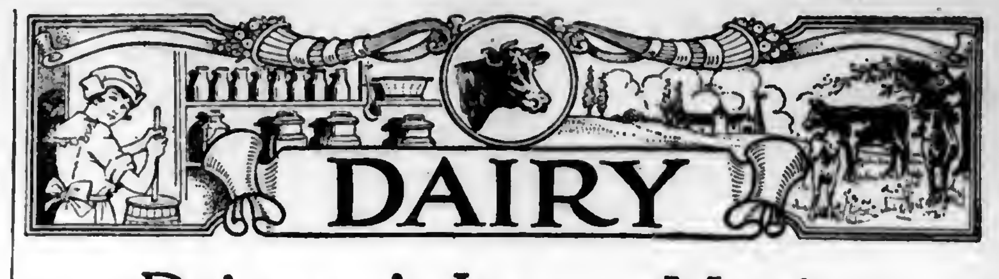

Dairymen's League Meeting

The Dairymen's League meeting in Jersey City was attended by a very large number of farmers, it being estimated that as many as 2,000 were present. A very considerable number of proxies were brought to the meeting, and listed, but there was so much unanimity that no use had to be made of proxies at all. There was a slight change in the directorate, but the better known members were reelected. In all cases it was the choice of the local members within the district that selected the director for that district, the entire mass meeting simply ratifying the local people's choice. The day following the convention the directors met and selected the executive committee and the officers for the year to come.

Dairymaid and Her Triplets. She is 7 Years Old and Has Had 7 Calves

At this moment I do not have the official discussion of the board, but it was unquestioned at the meeting that R. D. Cooper would remain president, Mr. Miller vice-president and attorney, and Albert Manning, secretary. A successor to Mr. Davidson as treasurer became necessary, as that official has resigned his position. That Mr. Thomson and Mr. Kirshaw would remain on the executive committee is undoubted. These are honest men and capable. The League has developed them just as experience will develop thousands of other farmers for responsible positions. For farmers' organizations we need farmers in control. Nothing has been done for farmers except that done by the farmers themselves, nor will there be. I do not mean that a lawyer should not attend to the legal business of an organization but we want farmers in control.

There was some speechmaking, the two main addresses being made by Milo D. Campbell, president of the National Milk Producers' Association, and by Mr. Miller of the League. Both of these gentlemen made hits by reference to strong Americanism. If you want to strike a responsive chord when talking to farmers speak of some patriotic line, but keep mighty close so far as refers to a six hour day or even a forty-four hour week. Farmers are hard workers and they respect hard work and a year-round job. As evidenced by the enthusiasm, they are not in for political alliances nor for affiliation with either capital or labor as an organization, but to stand erect and impartial on their own feet, giving the other fellow the same right.

There was sharp denunciation of the yellow press which prejudices the city people, and distorts the activities of farmers and vilifies their motives. Every delegate present was pledged to go home and send to the lawmakers a strong request that the amendment permitting collective bargaining should be passed. It was explained that this is not giving farmers any special legislation, but simply placing them on the same footing as other people. Mr. Miller illustrated by taking the advertisements of Swift and Company in which they claim to have 30,000 stockholders. Their incorporation makes these 30,000 do business collectively. Farmers cannot incorporate 30,000 farms into one business organization, but they can, if permitted by law, sell their milk or other produce as one body, that is collective bargaining.

The League seems to be in good financial standing, but there was rather sharp criticism that some twenty percent of the members are not paying the one cent a hundred into the treasury. In many if not all of these cases the fault is with the milk dealers who refuse or neglect to make the deductions and to pay over to the League. There are two or three concerns that are notably delinquent in this respect. At the meeting there was some discussion as to the advisability of increasing the amount collected to two cents a hundred, but the general opinion seemed to be that it might be better to delay any action of this sort until it is found to be necessary after lining up those not now paying. The present income seems to be ample unless there should come another battle with the dealers, or a more extended advertising campaign should be undertaken. It is probable that further efforts will be made to collect all moneys due the organization.—H. L.

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At Factory Prices

"Reo" Cluster Metal Shingles, V-Crimp, Corrugated, Standing Seam, Painted or Galvanized Roofings, Sidings, Wallboard, Paints, etc., direct to you at Rock-Bottom Factory Prices. Positively greatest offer ever made. At Factory Prices.

Edwards "Reo" Metal Shingles
cost less; outlast three ordinary roofs. No painting or repairs. Guaranteed rot, fire, rust, lightning proof.

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Get our wonderfully low prices and free samples. We sell direct to you and save you money. Ask for Book No. 1391.

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Lowest prices on Ready-Made Fire-Proof Steel Garages. Set up any place. Send postal for Garage Book, showing styles.
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Strong and Handsome

"Crainlox" patent covering over a stave silo, with Silafelt between, produces a smooth 3-wall silo without bothersome iron hoops; a silo that makes and keeps good silage by keeping *warmth* in, and cold out.

Any old stave silo, tipped, twisted or broken can be rebuilt into a beautiful, enduring Craine 3 wall silo at a fraction of the cost of a new silo.

Prices are certain to advance. Place your order now.

Send for literature and early-order discount offer.

Craine Silo Co.
Box 140, Norwich, N. Y.

Clean Cut Business Farmers and Stockmen wanted as general and local agents, in counties and townships where we are not now represented. Write or call at once.
(*The Tix Ton Line for Conserving Animal Life.*)
PARSONS CHEMICAL WORKS, *Leona Park Experiment Station, Grand Ledge, Michigan.*

KEROSENE ENGINES
OTTAWA LATEST DESIGN
Durable, Powerful, Reliable, Massive. Built to last; to do hard; heavy work. Uses Cheapest Fuel. Pull ¼ to ½ horse-power more than rated. *3 Months Trial. Easy Terms.* Sizes 1½ to 22 H-P. Easy to start. No cranking. No batteries. 10 Year Guarantee. Most practical engine ever built. Engine book free. A Postal brings it.
THE OTTAWA MANUFACTURING CO.
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Get Clean Milk
In winter, when the cows are stabled and it is hard to keep the udders clean, clip the flanks and udders every few weeks—a few minutes will do it if you use a Stewart No. 1 Machine—then the parts can be wiped in a jiffy and the milk will be clean and free from dirt. Clips horses also. Complete, only $12.75 at your dealer's, or send $2 direct and pay balance when it comes.
CHICAGO FLEXIBLE SHAFT COMPANY
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No! She's Not a Mooley
She has been dehorned with a KEYSTONE DEHORNER, making her gentler, safer and more profitable. This also applies to steers. We make Keystone Dehorners, Bull Staffs, and other appliances for dairymen and cattlemen—all sold on a money back guarantee. Write for circular.
M. T. Phillips, Box 127 Pomeroy, Pa.

SPOT FARM
Reg. and high grade Holsteins. 55 reg. heifer calves 3 to 10 mos. old. 25 reg. 2 year olds. 50 reg. cows. 15 reg. bulls, all ages. [illegible] reg. and high grade cows. Your [illegible] stock, all ages. [illegible] Holstein heifer calves $2[illegible] to $25 each, express paid in lots of 5. Place your order for spring delivery.
J. C. Reagan, Tully, N. Y.

ENTHUSIASTIC MEETING OF DAIRYMEN AT CHESAPEAKE CITY, MD.

Spirit of Cooperation Example to Other Farmers' Organizations

The Mt. Pleasant Local of the Inter-State Milk Producers' Association, comprising dairymen' tributary to the Mt. Pleasant, Del., receiving station of the Supplee-Wills-Jones Milk Company, held its first annual banquet at Chesapeake City, Maryland, on Thursday evening, December 18th. Nearly a hundred members and guests, dairymen, their wives and lady friends, participated. An elaborate dinner was served. M. F. Eliason, president, acted as toastmaster and short addresses were made by Roger Williams, A. A. Miller and other members.

The principal speaker of the evening was Frederick Shangles, treasurer of the Inter-State Milk Producers Association, who, after outlining the general work of the organization, explained in detail the operation of the new settlement basis for milk shipped into the Philadelphia district, effective January first.

This new basis, Mr. Shangles said, while appearing rather complex, is in reality, quite simple. Comparative figures, between the old and new methods show but a slight difference in actual settlements—varying of course with the basic quantity of milk shipped. Surplus, that bugaboo of the milk producer, will, in a large measure be taken care of under the new settlement basis.

If dairymen would adjust their herds to a basis of something like uniform monthly shipments the matter of surplus would largely be self-adjusting. Light production during the winter months, against the heavy milk flow in the spring and open pasture season, results in a surplus, that on the old basis was bound to effect the price of the entire volume of milk shipped. Under the new basis, the basic quantity of milk shipped representing normal consumption, is governed in price by supply and demand, while the surplus, representing shipments by the different dairymen in excess of their basic quantity, is fixed on the basis of 120 per cent of the average monthly price of 92 score solid pack butter, New York. It is evident that the producer of winter milk profits the heaviest, either under the old or the new basis. In the former case he profited by the higher price prevailing during the winter season, while under the new basis he profits, not only by the higher price in winter but in making little, if any surplus during the summer. He receives the top price for his milk thruout the year.

Following Mr. Shangles' address there was an open discussion in which details of organization work as well as varying conditions under the new settlement basis were taken up.

The Mr. Pleasant local, in this, its first annual banquet, has taken a step which has resulted in a much better understanding of the milk situation and promises a closer cooperation among the dairymen in matters pertaining to the betterment of the milk industry. Thru this banqpet the women folks of the community have been brought to a clearer understanding of the milk situation and can lend their aid in the many problems in which they are directly interested, particularly in the promotion of the use of butter in preference to that of the so-called butter substitutes.

The success of the banquet promises much in the future work of the Mt. Pleasant. Local and would undoubtedly be a beneficial feature for any farmers' organization operating along similar lines.

SOUND AND SENSIBLE

Resolutions Adopted at a Meeting of the Milk Producers and Distributors in Pittsburgh:

WHEREAS: The farmers producing milk for the Pittsburgh district have in their price conferences considered the interests of the consumer, and

WHEREAS: The milk dealers in Pittsburgh are taking substantial losses during the month of December in order that the price to the consumer may not be advanced over the November prices, and

WHEREAS: The producers and milk dealers include a committee of consumers in their price conferences and accept the principle of arbitration as to prices to be paid by producers and consumers.

THEREFORE be it Resolved: That we, the Congress of Women's Clubs for Western Pennsylvania, endorse the principles and methods used in these milk prices conferences and recommend to all business and to all laborers the advisability of accepting similar principles at this time and including the interest of consumers when setting prices and fixing wages.

ARYSHIRES FOR CUBA

Dr. Bernardo Crespo, Chief Veterinarian of the Agricultural Department of Cuba, has purchased an initial consignment of ten head of Ayrshires for Export to Cuba. In the selection of ths stock he was assisted by Dr. E. S. Deubler of Narberth, Pa.

This shipment will leave the states within a few days. To head the herd he has secured from Soapstone Farm, Gladwyne, Pa., their herd bull, Keepsake's Baron, a great son of Baron's Best of Bargenoch (18 A. R. daughters and sire of the Great A. R. and Show Cow, Highland Polly) and out of Keepsake 2nd record 17410 lbs. milk, 711.27 lbs. fat, 4.09 percent. Four heifers were also selected from Soapstone Farm including 2 daughters of Castlemain's Nancy's Monarch. These heifers are royally bred. Friends Hospital of Frankford, Pa., furnished three cows and Delchester Farms of Edgemont, Pa., furnished a young bull and a heifer.

This is the second shipment of Ayrshires to Cuba within the past few months.

COW IS MOTHER OF TRIPLETS

George W. Bradshaw, of Tremonton, Utah, is proud of his purebred dairy cow "Dairy Maid," for she has done her part in giving birth to calves. In four days less than 11 months after having one calf "Dairy Maid" came in with triplets. Mr. Bradshaw has named the calves Tom, Dick and Harry, the mother cow has a busy time caring for her three sons, who have big appetites. It is seldom that a plural birth such as this is found among cows. There are instances of a cow giving birth to twins but triplets are unusual. Dairy Maid is 7 years old and has given birth to 7 calves in that time.—E. C.

By the time the next generation has grown up the automobile manufacturers will own all the real estate and will have to sell for cash only.

Make Sure of Your DE LAVAL Cream Separator Early in 1920

There's no happier or better way of starting the New Year right than by making sure of a new De LAVAL, if you are either without a cream separator or are using an inferior or half-worn-out machine that should be replaced.

For three years now, thousands of those who wanted a DE LAVAL have had to wait weeks for it and many have had to buy a second grade separator. The demand has simply exceeded the possible supply, though more DE LAVALS have been made each year than ever before.

More and better DE LAVALS will be made this year than ever before—as many as available plant additions and skilled workmen can produce—but the demand gives every indication of being even greater still.

Order your DE LAVAL now. Make sure of getting it. Let it save half its cost by Spring.

See the nearest De Laval local agent at once, or write the nearest De Laval office below for any information desired.

THE DE LAVAL SEPARATOR CO.
165 Broadway NEW YORK
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50,000 Branches and Local Agencies the World Over

Produce More Food

INCREASE your production of beef and dairy products with a Preston Lansing Vitrified Tile Silo—the silo that lasts indefinitely without upkeep expense. Never needs painting—never affected by weather conditions. Built with patented "ship-lap" blocks, reinforced with twisted steel. Steel hip roof—steel chute—fireproof. Get your silo now—beautify your farm—and be ready for your silage crop. Write for catalog.
J. M. PRESTON CO., Dept. 345 Lansing, Mich.
Factories: Ft. Dodge, Ia.; Uhrichsville, Ohio and Brazil, Ind.

Making Cows Pay More $

It is an easy matter to do this by proper feeding. Farmers are learning of the value of "MORMILK" DAIRY FEED and every day this healthful—more milk producing feed is fed to more cows. The cost is credited to investment. Cows show more contentment, are healthier. The milk is richer and of greater quantity. A dealer near you sells "More milk," but if you do not know who he is, then write for full details. Worth your time to do this.
Interstate Feed Association, Toledo, Ohio.

BARN PAINT $1.22 PER GALLON
Get factory prices on all paints. We guarantee quality. We pay the freight.
Franklin Color Works, Dept. 16 Franklin, Ind.

Great Opportunites in Canada's Maritime Provinces

—the historic scene of early settlement in what are now the Provinces of Nova Scotia, New Brunswick, and Prince Edward Island—may today be the land of opportunity for which you have been looking. Lying out into the Atlantic, close to the biggest markets in America, nearer to Europe than any port in the U.S. they

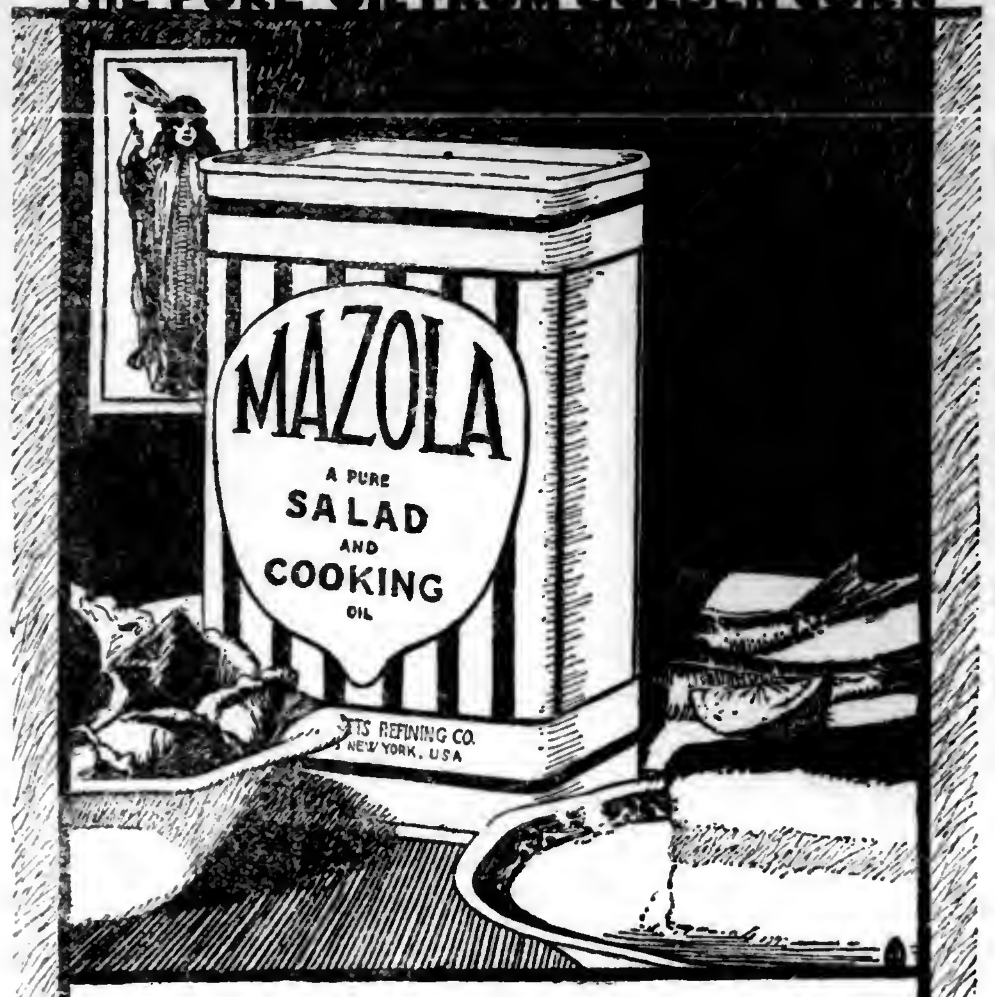
Offer Special Advantages to the Farmer

fruit raiser, dairyman and market gardener. Land of great natural fertility, in many cases with substantial improvements, may be bought at very reasonable prices from farmers who are retiring to enjoy the reward of their foresight and industry. The apple, potato, and fodder crops of these Provinces are world famous, and modest capital will here start you on the highway to success. Industrial cities and towns afford a ready market for produce of the farm, and near at hand are ocean ports awaiting your shipments to the great centers of the world. If your present conditions do not assure you of the success you desire, investigate what these Provinces can do for you. For illustrated literature, maps, etc., write Department of Immigration, Ottawa, Canada, or

F. A. HARRISON
200 N. Second Street Harrisburg, Pa.
Canadian Government Agent.

MAZOLA

THE PURE OIL FROM GOLDEN CORN



NO matter how clean and careful the preparation of ordinary frying and shortening animal fats, the housewife does not have the right feeling about them, because she believes they are not "good to eat." This is undoubtedly one of the principal reasons why Mazola is now preferred by thousands of housewives throughout America.

Mazola is from an *edible* vegetable source. It is pure, wholesome oil pressed from the kernels of finest golden corn. Nothing is added, nothing subtracted from the essence of the greatest of American cereals.

Mazola is better and more economical than lard and compounds for deep fat frying. It retains the natural flavor of the food and does not smoke up the kitchen.

As a shortening Mazola is equal to butter, costs less and, on account of its added richness, ¼ to ⅓ less is required.

Salad dressings, Mazola-made, have a delicate, delicious flavor. Mazola is equal to the finest olive oil and costs much less.

FREE A book worth while writing for. The New Corn Products Cook Book contains 64 pages of practical and tested recipes of professional chefs. Handsomely illustrated. Write us for it today. Corn Products Refining Co., Department 31, P. O. Box 161, New York City.

SOLD BY LEADING GROCERS EVERYWHERE

LENETTA LEADS—OTHERS FOLLOW

"She's a grand wee Coo" and all dairymn irrespective of breed will pay their homage to Lenetta, the twenty-one-year-old Ayrshire who has just completed an Advanced Registry record amounting to 11138 lbs. milk 374.73 lbs. fat. In the face of present day world records 11138 lbs. milk 374.73 lbs. fat would be considered just an ordinary production but nevertheless it is a world record over all breeds for no cow of any breed has ever equaled that record officially at the age of twenty-one years.

Lenetta illustrates Ayrshire persistency and the breed's ability to produce and reproduce. She was born August 16, 1898 and was bred by A. A. Hunnewell of Maine, and is owned and was tested by Dr. John A. Ness. As a fourteen-year-old she officially tested 13248 lbs. milk 465.74 lbs. fat. She now has five A. R. records to her credit averaging 11472 lbs. milk 397.36 lbs. fat, all of the five records being made after fourteen years of age. She has been a uniform producer, her average of 11472 lbs. milk comparing well with last year's record of 11450 lbs. milk and this year's record of 11138 lbs. Lenetta is a strong vigorous cow in spite of her years and looks capable of continuing the good work for quite a few years yet. She has been a regular breeder.

Lenetta 15,474, An Ayrshire Which Produced 11,138 lbs. Milk and 375 lbs. Butter at 21 yrs. of Age.

MILK KEPT SWEET FOR EIGHTEEN DAYS

When a bottle of cream shipped from Los Angeles to the National Dairy Show at Chicago was opened and tested 18 days after it had left the cow, it was pronounced in perfect condition by those who examined it. Other samples of milk and cream entered in the national milk and cream contest and examined 15 to 18 days after production were also found to be sweet.

Because of the number of bacteria present, ordinary milk will not remain wholesome for such a long time, even if kept cold. The milk and cream which made such long-keeping records were produced under very sanitary conditions, and every precaution was taken to keep them clean and to keep the bacteria count low. Furthermore, the milk was cooled to a low temperature immediately after it was drawn, and held there. The success attained in producing milk of such long-keeping qualities and low-bacteria count is due in a large measure to the educational value of the local milk and cream contests which have been especially popular in cities of the Pacific Coast States.

Packed in Crushed Ice

The bottles of milk, which were placed in boxes, and surrounded with crushed ice, were kept at a temperature from 32 degrees to 34 degrees Fahrenheit at all times. The boxes were shipped in baggage cars to Chicago, and most of them were not re-iced along the route. An inspection of the samples on arrival at Chicago showed that of the various methods of packing, the insulated box filled with crushed ice was the most effective. The bottles of milk in these boxes were entirely surrounded by the ice, which was packed in as tightly as possible. One or two samples which were packed in ice and sawdust arrived in a spoiled condition, due to the fact that a low enough temperature had not been maintained. The ice in the insulated boxes lasted well, and one box from Portland, Oreg., which was re-iced at Minneapolis on Tuesday did not arrive in Chicago until the following Saturday, but was still in good condition.

Long Shipment Possible

When milk is produced and handled under the right conditions it can be shipped to almost any point in the United States, or to foreign countries, and arrive in good condition. At present considerable quantities are being shipped to Panama, and are used on ocean liners plying between this country and Europe.

SALE OF FINE HOLSTEINS

About 1000 people came to the auction sale held by the Maryland Holstein Sales Company on Thursday, November 27, at Frederick. The day was windy and standing about in the cold was not a delight, but the cattle were good and there was lively bidding thruout the day. While the prices paid were fair some of them should have brought more.

The highest price, $1005, was paid for a nine months old bull calf consigned by Alex. N. Smith, of Monroe, N. Y. The mother of this calf was Briar Daisy, a 31-pound cow. It was sired by King Pontiac Hengereld Fayne. Harry Swomly of Frederick was the purchaser.

M. A. Price of Leonardo, N. J. bought a bull calf, 10 mos. old, son of King Segis Pontiac Alcartea, valued at $50,000. Price, $670. A seven-year-old cow, Pietze Ormsby De Kol Lass, consigned by H. B. Ayers of Pittsburgh, was sold to W. L. Galloday, Woodstoeck, Va. Two only of the thirty-two animals consigned by Alex. N. Smith, of Monroe, N. Y., and Ira E. Fitzgerald of Chester, N. Y. were over milking age and seven were small calves. The average price was $293.—Marylander.

---

6 Exclusive Features in the MOLINE UNIVERSAL TRACTOR

Exclusive Features:

1. Does *all field work* including cultivating and harvesting.
2. Both tractor and implement operated by *one man.*
3. Tractor and implement form *one unit.*
4. Operator sits on implement at center of all controls of tractor and implement.
5. Operator sees his work. "Foresight is better than hindsight."
6. Tractive power in front of work, operator behind it.

Exclusive Results:

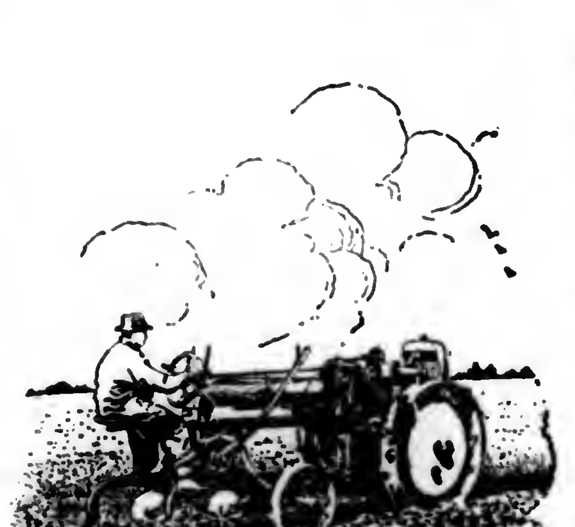
1. No duplication of any work by horses.
2. A saving in labor.
3. Entire outfit turns short, backs and makes fence corners produce.
4. Ease of operation.
5. Better work.
6. Power used as horses are used.

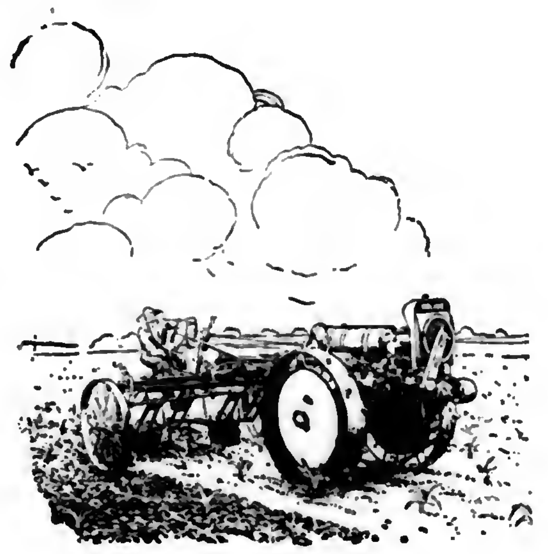
The Power of a Correct Principle

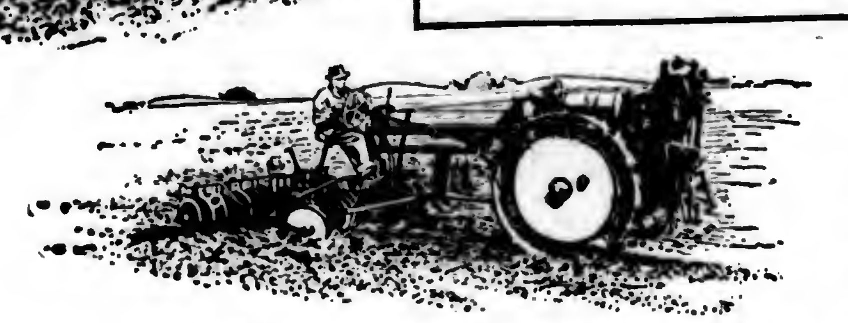
The principle of doing all field operations with one man sitting where he can watch his work is correct, or farming has always been done backward, and the operator would always have ridden or led his horses instead of driving them.

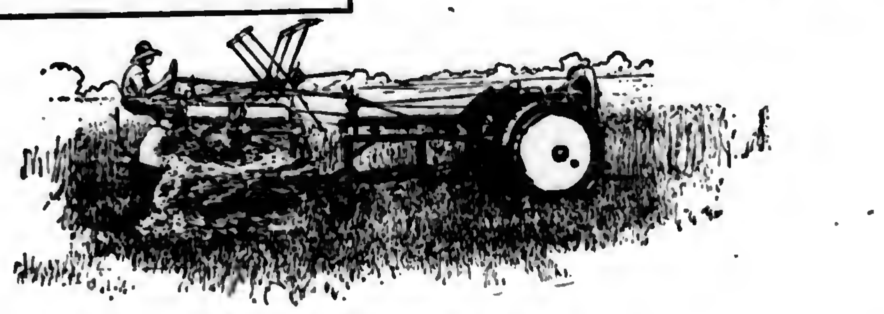
The Moline Universal Tractor places the power of nine big horses where the horses stood—is driven just like horses are driven, from the seat of the implement, and hitched up to the implement just like horses are hitched.

***Note*—If desired you can use the "drag behind" or horse drawn implements you now have the same as with other types of tractors.**









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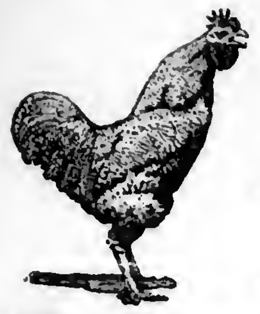


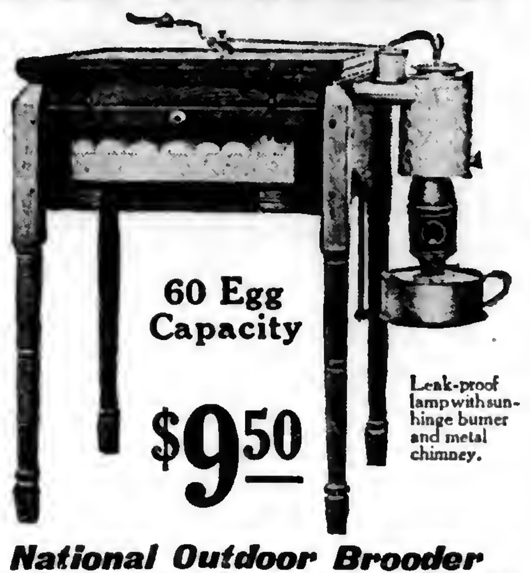
Poultry Raisers
Look at These Low Prices

You cannot duplicate these high-grade National Incubators and Brooders at anything like the same prices elsewhere. Yet these are not "special offers;" *all* National Farm Tools and Equipment may be had at correspondingly low prices, made possible by the great economies of our short-cut selling plan. Order your farm and poultry supplies via the money-saving "Short-line Route from Factory to Farm."

National Junior Incubator

The National Junior is a fully guaranteed, copper tank hot water heated incubator at a startingly low price. The case is made of selected lumber, thoroughly insulated. Double glass in door. Tubular tank and boiler are made of the best cold rolled copper—will never rust out. Automatic thermostat regulator keeps the temperature even. The leak-proof lamp has sun-hinge burner and metal chimney. Capacity, 60 average-sized hen eggs. A good, practical incubator and fully guaranteed.

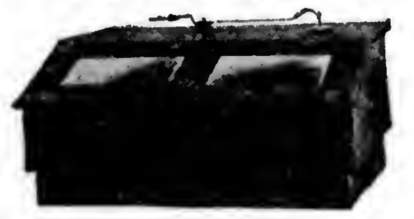
No. FA-17—National Junior Incubator.
Shipping weight, crated, 50 lbs. Price, $9.50.


60 Egg Capacity
$9.50
Leak-proof lamp with sun-hinge burner and metal chimney.

National Standard Incubator

A high-grade hot-water heating system incubator with genuine copper tank. Guaranteed to hatch every fertile egg when operated according to directions. Run off a hatch at our risk.

No. FA-12—National Standard Incubator; capacity, 150 average-size hen eggs. Price . . . $19.65
250-Egg size, $26.50. 400-Egg size, $34.75.



National Outdoor Brooder

This Brooder can be used outdoors or indoors. It is made of heavy wood with glass window for sunshine. The floor is built off the ground to prevent dampness. A felt curtain divides the sun-lighted exercise room. Overhead hot air heating system, with safety lamp and automatic regulator.

No. FA-28—150-Chick Outdoor Brooder. Shipping weight, 70 lbs.
Price, $9.75. 200-Chick size, $12.00.

You will save time by ordering brooder with incubator.

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It contains 333 money-saving ideas. Think of it—333 ways to save money on gasoline engines, sawing outfits, feed mills, cream separators, tractors, sprayers, farm machinery and equipment of every kind. Every article is backed by our broad guarantee of *full satisfaction or your money back.* Write to-day. Delay means loss of money to you.

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Hens Need a Tonic When Moulting is Over

Your hens are run down after moulting. It requires a lot of strength to grow their new plumage. Their egg producing organs have not enough rich red blood. If you want eggs during the winter when prices are high, feed

RUST'S
EGG PRODUCER

It tones them up. Soon the hens begin to scratch and cackle and lay. They get rosy, red combs, and are no longer "boarders." Many report twice the number of eggs from feeding **RUST'S EGG PRODUCER.**

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RUST'S ROUP POWDER

Rust's Roup Powder

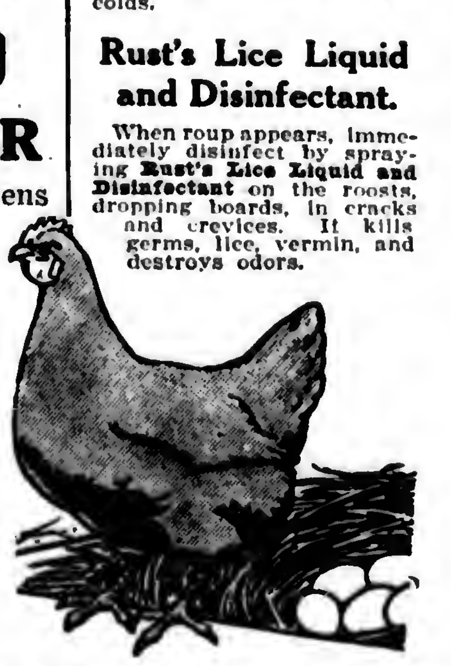
For roup, catarrh and colds. At first symptoms of wheezing and watery eyes and nostrils, separate the fowls infected and put **Rust's Roup Powder** in the drinking water.

Rust's Roup Pills

For individual treatment. They act directly on the inflamed glands and mucous membrane. A standard remedy for roup, catarrh and colds.

Rust's Lice Liquid and Disinfectant.

When roup appears, immediately disinfect by spraying **Rust's Lice Liquid and Disinfectant** on the roosts, dropping boards, in cracks and crevices. It kills germs, lice, vermin, and destroys odors.



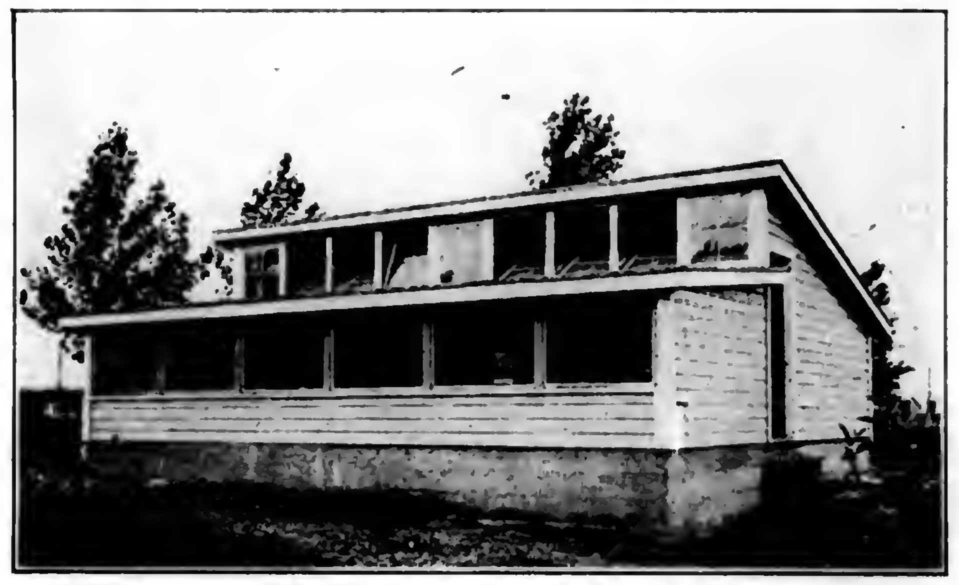
POULTRY

WHAT DO EGGS COST

Recently one of the largest morning newspapers in one of our largest Pennsylvania cities, evidently at a loss for material with which to fill its columns, ventured the following opinion as part of a column headed "Editorial Comment."

We know personally of a man who, with a small bunch of chickens, says he is able to dispose of his extra eggs at fifty cents a dozen and come out even. Why, then, should eggs be selling regularly in the neighborhood of a dollar a dozen? You know the answer. They should not be.

This editorial really would not deserve a moment of serious consideration were it not an illustration of how many city dailies are creating misunderstandings between the men and women of the farms and those who live in cities and towns.



Poultry House at Iowa Experiment Station

It is most difficult for the average urbanite to understand and appreciate the viewpoint of the farmer and to realize the difficulties under which he is working. Then why should men, presumably of more than average intelligence, deliberately publish such shallow, misleading, illogical statements? This paper if read at the breakfast table when the "boiled" or "fried" or "poached on toast" are served may cause certain urban consumers of eggs to agree that the poultry keepers are profiteers and that $1 a dozen for eggs on December, 1919, is exorbitant and unreasonable.

A personal friend of the editorial writer evidently has a small bunch of chickens" that produce eggs which he could sell at fifty cents per dozen and "come out even." Is this any argument that all eggs should sell at fifty or sixty cents per dozen? Very likely overhead expenses and labor were not considered in the estimate given. We might as well assume that the price of eggs should be $6 per dozen. I know a poultryman who has a flock of 400 hens, well fed, well cared for yet those hens are only averaging ten eggs per day for December. The actual cost of feed is $3.50 per day. Estimating labor, housing cost, ground rent, depreciation, mortality and all overhead expense as low as $2 per day, we find that his eggs cost him fifty-five cents each or $6.60 a dozen.

We all know it would be unreasonable to ask $6 a dozen for eggs. Yet it would be just as fair to take the cost of winter egg production of this poultryman as it is to take that of the back-lotter whose eggs cost him fifty cents per dozen, very likely considering only the cost of feed.

We must consider the average cost of production and not take either extreme. As a matter of fact, only the exceptional poultry keepers are getting many eggs at present. Eggs are scarce. Hence the price is high. Wide observation of poultry flocks in the state of Pennsylvania seems to indicate that the average new-laid eggs produced in the first two weeks of December, 1919, are costing the poultry keepers more than $1.50 per dozen. Most poultry profits are made in spring when eggs are cheap. Most poultrymen are well content if their November and December egg receipts equal expenses. Only the more skillful poultrymen get winter eggs and if they are able to make a profit they certainly deserve it.

The poultry keeper cannot work on an eight hour a day basis. Especially in the rush of hatching and rearing in spring he is more likely to average sixteen hours. He must be at work week days, Sundays and holidays.

Let us have all the publicity possible regarding the actual cost of egg production but let us be fair and above all let us really think and study our subject before we publish any opinion that tends to increase unrest, discontent and dissatisfaction. It is time that we farmers actively combat some of the absurd charges that city papers so often bring against us.—Paul R. Guldin.

—Poultry keepers, won't you send us your cost and receipt accounts for November and December? They will aid in teaching the public.—Editor.

JANUARY POULTRY HINTS

When fowls are dusted to destroy lice, the operation must be repeated in a few weeks to kill off the next brood which will hatch after the first treatment. Catching and treating the hens takes time and frightens the birds. For this reason we prefer blue ointment for lice instead of dusting, as one treatment furnishes protection for several months.

When moving poultry from one farm to another or to market, it is best to place them in regular poultry crates rather than in very large boxes or in a wagon box covered with wire. Recently a farmer who

tried to move a large flock of poultry in a wagon box had to stop along the road and borrow crates to keep from losing the poultry. The birds were young Leghorns and they were frightened and they piled up in one corner of the box. Twenty or thirty of them were dead from smothering before the majority were taken out and placed in crates.

Sprouted oats are valuable in the ration of laying pullets as soon as cold weather arrives and the birds miss the green food on the range. Oats can be sprouted by spreading them out on the floor under a stove brooder. Wash the floor with formalin solution to kill mould, sprinkle the oats each day and run the brooder at a temperature of about 75 degrees. Of course, the oats should be thoroly soaked before placing them under the deflector.

When sprouting oats in the house, it pays to use a fireproof sprouter if the temperature near the furnace is not warm enough to make them sprout rapidly. Some poultrymen have found that oats can be sprouted in an incubator. Personally we do not like to use our incubators for that purpose but no damage can be done to the stove brooders by using them as oat sprouters.

It pays to own a book describing the diseases that may cause trouble in the farm flock and use it for ready reference whenever any of the birds are sick. Frequently an ailment that may be cured easily at the first outbreak is allowed to spread and kill several of the best birds. The loss from disease is not only in the birds that die, because sick birds never are desirable as breeders . even after they recover.

Frequently road dust is recommended as the best dust bath for poultry but sifted ashes from the hard coal burner mixed with garden soil will give the birds a better bath. The ashes seem to hold enough moisture to keep the bath rather damp and this is more pleasing to the fowls than dry dust and in addition the birds do not kick the house full of dust while they are enjoying it.

Where do hens go to dust when on the range? Seldom out in the dry dusty road but possibly under the edge of the raspberry canes where the soil is clean and slightly moist. On almost any farm in the summer, the hens can be seen dusting in the damp loam in the orchard or in the garden or at the edge of the corn field and the little pits which they hollow out will be slightly moist and not absolutely dry and dusty.—.

THE FOUR G'S

The A. B. C. of making hens lay at this time of the year when prices are high, is in giving them the four G's in the right proportion.

If this is done, together with proproper housing and ventilation, the hens will lay or bust even when prices are high.

Here are the four G's that hens have naturally in the summer range: Grains, Grits, Grubs, and Greens.

In the winter, fowls should be given exercise by being made to scratch in clean litter for their grain. A variety of grains is much better than any one kind.

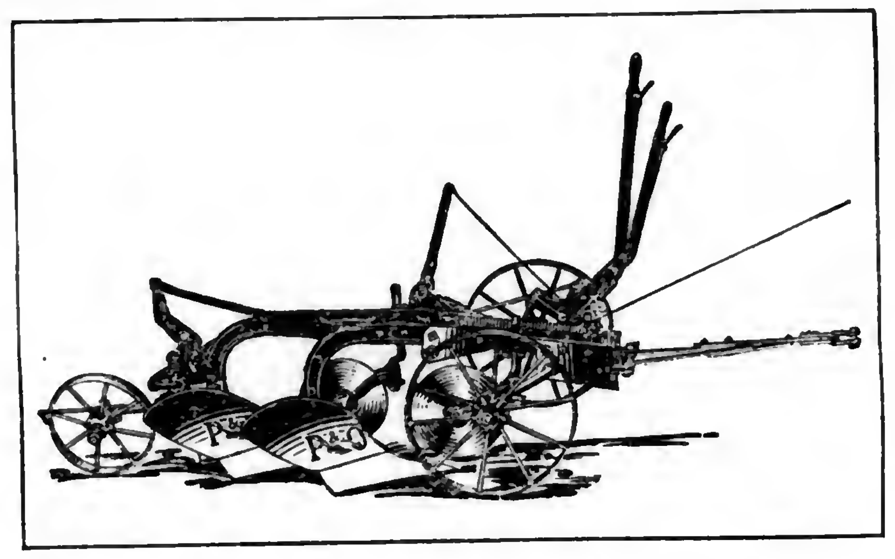
For grits in winter, oyster shells should be continually by them to supply shell for eggs. The "Grubs" are supplied by beefscrap, but still better is fresh green bone. Fowls also must have the greens to keep them regular. Feed soft cabbage, mangels, or any vegetable and you will have a basket full of eggs.—S. H. Swingly.

1842 P&O 1920

Little Genius Power-Lift Tractor Plow

"THE Little Genius!" No farm implement was ever more aptly named. And no other plow ever gained the success and popularity of the P&O Little Genius Tractor Plow. It is the most-talked-of plow at all National Tractor Plowing Demonstrations.

1 Tractor Plow Operator



The Little Genius and the International Tractor—the Ideal One-Man Outfit

The Little Genius is a power-lift plow, and one man operates both tractor and plow, the bottom being raised and lowered by one trip rope, placed within reach of the tractor operator. Pin break hitch — better than an insurance policy — it protects both plow and tractor against damage when running into stones or hidden roots. The Little Genius has all the features of strength, simplicity, and ease of operation that you expect to find on any plow bearing the P&O trade-mark — the features that have distinguished these plows for more than three-quarters of a century.

The International Tractor and the P&O Little Genius Plow are made for each other by the Harvester Company, and are backed up by a service that is dependable and continuous.

Call on the International dealer and have him explain the merits of the P&O Little Genius. P&O tractor plows are also made with disks. Write for catalog.

INTERNATIONAL HARVESTER COMPANY
OF AMERICA INC.
CHICAGO USA

The Extra Eggs will soon pay for one of these Automatic Self-Heating Poultry Fountains and Heaters keeps water at the right temperature day and night in the coldest weather and requires less than a quart of oil a week. Made of Galvanized Steel. A long felt want supplied. Every Hen-House needs one. Price of a Heater and 2 gallon Automatic Fountain complete $1.85. Also made in 3 and 4 gallon sizes.
Write for Circular K and testimonials. Agents wanted.
C. A. S. FORGE WORKS, SARANAC, MICH.

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Cuts from both sides of limb and does not bruise the bark.

Made in all Styles and Sizes

All shears delivered free to your door. Send for circulas and prices.

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STRAWBERRY PLANTS

Send for our FREE, 1920, Illus. CATALOG, filled with information about our hardy sure-crop Small Fruit Plants, such as Strawberries, Raspberries, Currants, etc. Bridgman Nursery Co., Box 16, Bridgman, Mich.

60 BEST PAYING VARIETIES Hardy Northern raised Chickens, Ducks, Geese, Turkeys, Pure-bred heavy laying strains. Fowls, Eggs & Incubators all at low prices. 24 years experience. Large new Poultry Book & Guide FREE. W. A. Weber, Box 2 Mankato, Minn.

Farms

$1800 Down Secures 76-Acre Near Phila. Farm,
2 cows, horse, poultry, 8 acres of wheat, plow, cultivator, harrow, wagons, &c., thrown in by aged owner for quick sale at low price $4750, easy terms. Mile town, advantages, close city 20,000. Fertile loamy tillage, spring-watered pasture, estimated 1000 cords wood, big fruit orchards. Excellent 9-room stone house, good basement barn, running water, corn crib, poultry house, &c. Details page 42 Strout's Catalog Farm Bargains 23 States; copy free. E. A. STROUT FARM AGENCY, 1422 B E, Land Title Bldg., Philadelphia, Pa.

Pennsylvania FARMS Crawford and Erie Counties. Finest land in the country for dairy and hog raising. Good markets and voc. schools. Land $20 to $100 per acre. Send for list. Conneautville R. E. & Farm Agency, Conneautville, Pa.

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Homestead farm of Caroline K. Brick, sit. about mile from Marlton, N. J., to be sold at public sale, Tuesday, January 6, at 2 P. M. Farm consists of about 133 acres, suitable for truck, fruit or dairy purposes. Good buildings; running stream; close to markets and schools, on good roads. Sale on premises.

175 Acre Farm for sale. One of the best grain and stock farms in Del. ½ mile from boat, ½ mile from town and R. R. Fine large house and plenty of out buildings. Price $18,000. Easy terms. Want to sell before January 1st.
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Vines, Berries, Shrubs, Roses

Grown in our Upland Nursery, the largest in New York State, under ideal climatic conditions. Guaranteed to give satisfaction and sold to you at cost plus one profit only.

Maloney Quality has become a recognized standard by which all nursery stock is judged because we have given our personal attention to every step in the production of our stock from budding to shipping, and know just what we are sending you and that our varieties bear and bloom true to name.

Fruit Trees are scarce this spring owing to the fact that France has not been able to supply many seedlings for the past four years. However we have a fine assortment and can give you what you want. Send today for our FREE WHOLESALE CATALOG, and place your order early.

We Prepay Transportation Charges On All Orders For Over $7.50

Maloney Bros. & Wells Co., 68 East Street, Dansville, N. Y.
Dansville's Pioneer Wholesale Nurseries

EXPERIENCE WITH PEARS

(Continued from Page 9.)

of pear wood, because of the close texture of the wood, are not penetrated easily by the blight bacteria. One of the most resistant is the pear of the highest quality we have—the Seckel. I think there is no pear tree that is so beautiful or lives longer than the Seckel. It brings the highest price. Its only fault is its small size. It is a little late in coming into full bearing, and it does not ripen until October. So those who plant only Seckels would have no pears during September, or later than October. If I were planting a pear orchard, I would plant more than one half Seckels.

Other varieties that have not blighted seriously on my place in S. E. New York are the Anjou, Wilder, Winter Nellis and Keiffer. I have but little use for the Keiffer and shall plant no more Keiffer trees. I have had the most losses from blight with Clapp's Favorite and Bartlett. Because of their excellent quality, and because they are the only pears that make a complete succession from August until October, I would plant a small part of my trees of these varieties, and try to protect them from blight as much as possible. My choice of varieties would be one or two trees of Wilder, which ripens in August, followed by Clapp's Favorite, Bartlett, Seckel, Anjou and Winter Nellis. Perhaps I would plant some Bosc and Flemish Beauty because of their high quality, but they have some serious defects.

I found I can grow good pears on about any soil where apple trees thrive, and I believe in feeding pear trees about the same as I would young apple trees and am giving the young orchard thoro cultivation. I do this by growing inter-crops, mostly small fruits, in the pear orchard. I want to keep the trees growing. I get better trees and get more fruit earlier. I apply the farm manures needed to grow good crops of strawberries, can fruits or corn.

I have planted one-year-old trees and buy them of nurserymen in the great nursery centers who sell direct to planters at wholesale prices. I plant the trees early in the spring and cut them back so as to make heads about two feet from the ground. When the trees have made a head, only three or four branches should be allowed to grow. All the pruning needed for years will be to cut out the branches that crowd, and the diseased wood, if any. If the tree are getting too high, it is well to shorten the leading branches somewhat.

To control pear blight, examine the bark of the trees closely in the late fall for the bunches called "hold overs" in which the blight bacteria pass the winter, and destroy these. In the spring the bacteria cannot well get into the wood if the bark is intact, so avoid bruising the bark. If a twig or branch shows appearance of blight, cut it off. If possible control the blight in the twigs before it gets into the large branches. A tree cannot be saved when the blight gets down into the trunk.

Pears can be grown in large supply for the family and there are no difficulties that cannot be overcome. As a commercial proposition, there are still good opportunities for the painstaking grower who will study pear culture.—W. H. Jenkins.

SOIL STERILIZATION

Now that the soil sterilization project has been adopted and work about to be started on it, the question arises how is this work to be done? The best and most efficient way of doing this work is to heat up the soil by means of steam under pressure, hot enough and long enough to kill practically all the disease germs, weed seeds, insects, and make a mighty thorough job of it, and the cost is not prohibitive if several neighbors join together on the proposition, but if they don't it isn't worth thinking about, for one or two men can't afford to do it.

However, we have the formaldehyde method left. This method, if carefully carried out, will produce very satisfactory results, and will control the damping-off disease. However, it will not control or kill weeds, in fact weeds seem to thrive on it.

How to Prepare Your Frames

After all crops are out of the frames and they are ready for the winter sown crops, prepare the soil just as if you were going to sow your seed, or set the plants the next day. Apply manure (if you are going to) and spade it up well, trying to get the bed as loose as possible, the deeper you can spade the more efficient the work will be. After your ground is in shape, keep off it and you are ready to start to work.

Equipment Needed

You do not need any expensive equipment to do the work. Place a fifty-gallon or larger barrel at each end of your frame. Fill them with water. You can fill one and let the other fill up while you are emptying the first barrel. This will save a lot of time. Then you will need a couple of men with good sprinkling cans and you are ready to begin.

Procedure

Put 3 pints of formaldehyde in each 50-gallon barrel of water, mix up well and you are ready to begin. The idea is to put a gallon of the solution on each square foot of the soil being treated. Then each 50-gallon barrel will treat almost three sash. You will find that it will work better if you sprinkle 6 sash evenly with the solution from one barrel and then go over them again and sprinkle on the solution from the other barrel. This will give it more time to work in. You will find it quite a job if you try to do just three at a time, for the top inch or two of soil gets soaked and then the water runs off and you are in trouble; by making two steps of it you can work faster.

Then after you have sprinkled the sides of the boards carefully, cover the soil in the frames with old rugs, bags, canvas or if you haven't enough, lay mats along one side and then one bag wide will just about cover the rest of the width of the frame. The idea is to keep the formaldehyde, which becomes a gas in the soil. Keep these covers on from twenty-four to forty-eight hours and then take them off. Leave the glass off for about 10 days so that all traces of the formaldehyde are gone. Then put on your glass and you are ready to plant.

Precaution

Remember the fungus that causes the plants to damp off or wilt down are very easily carried, and if you want to keep your sterilized frame clean be careful. A good plan is to have a small pail of a strong formaldehyde solution at the end of the frame, and when you are using any tools from one frame to the other just dip them in it and you are safe.

HOME FERTILIZER EXPERIMENTS

I use commercial fertilizer on my farm, and it pays. When I first started it I experimented every year on almost every crop. I couldn't make exact estimates of the results but when they were enough for the eye to see without the aid of scales I was convinced. This first trying out was while I was on the farm at home. Some wise neighbors said that Rogers would spoil that farm by monkeying with fertilizers. And some other wise ones said after he had used it a few years that they'd like to have their farm "spoiled" the way Rogers had spoiled his.

Onions from seed is the crop that I used fertilizer on the most for the first few years. The application was too light at first. We used close to 600 pounds of a fairly complete mixture and put it under the rows of onions direct. None was used broadcast. Later, I used more of it, and last year on a small field of onions I used 1200 pounds to the acre. It pays.

I remember about the second year I used it I left two rows across a field of onions that didn't have anything under the row. The result was that there was the difference between a crop worth harvesting and one that was left on the ground. A "spike," or thick necked onion, is worthless as a market onion. That is what happened to those without sufficient plant food. The onions grew in height and had the color all right, but that was all. No mature, solid bulbs.

Now, I am on my own farm. Some places it runs to sandy loam, while the most of it is a clay loam. I have the job of bringing it back to a state of fertility, and must do it with fertilizer, mostly. I occasionally try out a new experiment yet. I don't have to try out anything to decide whether it pays to use it or not; I am convinced of that. The first year I tried a couple of sacks of bone meal on a wheat field. I thought it might be better for the clover following the wheat, but all the difference in the whole rotation of crops was that the wheat ripened about a week later where the bone meal was used. Since then I have stuck to phosphoric acid, and potash and amonia with it.

My experiment station can make experiments with different applications of fertilizer better than I can. They are prepared to do it and I am not. They can make accurate weights of the product from the different applications. I can not tell the difference where 200 pounds of acid phosphate to the acre and 250 pounds is used, but they can. If the difference pays on their soil, then if my soil is similar to it, I am pretty sure.

I have made a few mistakes in applying fertilizer because of the drill stopping for a few feet before I noticed it, or because one hoe or disc ceased drilling for a round or two. These always convince one that there is reason for using it.

From now on, the main reason I will have for experiments on my own hook, or for interest in those of others, is that I want to know how much to use and of what analysis. Now I don't know just where I am at on certain crops. I am pretty sure tho that every one of us who use fertilizer at all will find that we are too stingy with it. If a potato crop here gets along with 400 pounds to the acre and we get 150 bushels, while in Maine or other potato growing states we find that they use up to a ton to the acre and raise two and three times as many potatoes as we do, then we are not using it to the best of our ability, or else our ability is limited. I know that I can make it pay to use 1200 pounds on onions where I used to use half that amount, and it ought to show something on other crops. Yet some crops seem so far to show that a large increase is more than they can profitably use and the rest of it is wasted; rather most of it is left there for the following crop.—Earl Rogers, Ohio.

N. Y. STATE HORT. MEETING

A program of unusual interest and variety is promised to fruit growers at the annual meeting of the New York State Horticultural Society to be held in Convention Hall, Rochester, New York, on January 14, 15 and 16, 1920. According to a preliminary announcement by Secretary E. C. Gillette the range of topics for this meeting has been carefully selected and the utmost attention given to the speakers who will discuss them.

The latest information on insect and fungus diseases with methods of control will be given by Professors G. W. Herrick and H. H. Wetsell of the College of Agriculture, Ithaca, New York, and by Professors P. J. Parrott and F. C. Stewart of the New York Experiment Station at Geneva. Wednesday afternoon will be devoted entirely to these topics.

Small fruits will be discussed by O. M. Taylor of the State Experiment Station and the problems of maintaining fertility of vineyard soil with reference to cover crops will be discussed by F. E. Gladwin of the Grape Experiment Station at Fredonia. George Stahler of Lockport will give a report on the packing house situation in Niagara County and W. H. Chandler of the State Agriculture College will talk on pruning. This talk will be based on a report of his experiences in the college orchards.

Professor J. H. Gourley, Horticulturist of the New Hampshire College of Agriculture will speak on "The Soil Fertility Problem in the Orchard."

Among other speakers who have promised to be present, are United States Senator James W. Wadsworth, Jr., President J. C. Creelman of the Canadian College of Agriculture; A. R. Mann, Dean of the New York State College of Agriculture; and Charles S. Wilson, Commissioner of Agriculture for the State of New York.

A complete program giving dates and hours as to when these respective addresses will take place, will soon be issued.

Space for exhibits at this meeting is all taken up according to an announcement of Secretary E. C. Gillette who says that this meeting will be the occasion for the biggest display of horticultural machinery ever shown at the annual convention of the New York State Fruit Growers. The exhibit will include power sprayers, tractors, farm trucks, spreaders, tillage tools, graders, nursery stock and fruit packages, besides a very extensive display of spraying materials.

In view of the general shortage of farm labor, machinery is becoming every year more and more essential to efficient farm operation. The annual meeting of the Horticultural Society registers the importance in farm machinery and hundreds of fruit growers attend the meeting for the purpose of keeping in touch with this advancement.—E. E. R.

FARM GIRL LIKES TOWN LIFE

I have been reading, with interest, the letters from the different girls, in answer to "Bachelor," and certainly agree with those who think life in the town is much easier than on the farm. I have been working in town for about nine months, and like it much better than the farm, altho my health is not as good as when I was helping with the milking, working in the field hauling in hay, corn, potatoes, apples, etc.

When I was on the farm I never had any money of my own. I remember my father giving me one nickel. My mother offered me money, but I would not take it as I thought she needed it more than I did. Now I can give her money.

Crocheting is one of my favorite pastimes, and my father threatened more than once to burn my crochet work.

Some of the girls write that many of the country boys appear in ill-fitting clothes. I do not know of anyone who is more particular about his appearance than my brother, and I notice that many of the boys in town are not very careful about their appearance.

We very seldom see any of the girls leaving the town for the farm. This is due to the fact that they do not have to work so hard in the towns. One of our "Bachelor" friends writes that he believes a few months of city life would cure some of our all too modest country girls, but it hasn't cured me yet.—A Bedford County Girl.

COMMUNITY GATHERINGS NEEDED

I have been much interested in the various answers to "Bachelor." I was born and raised near New York City. I worked in the city until I mastered the electrical trade, but I have given up trade and city for country life, and do not regret it to this day for I love the country.

We moved out on the farm when I was 19 years old. My mother and sisters like it better every day. We have all improvements in the house, which saves quite a lot of work.

In my opinion there is one thing very much lacking in most rural sections. That is community gatherings and amusement for the young people. We should have more to keep the young boys and girls interested; something to which they can look ahead. I think this would go a long way toward keeping them on the farms.—A Warren County, N. J. Reader.

WANTS TO SEE "BACHELOR'S PICTURE

Concerning our friend "Bachelor," I would advise publishing a photograph of him, as I am sure we would all be glad to see this attractive and successful young farmer.

I don't see why any girl who likes the country would not marry a farmer, if he can give her a comfortable home with modern conveniences.

I am a country girl and love the country; but, when you go out to the barn and find all the labor saving devices, and then come back to the house and find it run on the old-time basis, with oil lamps, wood stoves, water that must be carried and a washing machine that must be turned by hand; you will not wonder why the girls leave the farm.—An Interested Reader.

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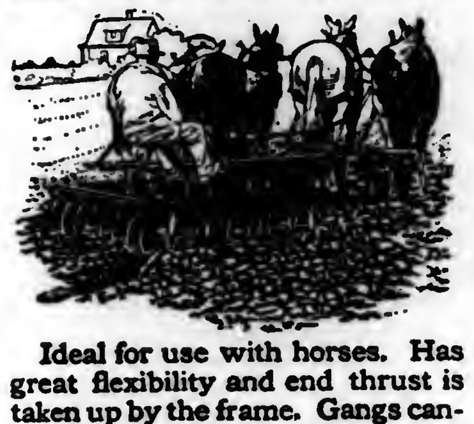

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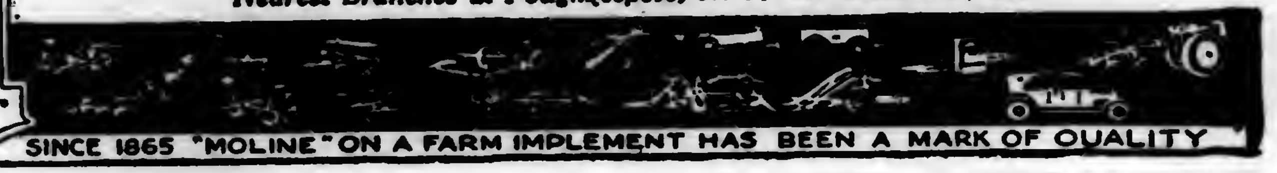

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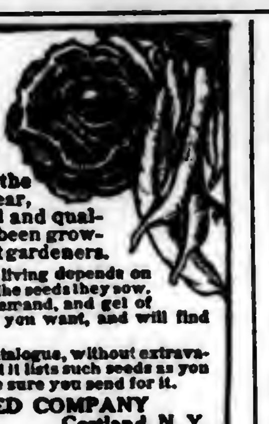

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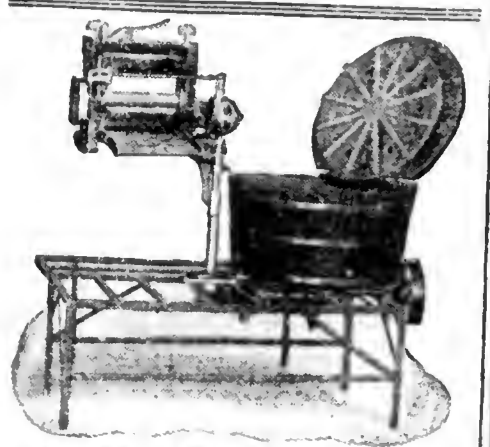

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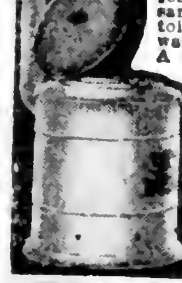

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CAPPING THE KIDDIES

Here are directions for making some "comfy" caps for the little folks. Some of them are made of yarn raveled from partly worn sweaters, thus affording a bit of money saving in this time of wool shortage.

Cap No. 1

Cap No. 1 is made of fine Saxony yarn, and is lined with the same, hence it is very warm.

The Lining

Chain 3 and fasten the ends of the chain together with a slip stitch.

1st Row.—16 Double crochet stitches in the ring made by joining the ends of the chain. Fasten with a slip stitch. This fastening should be made at the end of each row, therefore will not be repeated in the instructions for each row.

2d Row.—2 dc in each under stitch.

3rd Row.—2 dc in each alternate stitch.

4th Row.—2 dc in every third stitch.

5th Row.—2 dc in every fourth stitch.

6th Row.—2 dc in every 5th stitch.

7th, 8th, 9th, 10th, 11th and 12th Rows.—1 dc in each under stitch without increasing.

The Outside

The outside is made just like the lining except that a row of crochet silk in single crochet is worked around the 9th and 11th rows to help make the border. Before adding the 12th row of dc in the saxony yarn, crochet as follows the chain that forms the little scallops or points, overlaying the lower part of the cap, as seen in the photograph.

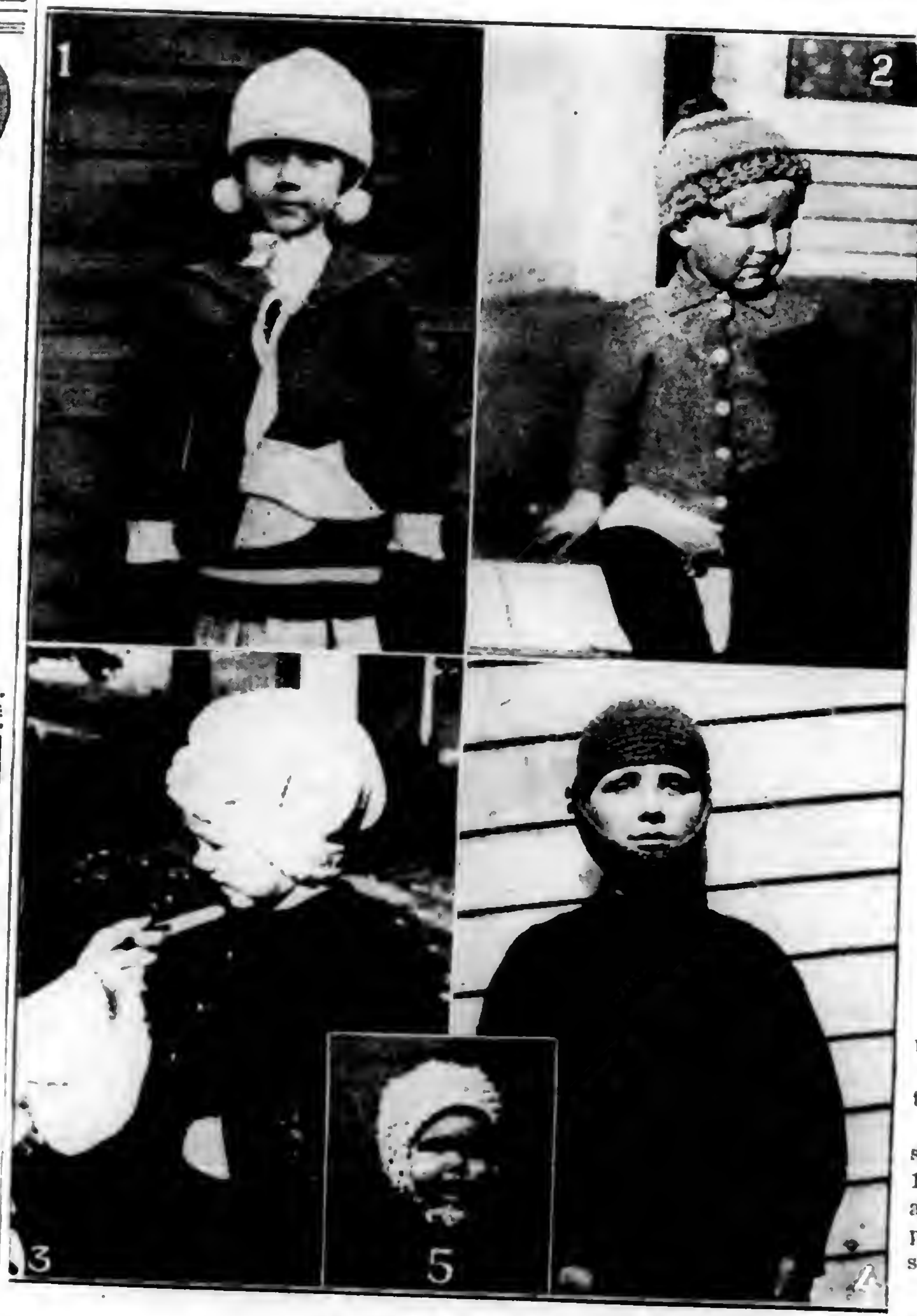
Scallops.—Chain 5; fasten in fifth stitch from the beginning, but into the row of silk single chochets beneath. Continue to make chains of 6, fastening in every 9th stitch, first into the lower row of sc, then into the top, and continue until the points are evenly spaced, or, if not evenly spaced as sometimes happens, they may be spaced by the sense of proportion, which is much better than following a hard and fast rule. You may easily make the points wider apart or nearer together by using your own taste and judgment.

For the earlaps, make a row of 12 dc, turn, take up 2 dc before catching them together, work as formerly, making 2 dc before fastening together at the other end of row. This leaves only 10 stitches to work into for the third row. Make third and fourth rows as above described. The last row will have only 6 stitches, tapering to form the earlap. Make another earlap at opposite side of cap about 24 stitches from the first.

Turn the lining outside in, tuck it into the outside cap and fasten the two caps together with a slip stitch.

Make two pompoms and fasten these over a half yard of ribbon on each earlap.

The cap here pictured is made entirley of white yarn, and weighs 2½ ounces.



Capping the Kiddies

Cap No. 2

This is truly a "conservation" cap, made from left overs from two sweaters; neither would have made a cap without the help of the other.

Chain 3, fastening with a slip stitch.

1st Row.—6 single crochet stitches fastened with slip stitch.

2nd Row.—Sc 2 in each under stitch.

From this row on, just increase with an extra sc wherever needed to keep the work flat. When the work measures six inches across, work without increasing to the edge.

After the flat mat six inches across is made, add two rows of the darker shade (gray was used in the cap photographed). Then work about eight rows with the lighter shade, then two rows with the dark shade. The cap should reach to the eyebrows when finished.

The two last rows—those in the lighter shade—are in pineapple stitch. Turn the work and work from the inside of the cap. Make the pineapple stitch thus:

Pineapple Stitch.—Pull up a long loop, put yarn over needle, then needle under nearest stitch, over needle, pull loop up to measure same as the two loops already on needle. Repeat in next stitch. With the six loops on needle put yarn over needle, pull thru the six loops, and make one chain very snug in order to hold work tight. After first row of this stitch, the work done as described above is continued, but needle is pushed under not thru the stitches, and the yarn is taken up from each side of the pineapple stitch, not thru the center of it.

The heaviest sweater yarn was used. This cap weighs two ounces.

Cap No. 3.

White Germantown yarn was used thruout.

Chain and fasten as for beginning the other caps.

Make a flat mat of single crochet stitches until work measures 10 or 11 inches. There will probably be about 25 rows of sc stitches at this point. Now, with the same stitch, skip every other one. Count stitches.

For the next row, skip as many stitches as will be necessary to leave 70 sc stitches when last sc stitch is made. This work is done around and around without fastening last and first stitch of a row together. Make the head band about 12 rows wide.

Turn and make four rows of pineapple stitch, or any showy stitch preferred, back and forth for four rows, leaving 15 sc stitches between each side for the front.

A pretty white silk cord and cotton covered with white satin to form balls would make a pretty finish for the front of this cap. Either these or chocheted buttons and a cord chain of the yarn doubled may be used. The cord is sewed across the cap as if it were a lacing, and the buttons are sewed at each side of the top of the turnback made of the pineapple stitches.

Cap No. 4.

For a larger boy, the same idea is carried out as for cap No. 2, with this difference: A flat mat made of seven inches of sc is used. From this point the work is made without increasing until the cap reaches to the eyebrows of the wearer. The chin strap shown is liked by most boys, and is a great protection from the cold. This is just a strip about three inches wide crocheted back and forth until it is long enough to fasten on the opopsite side with either buttons or snaps. I usually work around the edges of such a cap with a slip stitch.

Little Sister's Cap (No. 5)

This is made of 6-ply Germantown yarn in popcorn stich.

Popcorn Stitch.—To make the popcorn stich a sc stitch is made thru the foundation stitch, then a chain of four, and these are fastened into the next foundation stitch with a slip stitch.

Chain 3, fasten with slip stitch.

1st Row.—7 Sc.

2nd Row.—Increase once in each foundation stitch.

3d Row.—Increase in every other foundation stitch, and increase once in each former until aseven-point mat is formed. Now you should have six rows of plain sc stitches.

7th Row.—Same as above except that in center of each increasing, a chain of 4 is made.

To form the popcorn stitch points work plain sc except a stitch each side of lower popcorn st, where another popcorn stitch is worked; and the popcorn stitch is made in each stitch inside these outer stitches which form the point. Each time a slip stitch is made in the top of the stitch forward from the chain of 4, this pushes the under chain outward and forms the kernels that give the stitches their name.

After the popcorn stitch points are formed, the rest of the cap is done in solid popcorn stitch. About 16 rows, counting from point to edge diagonally, will uusally be right, but a deeper cap may easily be made. Eight instead of six rows in the top of cap will be right for a larger child than the two-year-old photographed.

The cap is bordered by an edge of sc stitches, then a row of shells is made thus: 1 Sc, 1 dc made very loose, fasten with sc in second sc from beginning.

Before the border is worked, the earlaps are made at each side of the cap, measuring evenly from side to side. Make them thus:

Earlaps.—1st Row: 10 sc, turn.

2d Row.—Make three chains of 4 chain stitches, evenly spaced, between the 10 sc in this row.

3d Row.—Skip two of the foundations stitches, leaving only eight sc in this row.

4th Row.—8 Sc, with two chains of 4 chain stitches each a stitch or two inside from the lower popcorn stitches.

5th Row.—Skip two sc, leaving only six in the finished row.

6th Row.—Same as above, with one chain of four chain stitches made at center of work.

7th Row.—Six plain sc in the row.

After border is worked, a chain of 20 is made in center edge of each earlap, and this is finished with a tassel or a tiny crocheted ball.—The Make Over Lady.

"PIN MONEY FOR FARM WOMEN"

The pin money subject is one which never grows old. So perhaps some of the ways we Tennessee wives have helped out the family income may be of interest to your northern readers.

First and foremost comes poultry, and we raise all kinds here. Guineas, turkeys, ducks, geese and chickens, the water fowls being raised mostly for the feathers as we southerners all cling to the old time feather beds and every home is well supplied with feather beds and pillows.

The Guineas lay well in summer, and are fine eating in winter, picking up most of their living in fields.

While turkeys are hard to raise, yet most housewives raise a flock because the money all comes in at one time and at a time when most needed to buy winter clothing.

There is seldom a week during the year when the chickens do not bring in something and as our winters are mild there are few days where they cannot be out, and so they pick up grit and green truck while roaming over the wheat and pasture fields.

We find buttermilk fine for laying hens, also peas and sunflower seed, and if all bones from the table are chopped up fine the hens will eat them greedily and they help to fill the egg basket.

If a pig is kept up all summer and fed scraps from table, and garden waste then finished on corn in early fall and killed about time of first frost and sold in town it will bring a goodly sum.

One woman who has a good cellar raises sweet potatoes, keeps them until spring and sells to neighbors for seed, thereby making a neat little sum of pin money. Another woman makes cider from the small apples and the peelings, which always finds a ready market. Nearly all farm wives realize a goodly sum from the sale of walnut meats.

Dried apples, if advertised, will bring from twenty to thirty cents per pound. Dried beans for seed and table use are always in demand and most families have some for sale every year.

One woman makes and sells the old fashioned quilts, almost making a living for herself and her invalid husband.—Adda C. Hall, Johnson City, Tenn.

CURING HAMS, BACON AND CORNED BEEF

A tested and reliable recipe for pickling hams, bacon and corned beef, one that has been used for many years by an old neighbor who is almost an expert in caring for all kinds of meats, is given as follows: Make a brine strong enough to hold up an egg with common barrel or table salt, not rock salt. For 100 lbs. of meat allow 4 pounds of sugar or 1 quart of molasses, and 2 rounding tablespoons of saltpeter. Always use this pickle for pork without boiling or heating. The meat should stand in the brine at least three weeks before smokng. A ham that was forgotten and left in this kind of pickle for over six mnoths, was found to be just as good as those cared for at the usual time. This man recommends a long and slow period for smoking meat as the flavor is far better than where the smoking is hurriedly done. The pieces of meat should not touch each other while hanging in the smoke house. Corn cobs are generally used for smoking, but on account of a small deposit of carbon which is found on the meat when cobs are used, some prefer maple wood or birch chips for smoking fuel.—E. M. L. B.

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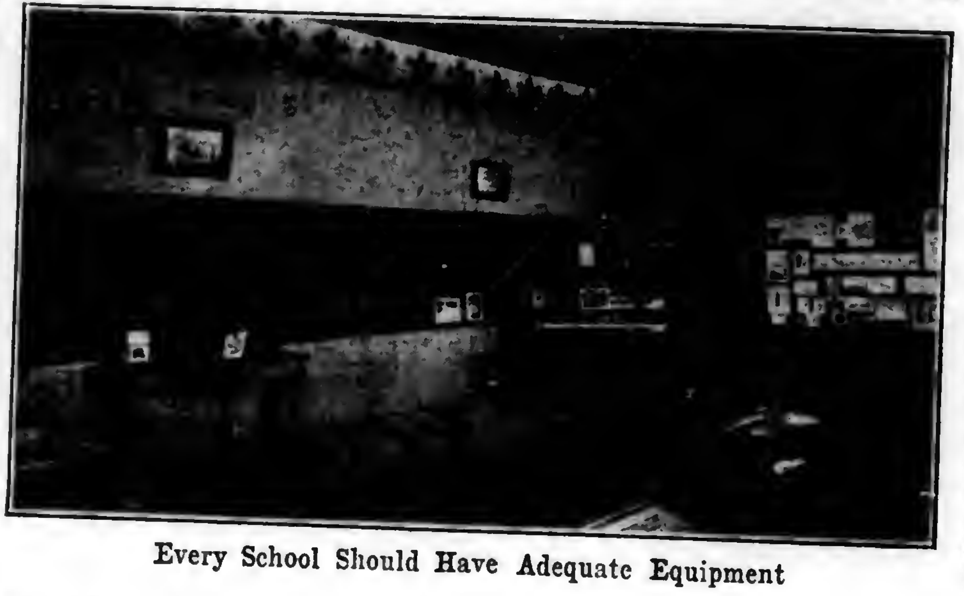
PENNSYLVANIA FARMER,
261 South Third Street, Philadelphia, Pa.

WHO IS RESPONSIBLE?

The Editor of the Pennsylvania Farmer classifies the new-found virtues of the country girl, as revealed in the replies to "Bachelor" as follows: 1st, "The average girl has a natural love for the country, but, secondly, not a love for all the ways and conditions of country life." Then the Editor frankly states that many of the conditions that make farm life distasteful and head the young toward the towns and cities can be corrected. Here are his words: "Farmers have it within their power to correct any political or economic inequalities which may exist, by means of organization. Will they do it? Is it not worth while when the future welfare of their business and their young people depend upon it?"

The responsibility certainly does lie in a more honest effort on the part of organized farmers whose leaders must cast aside political aspiration and party affiliations. It has been a query to some why the strong farm organizations, numbering thousands, were scarcely mentioned during the strenuous war period when all forces of industry were called to the wheel of the ship of state. Farmers produced efficiently and sufficiently but not because of any masterful carrying out of plans of actions such as were executed by the Red Cross, the Salvation Army, War Industrial Boards and many other useful organizations. The lack of fruitful united effort did not matter so much during the time of national peril but later, when reconstruction needed, a true voice from every class of citizens there was something lacking in the farmer's direction. I have noted that it is easy to locate an axeman in a vast forest if he keeps on chopping but if he stops he is as hard to find as silent farmers who are sleeping while they are exploited or ignored because of their own indifference.



Every School Should Have Adequate Equipment

A great body of farmers, 1600 grangers met recently to make better homes and better business for the farmers; but what was accomplished? Some very good work no doubt, but not half the positive blows for the farm interests were delivered, nor were definite plans of action laid in the hands of any particular men for their execution. The Legislative Committee came forth with resolutions supporting the "Little Old Red School House," which is associated with alder bush landscaping and an eighth-grade school master or mistress. Great surprise and strong protest were offered by the principal of one of our state normal schools. He considered it a great pity that so representative an organization of farmers should go on record against consolidated schools. Now this executive head of a normal school has no selfish motive and I consider him very generous when he favors a system that will encourage many boys and girls to get high-school training at home and consequently never attend normal school. Thus, he would lead to community independence rather than advertise a system to draw the farm children away for long periods of study as many higher school heads do by means of systematic advertisement. Many of them seem to glory, not in what can be done to round out the rural community into a social and educational center, but in what can be done in political fencing among district teachers and directors. It is not a problem with them as to what can be done to hold the young people on the farms. It is the observation of the writer that all over our state thousands of boys and girls are packed off on trains and trolleys to distant schools from which a few return at night, some at week ends, some at the end of terms, or never, to stay where "Bachelor" would have them.

The rural life robbed of youth with its buoyancy and mirth and the attendant social realm in the good environment which the girls say they favor must surely lead to rural suicide in which the last act is to rent or sell or make vacant the "Dear Old Farm" of which we sometimes sing.

This process will after a while lead to rural American peasantry. This is a perfect system for keeping the rural people ignorant while the money is drained to distant schools where conditions are overcrowded and where neither our money nor our children are needed until they have gotten a good training at home. There is flowing from many communities every few years enough money to build a first class vocational and high school. Take for instance my own community and township thinly populated as it is, spends several thousand dollars yearly for distant education, most of which could be secured in a central home plant and it is a lamentable fact that many of our youth do not find inducement to continue at the red school house nor get the far away education but if they had the chance would take advantage of a good school at home.

The continuance of the one room ungraded school, as in the past is simply fogyism and unprogressive and is one of the very potent factors in retarding the social conditions that our farm boys and girls desire. So long as we do not build these educational social centers our young people will leave and the girls will not marry the man who lives in a deserted spot.

But we are told that the central educational plant is impractical. "We can't get the children to the center." Bosh! I would not give the price of a brindle pup for a father who would not prefer the delivering of his children to the right kind of a school rather than severing home ties, or, as is often the case, deprive them of their schooling. If the school funds will not stand delivery charges let farmers take turns on the various routes. I note that many little ones that now go wading thru slush and mud often to shoe tops then sit in a drafty shack all day with wet feet, would be more cheaply and comfortably cared for in a conveyance.

It is not a surprise that some of the membership of a vast organization of farmers numbering 75,000 would champion the little neglected orphan-like rural school as a chance man yet craves the ownership of an ox team of ye olden times; but for the official head and legislative committee of a twentieth century organization to champion a method that is so moss-covered and antiquated is beyond me and is a direct blow at the very heart of farm land values. I have known of many farms sold at a sacrifice price to get children to a modern school but have never heard of sacrifice of property value to get close to a one room school shack. Never!

In conclusion, I wish to state that when our last school code was made rural people were not consulted. Now we are promised new things in rural school work. What is it to be? What is the wish of the rural people and how are we to know without a better medium of expression? Those who wish the country to be a lure to the young couple and their family have a duty to perform in helping to make a farmer's voice that will be heard. Let us go one further for once and instead of making resolutions upon resolutions form a plan of action and have people obligated to carry them out. Are we to stand for self-help and determination, or are we to remain as now—willing subjects of exploitation to those who would have us continue dependent?—D. H. Watts, Clearfield Co., Pa.

PENNSYLVANIA DAY STATE COLLEGE

Pennsylvania Day at State College corresponds to "founders" day in other educational institutions. What interested people most November eighth, was the exhibits put up by the student organizations. These exhibits were the product of the students themselves; the planning and work of preparing and showing. Most of the displays were composed entirely of college material.

The Agronomy exhibit was the winner of the silver cup. One feature was the demonstration showing methods of grading of wheat, as used by the Grain Administration. The exhibit also illustrated by models showing how farms can be made efficient by the proper rearranging of the fields.

The Animal Husbandry exhibit staged by the Sirloin Club represented college live stock. The horse exhibit consisted of a Clydesdale and a Percheron stallion, a young Hackney and a Standard Bred yearling. The beef cattle by two Galloway steers, two Angus steers, two Hereford steers, one Shorthorn steer, a Shorthorn cow and her calf, and a white Shorthorn herd bull. The swine section showed Duroc, Chester White, Berkshire and Yorkshire breeds. The sheep division showed four pens being fitted for the International Fat Stock Show. A wool exhibit showing the fleece value of using full blood breeding stock proved very interesting.—C. Randolph Kohler.

PASSING EVENTS IN PICTURES

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1.—Children in Day Nursery Observing Two Minutes Silence in Honor of the Dead Soldiers.

2.—A Buffalo in Boston Zoo. Few of His Kinds Are Left Out of the Millions.

3.—A Favorite Occupation of Mothers During the Past Few Weeks.

4.—John F. Kramer, Prohibition Commissioner, Who Will Keep the Nation Dry

5.—Emma Goldman, the Famous Anarchist, Just Deported With 250 Others

6.—An Elk as a Saddle Horse Makes Washington Stare. Was Raised By a Goat.

7.—Frank E. Neal, an Eight-Year-Old Lad Has Traveled 7,000 Miles Alone.

8.—Pancho Villa of Mexico Who Has Kept Things Stirred Up the Past Six Years

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LIVE STOCK

PLACE OF SHEEP IN AMERICAN AGRICULTURE

"The Place of Sheep in American Agriculture," was the subject of the address of F. R. Marshall, before the Maryland Sheep Breeders' Association at Hagerstown, Md., October 27. Mr. Marshall spoke as follows:

The subject assigned indicates that doubts exist as to the size and kind of sheep business that will be found on our eastern farms in the near future. My own idea is that from now on we are going to have more flocks, larger flocks, and better kept flocks. The slogan of the Maryland Sheep Breeders' Association, "1,000,000 sheep for Maryland farms," is a conservative one and likely to be realized.

Sheep Raising a Safe Business

Unless one looks into the matter very carefully it may not be clear why a marked change in the sheep business is predicted. We do not think of debating the continuation or development of milk, pork, or beef production. At the same time, we are considering a very marked and radical change in the sheep business as carried on by farmers. The fact is that the changes that began several years ago and were brought into greater prominence by the war affected the sheep business more strongly than any other branch of our farming. The supply of meat from western states and from other countries was not increasing before the war as rapidly as our requirements. Few persons expect again to see cheap meat. It is generally considered that meat animals will remain even higher in price than they used to be as compared to prices of grain. The production of lamb and mutton is included in this opportunity to benefit by adapting our farming business to the new conditions which have come to remain.

The future of wool prices is not as clear as in the case of meat, but those in a position to predict intelligently say that wool should retain a large part of its war time advances. It must, of course, go up or down along with general values of other articles. Supply does not seem likely to catch up with the demand for some time. We know that wool was advancing before the war. The parts of the world in which sheep are kept in large flocks to produce wool for export are not in a position to materially increase their flocks. In many places the former large areas of cheap grazing lands are being settled up, as in our own western states. The agriculture of those newer countries has not developed as has ours to the point where intensive live stock farming can be taken up. The increased supplies of sheep products, if they are to be made available, must come chiefly from older settled farming sections and lands such as we have in Maryland are in the best position profitably to take up a larger phase of this industry. So far as wool affairs are concerned, we are in a new era. There is a stability in wool matters which has not existed before and which puts wool production in a new position as an opportunity for owners of ordinary sized live stock farms.

Meat As Important As Wool

It may happen that sheep bred and kept for wool alone can be made to show a profit in some years or perhaps continuously. Even should this be true, flocks kept exclusively for wool can never show so large or so uniform a profit as those upon which at least equal reliance is placed upon the income from lambs and mutton. Sheep raising helps the labor question. Another point not to be overlooked in adjusting our business to the new conditions is the advantage offered by sheep raising in securing a solution of the farm labor question. It would be dangerous to make the mistake of supposing, as has been done too often, that sheep can stand neglect and will remain profitable. They require particular study and constant attention. The labor of caring for them is not heavy and a dollar's worth of sheep products represents a smaller expenditure from labor than the same value of other marketed farm products. This is a very important point in laying out the most profitable combination of lines of production for any particular farm.

Sheep Will Pay On Many General Farms

Sheep Raising on a New Basis

In adapting ourselves to the established conditions of high priced land, labor and need for intensive farming, it is necessary to get away from the ordinary lands in thinking about sheep raising. It is true that sheep do well on rolling land and can graze to good advantage on pastures too rough for other uses. It is also true that they have in the past been

largely used on cheap lands. The principal thing, however, that controls what a sheep will do on a farm and for the owner is the feed it receives. It is the question of getting the average sheep the right kind of feed at the least cost. It is true of them as for other stock that very often we can produce more cheaply on higher priced lands because we get more feed per dollar's worth of land and per dollar's worth of labor. It is a mistake to suppose that sheep cannot be made profitable on higher priced land or that sheep can only be kept as a small side line.

For those who want to go especially into dairying or beef or pork production or some special crop sheep may be more useful in their accustomed role of cleaning up pasture fields and utilizing waste. On many farms even of higher prices lands sheep can now profitably be made the main business. It is true that we have not many examples in this country of specialized sheep farming but the opening is there for the right men. Owners of some types of English farms say that they have no choice between sheep and other stock or lines of farming. Their only choice is between sheep farming and no farming at all.

An Experiment in Specialized Sheep Farming

In connection with the possibilities of profit from specializing in sheep farming, I wish briefly to explain what has been done at the Bureau of animal Industry's experimental farm at Beltsville in Prince George's County. A field of 30 acres has been used exclusively for producing crops to be used by sheep during the past four seasons. This field is divided into 10 parts. During the present season no part of the field grew less than two different crops and on some parts three crops were grown and grazed off. From this the sheep went to an early spring sowing of oats and peas. Another sowing of oats and peas furnished the next round of feed, and Alfalfa and rape filled in until the first sowing of soy beans was ready for grazing on July 12.

Under this system this field of 30 acres furnished this year sufficient feed for 70 ewes and 60 lambs for 200 days. The best grazing was on three acres of soy beans, which carried 60 sheep for 30 days. This plan was to move the lambs as far as possible the old ewes at intervals of not less than two weeks. These frequent changes to fresh ground and plowing the land for the next crop overcomes the danger of loss from stomach worms. The system requires some extra preparation of the land and seeding, moving of the sheep, and getting water to them. With the same number of sheep for each acre that we have carried during the past grazing season, a 200 breeding ewes flock would require 80 acres handled in the same way. The summer work for 80 acres of forage crops so handled together with caring for the sheep would about use the time of two men and one team. Winter food for such a flock, together with that for work horses, would require 35 acres of similar land, making a total of 115 acres of farm land for a 300 ewe flock.

YELLOW CORN HIGHER IN FAT-SOLUBLE VITAMINE

Old stockmen who prefer yellow corn to white corn for their feeding operations have been scoffed at a good deal. That they may be on the right side of the argument, after all, is demonstrated at the Wisconsin Experiment Station. While one corn may be as good as another in most respects, these experiments show that white corn contains practically none of the fat-soluble vitamine and that yellow corn may contain sufficient amounts to allow normal growth and reproduction. The fat-soluble vitamine is necessary to both successful growth and reproduction in all animals.

Experiments to determine the amount of the vitamine in roots indicated that yellow roots, such as carrots and sweet potatoes, are rich in this dietary essential, but mangles and Irish potatoes contain little or none of it. In an earlier experiment it had been noticed that some individuals in a colony of about 100 animals had had difficulty in rearing their young on a diet which consisted largely of corn. Following the discovery that yellow roots contain much larger amounts of the vitamine than the white roots, it was recalled that because sound yellow corn had not been obtainable locally, white corn had been used in part of this stock colony. Experiments were continued with eight different varieties of corn commonly grown in the Middle West, and the same differences in the yellow and white products were indicated.

As a result of the work done, H. Steenbock, agricultural chemist, says "We are provisionally assuming that the fat-soluble vitamine is one of the yellow plant pigments, altho we are not unmindful of other possibilities. If it is not a pigment, no doubt instances will soon be found where it is found to occur liberally in non-pigmented materials. We already have indications that certain materials are as rich in the fat-soluble vitamine as is yellow corn, yet they are far less pigmented. The possible economic significance of these experiments, which are, of course, being continued, is very apparent."

MOLDY FEED

Warnings against feeding damaged grain and fodder have been issued repeatedly, but it is evident that they will bear added emphasis. In this neighborhood about fifteen horses have died of spinal meningitis, induced by spoiled feed, in the past month.

One man lost five. They had been bedded with oat straw which was musty, but not badly so, and had eaten their bedding. This was the cause of their death. There have also been reports of chickens dying from eating sprouted wheat. Rather than take a chance with live stock, valuable as it is, it would be best to destroy any damaged grain and fodder, and keep a close watch on that which is apparently sound.—R. L. Scharring-Hausen.

ANOTHER FEEDING EXPERIMENT IS STARTED AT STATE COLLEGE

Seventy-eight steers have been started on a feeding experiment by the Pennsylvania State College. They are Shorthorn and Hereford grades averaging about 900 pounds each and were bought at the Union Stockyards, Chicago, Ill. In type, conformation and condition they are good average feeders. They will be divided into lots of twelve head each, and each lot fed a different ration for the next five months. At the end of the experiment full data will be available to show gain made, food consumed, cost of grain and profit or loss on each steer.

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KEZIAH COFFIN

By JOSEPH C. LINCOLN

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(Continued from Last Week.)

"Yes," she said slowly. "Poor fellow, it's an awful shock to him. He and his father are—But there! you lay down on that lounge."

"I can't lie down. I can't do anything but think. Oh, what a dreadful day this has been! And I thought it was going to be such a happy one!"

"Yes, yes, deary, I know."

Grace raised her head.

"You know?" she repeated, looking up into the housekeeper's face.

"I mean I know it's been a dreadful day," explained Keziah quickly. "Yes, indeed it has," with a sigh. "But there! our moanin' over it don't cheer it up any. Will you lay down? No? Well, then, set down, there's a good girl."

Grace, protesting that she couldn't sit down, she couldn't leave uncle, and there were so many things to do, was at last persuaded by Keziah and the doctor to rest for a few moments in the big ricker. Then Mrs. Coffin went into the kitchen to prepare the tea. As she went, she beckoned to Dr. Parker, who joined her a moment later.

"Well, doctor?" she asked anxiously.

The stout, gray-haired old physician—he had practiced in Trumet for nearly thirty years—shook his head.

"Not a single chance," he whispered. "He may possibly live till morning, but I doubt if he lasts an hour. It's his heart. I've expected it at any time. Ever since he had that shock, I've been at him to take things easy; but you might as well talk to a graven image. That Come-Outer foolishness is what really killed him, tho just what brought on this attack I can't make out. Grace says she found him lying on the floor by the sofa. He was unconscious then. I'm rather worried about her. She was very near to fainting when I got here."

"No wonder. All alone in this ark of a house and nobody to help or to send. Lucky she found that Ike Higgins. Say, I wonder if the young one's around here now? If he is, he must stand at the gate and scare off Come-Outers. The whole chapel, mates, crew, and cabin boy, 'll be down here soon's meetin's over to see what kept Eben. And they mustn't get in."

"I should say not. I'll hunt up Ike. If a Come-Outer gets into this house to-night I'll eat him, that's all."

"Some of 'em would give you dyspepsy, I guess. Yes, Grace, I'll be there in a jiffy."

The doctor left the house to find young Higgins and post him at the gate. The boy, who had been listening under the window, was proud of his new responsibility.

"I'll fix 'em, doctor," he declared. "I only hope old Zeke Bassett comes. He lammed me with a horsewhip t'other day, 'cause I was ridin' behind his ox cart. If he tried to git by me, I'll bounce a rock off'n his Sunday hat."

"Doctor," whispered Keziah from the kitchen window, "Doctor, come quick. Nat wants you."

Captain Nat was standing at the door of the bed room. His face was drawn and he had seemingly grown years older since noon.

"He's come to himself, doc," he whispered. "He don't remember how it happened or anything. And he wants us all. Why! why, Keziah! are you here?"

"Yes, Nat. I've been here a little while."

He looked at her steadily and his eyes brightened just a trifle.

"Did you come to see me?" he asked. " Was it about what I said this ——"

"No, no, Nat; no. I heard the news and that Grace was alone; so I come right down."

He nodded wearily.

"You can come in, too," he said. "I know dad likes you and I guess—Wait a minute; I'll ask him." He stepped back into the bedroom. "Yes," he nodded, returning, "you come, too. He wants you."

The little room, Captain Eben's own, was more like a skipper's cabin than a chamber on land. A narrow, single bed, a plain washstand, a battered, painted bureau and a single chair—these made up the list of furniture. Two pictures, both of schooners under full sail, hung on the walls. Beside them hung a ship's barometer, a sextant, and a clock that struck the "bells," instead of the hours as the landsman understands them. In the corner stood the captain's big boots and his oilskins hung above them. His Sunday cane was there also. And on the bureau was a worn, heavy Bible.

Dr. Parker brushed by the others and bent over the bed.

"Well, cap'n," he said cheerily, "how's she headed? How are you feeling now?"

The old face on the pillow smiled feebly.

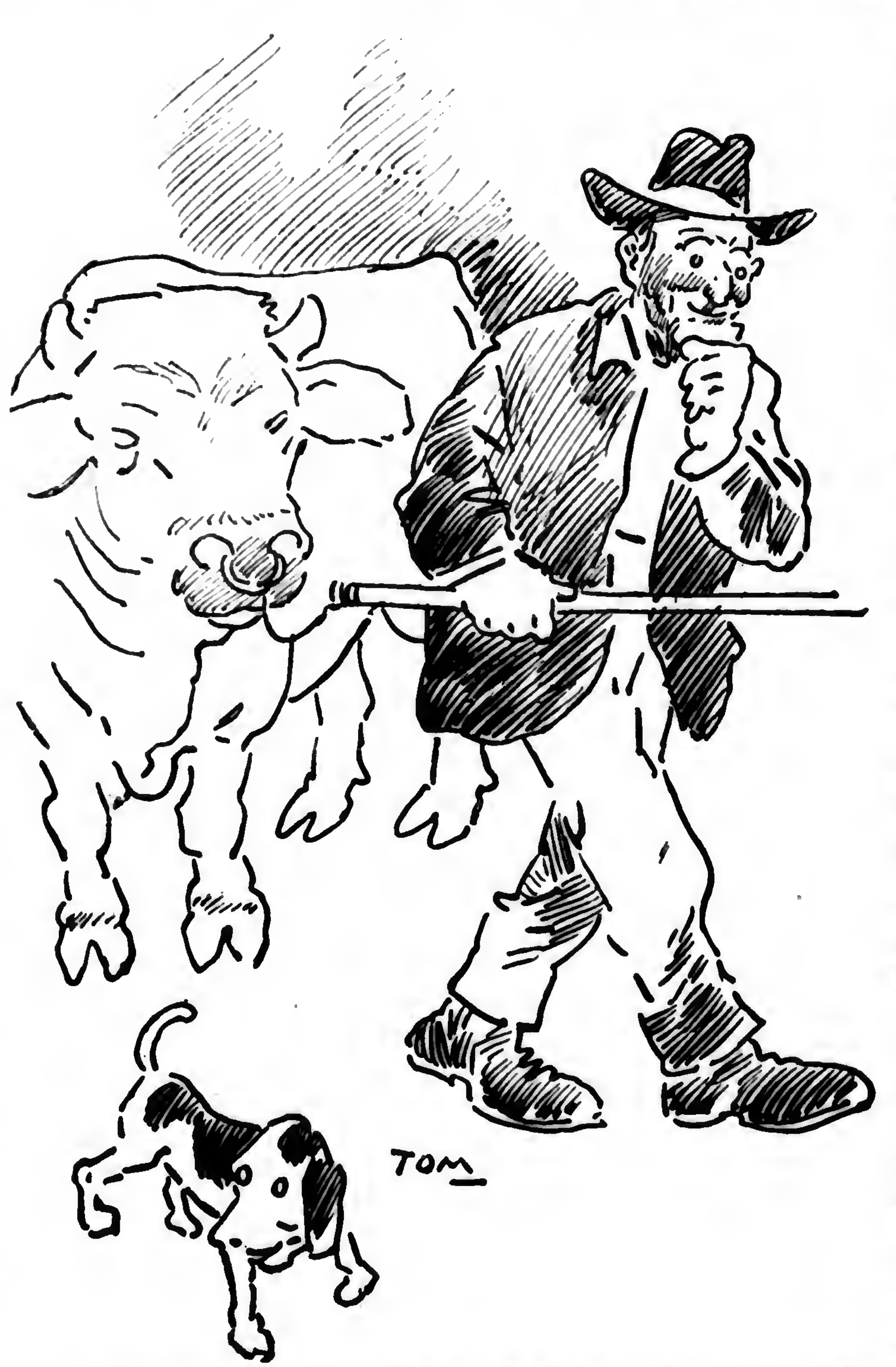
"She's headed for home, I guess, doc," said Captain Eben. "Bound for home, and the harbor light broad abeam, I cal'late."

"Oh, no! you'll make a good many voyages yet."

"Not in this hulk, I won't, doctor. I hope I'll have a new command pretty soon. I'm trustin' in my owners and I guess they'll do the fair thing by me. Halloo, Gracie, girl! Well, your old uncle's on his beam ends, ain't he?"

Grace glanced fearfully at his face. When he spoke her name she shrank back, as if she feared what he might say. But he only smiled as, with the tears streaming down her face, she bent over and kissed him.

"There! there!" he protested. "You mustn't cry. What are you cryin' about me for? We know, you and me, who's been lookin' out for us and keepin' us on the course all these years. We ain't got anything to cry for. You just keep on bein' a good girl, Gracie, and goin' to the right church and—I s'pose Ezekiel'll lead in meetin' now," he added. "I do wish he was a stronger man."



Uncle Amos Says:—"Jumbo is a fine animal and a credit to the place. We couldn't well get along without him. We are proud of him as long as he minds his own business, but once in a while he takes a notion to run the whole show and we have to use severe measures. He hasn't brains enough to be general manager, but he doesn't know it, so we have to give him a lesson in law and order."

The doctor, whose fingers had been upon the old man's wrist, looked up at Nat significantly.

"There, dad," said the latter, "don't you worry about Zeke Bassett, nor anything else. You just lay in dry dock and let Parker here overhaul your runnin' riggin' and get you fit for sea. That's what you've got to do."

"I'm fit and ready for the sea I'm goin' to sail," was the answer. His eyes wandered from his son to Mrs. Coffin. For an instant he seemed puzzled. Then he said:

"'Evenin', Keziah. I don't know why you're here, but————"

"I heard that Grace was alone and that you was sick, Eben. So I come right down, to help if I could."

"Thank ye, "You're a good-hearted woman, Keziah, even tho you ain't seen the true light yet. And you're housekeeper for that hired priest—a—a—" He paused, and a troubled look came over his face.

"What is it, dad?" asked Nat.

"I—I— Where's Gracie? She's here, ain't she?"

"Yes, uncle, I'm here. Here I am," said the girl. His fingers groped for her hand and seized it.

"Yes, yes, you're here," murmured Captain Eben. "I—I—for a minute or so, I—I had an awful dream about you, Gracie. I dreamed—Never mind. Doc, answer me this now, true and honest, man to man: Can you help me here for just a little spell longer? Can you? Try! Ten minutes, say. Can you?"

"Of course I can. Cap'n Hammond, what are you————"

I know. That's all right. But I ain't a young one to be petted and lied to. I'm a man. I've sailed ships. I've been on blue water. I'm goin' to make port pretty soon, and I know it, but I want to get my decks clear fust, if I can Gracie, stand still. Nat, run alongside where I can see you plainer. Keziah, you and the doctor stay where you be. I want you to witness this."

"Cap'n," protested Dr. Parker, "if I were you I wouldn't——"

"Belay! Silence there, for'ard! Nat, you're my boy, ain't you? You set some store by the old man, hey?"

"I—I guess I do, dad.'"

"Yes, I guess ou do, too. You've been a pretty good boy; stubborn and pig-headed sometimes, but, take you by and large, pretty good. And Gracie, you've been a mighty good girl. Never done nothin' I wouldn't like, nothin' mean nor underhand nor——"

"Hush, uncle! Hush! Pleash hush!"

"Well, you ain't; so why should I hush? In this—this dream I had, seems 'sif you—seems as if a man come to me and said that you was—It was a dream, wa'n't it?"

He tried to rise. Nat and the doctor started forward. Grace shrank back.

"Of course it was, cap'n," said the doctor briskly. "Now you mustn't fret yourself in this way. Just lie still and——"

"Belay, I tell you. Yes, I guess 'twas a dream. It had to be, but 'twas so sort of real that I—How long have I been this way?"

"Oh, a little while! Now just—"

"Hush! Don't pull your hand away, Gracie. Nat, give me yours. That's it. Now I put them two hands together. See, doctor? See, Keziah?"

"He's wandering. We must stop this," muttered Parker. Mrs. Coffin, who began to comprehend what was coming, looked fearfully at Nat and the girl.

"No, I ain't wanderin', neither," declared the old Come-Outer fretfully. "I'm sane as ever I was and if you try to stop me I'll—Gracie, your Uncle Eben's v'yage is 'most over. He's almost to his moorin's, and they're waitin' for him on the pier. I—I won't be long now. Just a little while, Lord! Give me just a little while to get my house in order. Gracie, I don't want to go till I know you'll be looked out for. I've spoke to Nat about this, but I ain't said much to you. Seems if I hadn't, anyhow; I ain't real sartin; my head's all full of bells ringin' and—and things."

"Don't, uncle, don't!" pleaded Grace. "Don't worry about me. Think of yourself, please."

"S-sh-sh! Don't put me off. Just listen. I want you to marry my boy, after I'm gone. I want you to say you will—say it now, so's I can hear it. Will you, Gracie?"

Grace would have withdrawn her hand, but he would not let her. He clung to it and to that of his son with all his failing strength.

"Will you, Gracie?" he begged. "It's the last thing I's goin' to ask of you. I've tried to be sort of good to you, in my way, and——"

"Don't, don't!" she sobbed. "Let me think a minute, uncle, dear. Oh, do let me think!"

"I ain't got time, Gracie. You'll have to say it now, or else— All right, then, think; but think quick."

Grace was thinking. "If she really cares for him, she won't let him ruin his life." That was what Captain Elkanah had said. And here was a way to save him from ruin.

"Won't you say it for me, Gracie?" pleaded Captain Eben. She hesitated no longer.

"Yes, uncle," she answered thru tears, "if Nat wants me he can have me."

Keziah clasped her hands. Captain Eben's face lit up with a great joy.

"Thank the Almighty!" he exclaimed. "Lord, I do thank you. Nat, boy, you're consider'ble older than she is and you'll have to plan for her. You be a good husband to her all her days, won't ye? Why, what are you waitin' for? Why don't you answer me?"

Nat groaned aloud.

"A minute, dad," he stammered. "Just give me a minute, for Heaven sakes! Keziah——"

"Keziah!" repeated Eben. "Keziah? What are ou talking to her for? She knows there couldn't be no better match in the world. You do know it, don't ye, Keziah?"

"Yes," said Keziah slowly. "I guess—I guess you're right, Eben."

"Keziah Coffin," cried Nat Hammond, "do you tell me to marry Grace?"

"Yes, Nat, I—I think your father's right."

"Then — then — what difference does— All right, dad. Just as Grace says."

"Thank, God!" cried Captain Eben. "Doctor, you and Mrs. Coffin are witnesses to this. There! now my decks are clear and I'd better get ready to land. Gracie, girl, the Good Book's over there on the bureau. Read me a chapter, won't you?"

An hour later Keziah sat alone in the dining room. She had stolen away when the reading began. Dr. Parker, walking very softly, came to her and laid his hand on her shoulder.

"He's gone," he said simply.

CHAPTER XIII

In Which Keziah Breaks the News

It was nearly five o'clock, gray dawn of what was to be a clear, beautiful summer morning, when Keziah softly lifted the latch and entered the parsonage. All night she had been busy at the Hammond tavern. Busy with the doctor and the undertaker, who had been called from his bed by young Higgins; busy with Grace, soothing her, comforting her as best she could, and petting her as a mother might pet a stricken child. The poor girl was on the verge of prostration, and from hysterical spasms of sobs and weeping passed to stretches of silent, dry-eyed agony which were harder to witness and much more to be feared.

"It is all my fault," she repeated over and over again. "All my fault! I killed him! I killed him, Aunt Keziah! What shall I do? Oh, why couldn't I have died instead? It would have been so much better, better for everybody."

"Ss-sh! ss-sh! deary," murmured the older woman. "Don't talk so; you mustn't talk so. Your uncle was ready to go. He's been ready for ever so long, and those of us who knew how feeble he was expected it any time. 'Twa'n't your fault at all and he'd say so if he was here now."

"No, he wouldn't He'd say just as I do, that I was to blame. You don't know, Aunt Keziah. Nobody knows but me."

"Maybe I do, Gracie, dear; maybe I do. Maybe I understand better'n you think I do. And it's all been for the best. You'll think so, too, one of these days. It seems hard now; it is awful hard, you poor thing, but it's all for the best, I'm sure. Best for everyone. It's a mercy he went sudden and rational, same as he did. The doctor says that, if he hadn't, he'd have been helpless and bedridden and, maybe, out of his head for another year. He couldn't have lived longer'n that, at the most."

"But you don't know, Aunt Keziah! You don't know what I— I am to blame. I'll never forgive myself. And I'll never be happy again."

"Yes, you will. You'll come, some day, to think it was best and right, for you and—and for others. I know you think you'll never get over it, but you will. Somehow or other you will, same as the rest of us have had to do. The Lord tries us mighty hard sometimes, but He gives us the strength to bear it. There! there! don't, deary, don't."

Dr. Parker was very anxious.

"She must rest," he told Mrs. Coffin. "She must, or her brain will give way. I'm going to give her something to make her sleep and you must get her to take it."

So Keziah tried and, at last, Grace did take the drug. In a little while she was sleeping, uneasily and with moans and sobbings, but sleeping, nevertheless.

"Now it's your turn, Keziah," said the doctor. "You go home now and rest, yourself. We don't need you any more just now."

"Where's—where's Cap'n Nat?" asked Keziah.

"He's in there with his father. He bears it well, altho he is mighty cut up. Poor chap, he seems to feel that he is to blame, somehow. Says Cap'n Eben and he had disagreed about something or other and he fears that hastened the old man's death. Nonsense, of course. It was bound to come and I told him so. 'Twas those blasted Come-Outers who really did it, altho I shan't say so to anyone but you. I'm glad Nat and the girl have agreed to cruise together. It's a mighty good arrangement. She couldn't have a better man to look out for her and he couldn't have a better wife. I suppose I'm at liberty to tell people of the engagement, hey?"

"Yes. Yes, I don't see any reason why not. Yes— I guess likely you'd better tell 'em."

"All right. Now you go home. You've had a hard night, like the rest of us."

How hard he had no idea. And Keziah, as she wearily entered the parsonage, realized that the morning would be perhaps the hardest of all. For upon her rested the responsibility of seeing that the minister's secret was kept. And she, and no other, must break the news to him.

The dining room was dark and gloomy. She lighted the lamp. Then she heard a door open and Ellery's voice, as he called down the stairs.

"Who is it?" he demanded. "Mrs. Coffin?"

She was startled. "Yes," she said softly, after a moment. "Yes, Mr. Ellery, it's me. What are you doin' awake at such an hour's this?"

"Yes, I'm awake. I couldn't sleep well to-night, somehow. Too much to think of, I imagine. But where have you been? Why weren't you at meeting? And where— Why, it's almost morning!"

She did not answer at once. The temptation was to say nothing now, to put off the trying scene as long as possible.

"It's morning," repeated the minister. "Are you sick? Has anything happened?"

"Yes," she answered slowly, "somethin' has happened. Are you dressed? Could you come down?"

He replied that he would be down in a moment. When he came he found her standing by the table waiting for him. The look of her face in the lamp-light shocked him.

"Why, Mrs. Coffin!" he exclaimed. "What is it? You look as if you had been thru some dreadful experience."

"Maybe I have," she replied. "Maybe I have. Experiences like that come to us all in this life, to old folks and young, and we have to bear 'em like men and women. That's the test we're put to, Mr. Ellery, and the way we come thru the fire proves the stuff we're made of. Sorrows and disappointments and heartbreaks and sicknesses and death——"

She paused on the word. He interrupted her.

"Death?" he repeated. "Death? Is some one dead, some one I know? Mrs. Coffin, what is it you are trying to tell me?"

Her heart went out to him. She held out both her hands.

"You poor boy," she cried, "I'm trying to tell you one of the hardest things a body can tell. Yes, some one is dead, but that ain't all. Eben Hammond, poor soul, is out of his troubles and gone."

"Eben Hammond! Captain Eben? Dead! Why, why——"

"Yes, Eben's gone. He was took down sudden and died about ten o'clock last night. I was there and ——"

"Captain Eben dead! Why, he was as well as— as— She said— Oh, I must go! I must go at once!"

He was on his way to the door, but she held it shut.

"No," she said gravely, "you mustn't go. You mustn't go, Mr. Ellery. That's the one thing you mustn't do."

"You don't understand. By and by I can tell you why I must be there, but now————"

"I do understand. I understand it all. Lord help us! if I'd only understood sooner, how much of this might have been spared. Why didn't you tell me?"

"Mrs. Coffin——"

"John—you won't mind my callin' you John. I'm old enough, pretty nigh, to be your mother, and I've come to feel almost as if I was. John, you've got to stay here with me. You can't go to that house. You can't go to her."

"Mrs. Coffin, what are you saying? Do you know—— Have you——"

"Yes, I know all about it. I know about the meetin's in the pines and all. Oh, why didn't you trust me and tell me? If you had, all would have been so much better!"

He looked at her in utter amazement. The blood rushed to his face.

"You know that?" he whispered.

"Yes, I know."

"Did she tell——"

"No, nobody told. That is, only a little. I got a hint and suspicioned somethin' afore. The rest I saw with my own eyes."

He was now white, but his jaw shot forward and his teeth closed.

"If you do know," he said, "you must realize that my place is with her. Now, when she is in trouble ———"

"Would you want to make that trouble greater? More than she could bear?"

"I think I might help her to bear it. Mrs. Coffin, you have been my truest friend, but one, in Trumet. You have been like a mother to me. But I have thought this out to the end and I shall go thru with it. It is my affair—and hers. If my own mother were alive and spoke as you do, I should still go thru with it. It is right, it is my life. I'm not ashamed of anything I've done. I'm proud. I'm proud of her. And humble only when I think how unworthy I am to be her husband. I suppose you are fearful of what my congregation will say. Well, I've thought of that, too, and thought it thru. Whatever they say and whatever they do will make no difference. Do you suppose I will let them keep me from her? Please open that door."

He was very tragic and handsome—and young, as he stood there. The tears overflowed the housekeeper's eyes as she looked at him. If her own love story had not been broken off at its beginning, if she had not thrown her life away, she might have had a son like that. She would have given all that the years had in store for her, given it glady, to have been able to open the door and bid him go. But she was firm.

"It ain't the congregation, John," she said. "Nor Trumet, nor your ministry. That means more'n you think it does, now; but it ain't that. You mustn't go to her because—well, because she don't want you to."

"Doesn't want me? I know better." He laughed in supreme scorn.

"She doesn't want you, John. She wouldn't see you if you went. She would send you away again, sure, sartin sure. She would. And if you didn't go when she sent you, you wouldn't be the man I hope you are. John, you mustn't see Grace again. She ain't yours. She belongs to some one else."

"Some one else!" He repeated the words in a whisper. "Some one else? Why, Mrs. Coffin, you must be crazy! If you expect me to——"

"Hush! hush! I ain't crazy, too there's times when I wonder I ain't. John, you and Grace have known each other for a few months, that's all.

(Continued Next Week.)

Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., Dec. 29, 1919.

Altho the supplies of potatoes are heavier than they have been in the past ten days or more, the market is ruling firmer and higher and good Pennsylvania potatoes are selling at $3.60@3.75 per cwt., with the New York state's mostly around $3.40. Some potatoes, however, are showing the effects of cold weather, being frosted and chilled and these are selling below the prices above quoted. Sweet potatoes are also higher. Three cars of Maryland and Delaware potatoes sold here this morning at $2.10@2.25 per bushel hamper for the No. 1's with the No. 2's at $1.35@1.40. The nearby sweet potatoes in ⅝-bushel baskets are selling generally at $1.25@1.50. The Eastern Shore barreled stock is in light supply with sales being made generally at $4.50@5 per barrel while yams bring $3.50@4.50 per barrel. As in the case with the white potatoes there are some sweet potatoes and yams arriving showing more or less damage and these are selling at lower and irregular values.

Vegetables

There is a wide range in the price of green beans with sales ranging generally from $1.25@3 per hamper, with very few showing quality good enough to bring the top prices. The same thing can also be said in reference to wax beans which are also selling from $1.25@3 per hamper. The market is showing quite some improvement on the nearby old beets, which are selling mostly around $2.50@2.75 per barrel. Brussel Sprouts are selling at 20@25c per quart. The cabbage market is much stronger and higher and good green cabbage is selling from $90@100 per ton. These prices represent the value of the old cabbage from the northern states. The new crop cabbage from the southern states has not been on the market as yet, but the first shipments are expected daily. Pennsylvania carrots are selling at from $3@3.75 per barrel, with an occasional fancy lot still higher. There were 7 cars of cauliflower here this morning from California and while sales ranged generally from $1.25@2 per crate the most of the sales were made at $1.60@1.85 per crate.

Celery is scarce and extremely high, and the best is selling up to $9 per crate with the green around $5. Washed and bunched celery ranges from $1@1.25 per bunch. A high market will prevail in celery until the Florida season gets well under way which will be some little time yet. Cucumbers are very scarce and good hot house grown stock are selling around $3 per dozen. While egg plants are in only moderate supply the demand for them is very light and the market is dull and weak from $1@2.50 per crate and the egg plants have to be strictly fancy to bring the top quotations. Endive and Escarole are both firmer and higher and selling around $4@4.25 per barrel. Horseradish is in light supply and best readily brings $10@12 per barrel. There has been no kale here so far this week and some strictly fancy would probably bring $2@2.25 per barrel.

The market has been oversupplied for several days with poor lettuce and prices have been ruling extremely low. Today, however, the market showed a big improvement and Florida lettuce is selling from $1.75@3 per hamper and California lettuce at $1.50@2.50 per box, and some of the dealers are looking for still higher prices in the near future. Mushrooms are in moderate supply and under a fair demand are ruling steady to firm at $1.25@2 per 3-pound basket. Under lighter supplies onions are showing an advance with sales now ranging from $4@4.50 per 100-lb. sacks. The Spanish Valencias sold today at $4.85@5.25 per case, with the crates at $2.10@2.20. White onions are in very light supply and selling at $4.25@4.50 per crate. Parsley is very scarce and the fancy curley sold today at $20@22 per barrel, with the plain at $12 per barrel. Peas are another very scarce commodity and best are selling up to $7.50 per hamper, with poorer grades down to $4@5.

Hot house radishes are scarce and firm at 4@5c per bunch. While tomatoes are not in heavy supply at the same time they are much more abundant than they have been in any time during the past two or three weeks, and the market is showing a lower tendency. It must be said however, that most of the tomatoes are poor in quality and too green. Prices show an extremely wide range while the best are bringing $3@4 per crate the bulk of the supplies are not good enough to exceed $1@2. Hot house tomatoes are also lower and in place of the 40@60c market prevailing a few days ago, sales are now being made from 20@40c per pound. Pennsylvania parsnips are higher when fancy best bringing around $4@4.50 per barrel while some poor grades are selling as low as $2.50@3.50 per barrel. The last Norfolk spinach that was here sold at $5@5.50 per barrel. A car of spinach from Texas sold this morning at $1 per bushel. The large rutabaga turnips are in light supply and selling around $2.25 per cwt., while the nearby and Pennsylvania medium size rutabagas will bring 90c@$1 per ⅝ basket. Watercress is in light supply and selling from $2@3 per 100 bunches.

Fresh Fruits

The apple market is lower. This is partly caused by the fact that so many of the apples are showing the effects of the cold weather, many of them being quite badly frozen. At this writing, sales of the various varieties are being made at about the following range of prices: Baldwins, $4@7.50; Stayman Winesaps, $7@8; Ben Davis and Ganos, $4@7; Starks, $5@7.50; Greenings, $5@8; Kings, $5@7.50; other varieties, $4@8. Box apples are also showing the effects of the cold weather and prices are ranging lower. Today Stayman Winesaps sold at $2.50@3.25 with badly frozen down to $1.25; Spitz, $2.25@3.25; Winesaps, $2.75@3.25, with badly frozen down to $1.60.

Only a few strawberries from Florida are on the market and these are selling from $1.25@1.50 per quart mostly, altho a few did sell today up to $1.65. Receipts of strawberries should increase however and prices should generally seek a lower level. Oranges are selling from $1.50@6 per box, Grapefruit from [illegible] per [illegible] and tangerines from $1.50@4.25 per half box. Some pineapples are arriving and selling from $5@6 per crate.

Poultry

Very high prices have been prevailing in the poultry market for the holiday trade. Fancy nearby dressed turkeys have been selling from 55@62c per pound, with fair to good from 52@55c, and some extra fancy nearby turkeys have exceeded these quotations. Ducks have sold from 38@42c, and geese from 28@34c, fancy heavy fowls brought 34@37c, with the smaller 30@33c; nearby broiling chickens, 45@50c. Live poultry has also been active with the fancy heavy fowls selling at 34@36; and the small from 30@33c. Ducks brought from 30@38c; geese, 25@28c. Live turkeys did exceptionally well, selling up to 50@55c, until today when the market eased off as the trade had evidently bought their requirements and prices are now ranging from 45@50c.

Eggs

The extremely high prices which have been prevailing in eggs must have stopped the consumption, and as supplies are fairly plentiful the market appears to be weak. At this writing nearby eggs are quoted at 70@72c per dozen altho some sales of fancy selected eggs are exceeding these quotations. Western eggs are bringing from 68@72c per dozen.

Rabbits

Rabbits are fairly plentiful and the market is lower with the cotton tails selling from 30@65c per pair and the Jack rabbits from 50@75c per pair.

LANCASTER PRODUCE MARKET

Lancaster, December 29, 1919.

Following the record-breaking business done during the Christmas markets, trade today was rather slim with eggs weaker and lower. No fowls were offered in crates, and dressed poultry was scarce.

Butter and eggs.—Creamery butter, 80@85c pound; country butter, 80@85c. Fresh eggs, 78@80c per dozen; ducks eggs, 90c; goose eggs, 10c each.

Poultry.—Dressed old chickens, $1.75@3 each; dressed young chickens, $1.75@2 each; ducks, $2@2.50 each; geese, $3.50@4 each.

Vegetables.—Beets, 10c bunch; cauliflower, 25@30c head; Brussels Sprouts, 35c box; cabbage, 10@15c head; lettuce, 15@25c hd.; egg plant, 15@25c each; celery, 10@15c bunch; spinach, 15c ¼ peck; oyster plant, 10c bunch; turnips, 15c ½ peck; potatoes, 25@30c ½ peck; do., $1.65@$1.75 bushel; sweet potatoes, 35c ½ peck; lima beans, 20 cents quart.

Fruits.—Apples, 35@50c ½ peck.

YORK PRODUCE MARKET

York, Pa., December 29, 1919.

There was a slight falling off in the attendance and demand in the markets this week due, likely, to the holiday season being about over. However, as supplies are not plentiful it is not likely that there will be much of a drop for some time yet. Butter and apples are the only exception. They were strong at former and higher prices.

Eggs.—80@85c per dozen.

Butter.—Country, 70@75c pound; separator, 80@85c pound; milk, 12c quart.

Poultry.—Hens, 24@25c pound; dressed, $1@2 each; turkeys, 50@55c.

Vegetables.—Potatoes, 15@30c ½ peck; $1.65@2 bu.; cabbage, 3@10c head; lettuce, 10@15c head; beets, 5c box; radishes, 5c bunch; onions, 5c bunch; 25c ½ peck; lima beans, 30@35c quart; soup beans, 25@30c quart; celery, 5@12c stalk; turnips, 15c ½ peck; spinach, 15c ½ peck; apple butter, 45@50c quart; sausages, 35@38c pound; pudding, 30c pound; steak, 40@45c pound; bone meats, 25@30c pound; lard, 32@35c pound; dressed, hogs, 20@21c lb.

Fruits.—Apples. Very little good stock on the markets. Yorks, 30@50c ½ peck; other varieties, 25@60c ½ peck; Stayman and Grimes, 30@40c ¼ peck; pears, 10c box; 25@30c ½ peck.

Retail Grain Market.—Wheat $2.40; corn, $2; oats, $1; rye, $1.70; bran, $3 per cwt.; middlings, $3.50 per cwt.

Wholesale Grain Market.—Wheat, $2.20; corn, $1.50; oats, 80c; rye, $1.40; bran, $47 per ton; middlings, $60@65 per ton.

BALTIMORE PRODUCE

Baltimore, Md., Dec. 29, 1919.

Butter.—Creamery, western fancy, 70@71c; choice, 69@70c pound prints, 71@72c. Nearby rolls, 47@48c; dairy prints, 51@52c.

Eggs.—State, Pennsylvania and nearby, 68c; Eastern Shore and Virginia, 68c, Southern, 65@66c.

Live Poultry.—Springers, 35@36c pound; old roosters, 20@21c; old hens 35@36 lb.; ducks young, 30@32c; do., poor, 24@25c; guinea fowls, 40@80c.

Grains.—Bag lots by sample, $2.15@2.28, wheat, new, No. 1 red, $2.30 do. No. 3, $2.62; garlicky, $2.13; corn, $1.60; oats standard white, 90c; rye, nearby, $1.40@1.75.

Hay.—No. 1 timothy, $33 ton; do, standard, $31@32 ton; light clover, mixed, $30@30.50 ton. Clover, mixed, $28@29. Tangled rye straw $14.50. Wheat straw, $12@13. Oat straw, $14@15 ton.

Mill Feeds.—City Mills Winter bran, per ton, in 100-pound sacks, $54; brown middlings, per ton, in 100-pound sacks, $54. white middlings, per ton, in 80-pound sacks, $65. Quotations on City Mills feeds are jobbing prices.

NEW YORK PRODUCE

New York City, December 29, 1919.

Butter.—Firm; receipts, 3,175; creamery, higher than extras, 71½@72c; creamery extras (92 score), 71c; firsts, 61@69½c; packing stock current make, No. 2, 47c.

Eggs.—Unsettled; receipts, 5,291; fresh-gathered extras, 71@75c; extra firsts, 72@73c; firsts, 70@71c; state Pennsylvania and nearby western hennery whites firsts to extras, 77@80c; state, Pennsylvania and nearby hennery browns, 76@78c; do., gathered browns and mixed colors, 71@75c.

Cheese.—Steady; receipts, [illegible]; state, whole milk flats current make specials 31½@32c; do., average run, 30½@31c; state, whole-milk twins current make specials, 31@32½c; do., average run, 31c.

PITTSBURGH PRODUCE

Pittsburgh, Pa., Dec. 29, 1919.

Butter.—Prints, 71@71½c; tub, 70@70½c; country roll, 58@60c.

Cheese.—New York full cream, 35@36c. Ohio, 34@34½c; Wisconsin Swiss, 54@55c; Philadelphia cream, $1.60 per dozen.

Eggs.—Fresh select, 85@86c; Special, 86@87c; Storage, 55@60c.

Potatoes.—Round, $5@5.25 per 150-lb. sack. Onions, $6 sack. Cabbage, $5@6 bbl. Lettuce, New York, $2.50@3 box. Sweet potatoes, $5 barrel. Cauliflower, $3@3.25 bushel. Turnips, $1.75@2 bushel. Celery, 50@90c dozen. Beans, wax and green, $3@4 bushel. Beets, $1.50 bushel.

Fruit.—Apples, $7.75@9.50 barrel.

PHILADELPHIA LIVE STOCK

Philadelphia, Pa., Dec. 29, 1919.

Receipts of live stock for week ending December 27, were as follows:

	Beef Cattle	Sheep and Lambs	Hogs
Total for Week	2,087	5,363	9,208
Previous Week	2,143	7,639	8,599

Calves.—Receipts of calves last week were 1,695 head against 1,519 head week previous.

Beef Cattle.—The market ruled steady under moderate supplies, but buyers were operating only for immediate needs. Steers, good to choice, $15@16.50; do., fair to good, $13@15; common to fair, $11@13; cows, fat, per lb., good to choice, corn fed, 9½@10¾c; fair to good, 7½@9½c; do., common to fair, 4½@7½c; calves, extra, choice, $21.50@22; fair to good, $18@20; common, $12.50@16.50; heavy and rough, $8.50@12.50; Tennessee, choice, $16@18; other southern, $9@13.

Sheep and Lambs.—Sheep ruled steady under moderate offerings, but trade was quiet. Lamb of fine quality was in small supply and the market ruled firm and higher, with a fair demand. Sheared sheep, wethers, extra, $11@11.50; good to choice, $9.50@10.50; medium, $8@9; common, $4.50@6; ewes, fat, heavy, $8@8.75; spring lambs, choice, $19.25@19.50; medium, $17@18; culls and common, $11.50@13.

Hogs.—Demand was fair and the market ruled firm and higher under light offerings and stronger outside advices. Quotations for best western, $16@16.50; nearby good, $14.25@14.75.

City Dressed Stock.—Lamb ruled firm and higher under light offerings and a fair demand. Other kinds were in moderate supply and quiet, with little change in prices. Steers, 17@26c; heifers, 15@20c; cows, 11@17c; calves, city dressed, choice, 28@30c; country dressed, 24@26c; sheep, 14@20c; lambs, spring, 29@31c; hogs, 22c.

LIVESTOCK

Pittsburgh, Dec. 27.—Cattle. — Steady; supply light; prime, $15.50@16.

Sheep.—Strong, supply light; prime wethers, $10.50@11; culls and common, $4@5; lambs, $10@18; veal calves, $18.50@19.

Hogs.—Higher; supply, 10 double decks; prime heavies, $14.15@14.25; mediums, heavy yorkers, light yorkers and pigs, $14.75@14.85; roughs, $11@13.25.

Chicago, Ill., Dec. 27.—Hogs.—Receipts, 9,000; higher; bulk, $13.75@13.95; top, $14; heavy, $13.80@13.90; medium, $13.85@14; light, $13.75@13.95; light light, $13.40@13.60; heavy packnig sows, smooth, $13@13.50; packing sows, rough $12.25@13; pigs, $12.40@13.50.

Cattle.—Receipts, 2,000; compared with a week ago, beef steers, unevenly 25c to $1 higher; she stock, 25 to 50c higher; bulls, 50c higher; calves, 50 to 75c higher; feeders, steady to 25c higher.

Sheep.—Receipts, 3000; compared with a week ago, fat lambs $1 to $1.50 higher; fat sheep and yearlings, 75c to $1.50 higher; feeders, strong to 25c higher. Unofficial estimates of receipts Monday: Hogs, 47,000; cattle, 22,000; sheep, 20,000. Hogs, next week, 255,000.

East Buffalo, N. Y., Dec. 27.—Cattle.—Receipts 250; slow.

Calves.—Receipts, 300; $1 higher, $6@23.

Hogs.—Receipts, 5200; 40@50c higher; heavy, $14.15@14.25; mixed, $14.25@14.50; yorkers, $14.35@14.50; light yorkers and pigs, $14.75@15; roughs, $12.50@12.75; stags, $8@11.

Sheep and Lambs.—Receipts, 2400; steady lambs, $11@19.75; yearlings, $10@17; wethers, $12@13; ewes, $4@11; mixed sheep, $11@11.50.

Lancaster, Pa., Dec. 29.—Cattle.—Receipts, 1509 head, against 1290 last Monday; market active; price higher; yards well cleared. Good to choice steers, $13.50@15.75; fair to good steers, $13.15@13.75; medium to fair steers, $12.25@12.85; common to medium steers, $10.15@11.35; smooth and fat bulls, $10@$11.65; medium to good bulls, $9@10.25; common to medium bulls, $7.65@8.65; smooth and prime heifers, $12@13.50; common to medium heifers, $9@11.75; good to choice cows, $8@10.65; fair to good heifers, $7@10; common to good heifers, $4.50@6.65; stock bulls, good to choice, $8.50@9.50; common to fair, $7.25@8.25; feeders good to choice, $11@13; common to fair, $9@11; stockers, $8@10; good to prime calves, $19.50@20.50.

Hogs.—Receipts, 415 head; market brisk; prices stiffer. Good to prime $15.50@16; light to medium, $14.50@15.50; roughs, $14; stags to sows, $11.50@12.50.

PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., Dec. 29, 1919.

Baled Hay and Straw.—Receipts, 384 tons of hay and 4 cars of straw. Firm under light offerings. We quote: Timothy hay, choice, $34; No. 1, $33; do., No. 2, $31@32; do., No. 3, $27@28; sample, $22@24; clover mixed hay, light mixed, $31@32; do., No. 1 mixed, $28@29; straw, No. 1 straight rye, $15.50@16; do., No. 3, $14@14.50; do., No. 1 tangled rye, $14; do., No. 2, $12.50@13; do., No. 1 wheat straw, $14@14.50; do., No. 2, $12.50@13; do., No. 1 oat straw, $11.50@13; No. 2, $12.50@13.

Bran.—Quiet but steady. Car lots, to arrive including sacks; soft winter bran, western, in 100-lb. sacks, per ton, $50@50.50; spring bran, in 100-lb. sacks, per ton, $49@49.50.

Corn.—New Yellow, $1.55@1.63.

Oats.—No. 2, 94½@95c.

NEW YORK HAY AND GRAIN

New York City, December 29, 1919.

Feed.—The market for mill feed was again dull, and as offers were a little more liberal the undertone was easier. Some sellers seemed inclined to make concessions in order to attract business, and on the whole the level of values was slightly reduced.

Quotations: City feed, bran, $49; middlings, $54, in 100-pound sacks; red dog, $67, nominal, in 100-pound sacks; Western spring bran, $48.50@49; standard middlings, $50@51; flour middlings, $58.50@59; red dog, $67, all in 100-pound sacks, 30-day shipment. Oat feed, $32; rye middlings, $52; white hominy feed, nominal, all in 100-pound sacks. Cottonseed oil meal, $79; linseed oil meal, $78.50, in 100-pound sacks.

Hay and Straw.—Offerings are somewhat more liberal at all harbor points, trade quieter and market has a slightly easier tone to-day, with outside quotations somewhat extreme, tho very rarely shaded on hay strictly up to grade. Rye straw firm. Oat straw steady at $17. Scarcely any wheat straw on the market at present.

Hay.—No. 1 large bales, $34 ton. No. 2, $30@32 ton; No. 3, $28@29; shipping, $27 ton. Fancy light clover mixed, $32 ton. Clover, No. 1, mixed, $30.

Straw.—Per ton, No. 1 rye, $18; No. 1, oat, $17; No. 1, wheat, $16.

Wheat.—No. 2, red, $2.37½.

Corn.—No. 2 yellow, $1.58¾; No. 3, yellow, $1.55¾.

Oats.—No. 2 white, 97½c; No. 3 white, 96½c.

Rye.—Export, $1.96.

Buckwheat.—Milling, $3.15 per 100-pounds.

PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., Dec. 29, 1919.

Butter.—Receipts, 2,197 tubs. The Produce Exchange was closed, as usual, on Saturday, and there was little wholesale trading on the street. Offerings, however, were light and values were well sustained. The following are the closing quotations: Fresh solid-packed creamery, fancy, high-scoring goods, 72@74c; the latter for jobbing sales; extra, 71c; extra firsts, 66@69c; firsts, 62@64c; seconds, 58@61c; cold-storage creamery, as to quality, 57@69c; sweet creamery, choice and fancy, 73@75c; do., fair to good, 63@72c; ladle-packed, as to quality, 50@52c; packing stock, 47@49c; fancy brands of nearby prints jobbing at 79@81c; good to choice, 69@78c; fair, 65@67c.

Cheese.—Steady but quiet. We quote: New York whole-milk flats, held, fancy, 33c; held specials higher; held, fair to good, 32@32½c; fresh-made, best, 32@32½c; do., fair to good, 31@31½c; Wisconsin, whole-milk flats, held fancy, 32½@33c; held specials higher; held, fair to good 31½@32c. Jobbing sales of fancy goods, 35@36c.

NEW YORK MILK MARKET

New York City, December 29, 1919.

Demand was only fair last week and the market was generally reported flush with surplus increasing. The January rate for 3 percent milk in 200-mile zone is 1 cent higher than last month or $3.69 per 100 lbs. this will make 3.06 percent milk $3.93 and 4 percent milk $4.09.

Receipts of milk and cream in 40 quart cans for the week ending December 27, 1919 were as follows:

Railroad	Milk	Cream
Erie	42,958	2,791
Susquehanna	7,893	158
West Shore	11,008	1,098
Lackawanna	51,122	1,310
N. Y. Central (long haul)	123,735	2,007
Ontario	44,786	1,993
Lehigh Valley	46,841	870
New Haven	4,960	37
Pennsylvania	12,164	362
Other Sources	6,200	250
Totals	351,667	10,876
Same Week Last Year	322,263	9,485

CLOVERSEED

Toledo, O., Dec. 29.—Cloverseed.—Prime cash, $30.85; December, $30.85; January, $30.85; February, $30.95; March, $30.85.

Alsike.—Prime cash, $32.30; December, $32.30; March, $32.30.

Timothy.—Prime cash, 1917, $5.75; cash, 1918, $5.75; cash 1919, $5.90; December, $5.90; March, April and May, $6.

TOBACCO MARKET

Evidently a very large percentage of the tobacco crop in this state has been contracted, as indicated by reports of buyers who find but little of the crop available and this usually is not for sale, at least at present prices. Those who have it are full of faith in future values which position is strengthened by the knowledge that many of the large factories evidently have not succeeded in getting the required quota for the year. This came, it is said, on account of the large purchases by speculators who have been more in evidence than heretofore. Also those who hold expect to share the advances which will come to the many speculative holders in all localities. Buyers are unusually solicitous as to deliveries apparently wanting tobacco as soon as possible, a feature indicating the more or less urgent need of tobacco. Spurred by this influence and with an unsuitable time for outdoor duties growers are devoting much of their time to stripping and preparing their tobacco for market. The general quality is good, fully up to expectations, being sound and of suitable color and texture, but somewhat deficient in weight owing probably to dry weather which prevailed at times during growing season. The year opens fairly bright for the tobacco-growing farmer who has been sufficiently rewarded for his efforts to attempt the growth of another and probably a more nearly normal crop than that of 1919. Standing at the threhold of another season's effort, it is a suitable time to note and profit by the mistakes of the past and to arrange to avoid them if possible and at the same time to fix for better results not alone with reference to the matters of vocation but of life in general.

Farm Products Prices and Prospects

WEEKLY MARKET REVIEW

Potatoes Firm

Producing sections reported but little activity. Price trend continued slightly upward with gains of 5@10c per cwt. Wisconsin, Michigan and Minnesota shipping points strengthened to a range of $3@5.15 per cwt. sacked f. o. b. and Middlewestern distributing markets advanced 15c to $3.25@3.50, but Minnesota Red River Ohios continued steady at $3.50@3.75. Colorado round whites strengthened further to $3@3.10 per cwt. sacked, cash to growers. New York sacked round whites advanced 5 cents in producing sections to a range of $3@3.20 and Eastern consuming markets strengthened to a range of $3.20@3.50. Maine sacked Green Mountains, also bulk stock, were nearly steady at shipping points and ranged firm in New York and Boston at $3.15@3.35 sacked. Movement was slow in Western consuming markets, and rather draggy in Eastern cities.

Onions Firm

Demand continued fair in consuming markets. Price ranges were steady, and as with potatoes, the values are close together for all sections and varieties. General jobbing range was $5.50@6 per cwt. sacked for good to choice yellow and red stock. Western New York shipping points quoted large yellow stock $6 f. o. b. sacked.

Little Change in Cabbage Market

Range of prices is wide but markets are quiet and average values about the same as last week. New York Danish Seed stock still sold mostly $65 per ton bulk f. o. b. shipping points, and was dull and firm in consuming markets at $65@85. New York Domestic stock declined about $5 ranging $45@50. Wisconsin Holland Seed still sold $60@65 per ton bulk at Chicago, but sold $60@70 in St. Louis.

Apples Fairly Steady

Extreme dullness and unchanged conditions prevailed in shipping sections with hardy sales enough to establish values. Eastern Baldwins "A" 2½ in. ranged $7@7.50 per barrel for best lots in Eastern markets and $8@9 in Middlewestern cities. Considerable stock of inferior color ranged $5.50@6.50 and some partly frozen as low as $5. New York Greenings "A" 2½ in. continued steady at $8@9.50 jobbing range for best stock, and Middlewestern Ben Davis were also steady at $7@7.50 in the Middlewest. Southeastern York Imperials weakened slightly, ranging $7.25@8.50 for "A" 2½ in. Middlewestern Jonathans were firm at $9@10 in Chicago.

Sweet Potatoes Hold Fairly Well

Virginia yellow stock ranged nearly steady at $4.50@5.25 per barrel in consuming markets, and Marylands also steady at $5@6 New Jersey yellow stock gained about 20c, reaching prevailing jobbing range of $2.25@2.50 per hamper. Tennessee Nancy Hall's were fine in consuming markets at $1.50@2.25, but still ranged $1.35@1.50 in Kansas City. Shipments 354 cars compared with 372 last week and with 315 a week ago. New Jersey shipped 88, Delaware 61, Maryland 57, Illinois, 35.

FARM WAGE INCREASE

An increase of 25 percent in the harvest wage paid in Kansas in 1919 over the pre-war wage paid in 1913 is shown by a report issued by Edward C. Paxton, field agent for the United States Bureau of Crop Estimates in Kansas.

Harvest laborers received on the average $5.42 a day and board in 1919, as compared with $4.14 in 1918 and $2.14 in 1913. Wages for ordinary farm work, the report says, have risen from an average of $1.53 in 1913 to $2.74 in 1918 and $3.71 in 1919, including board.

"These estimates probably do not reflect the actual increase in cost of farm labor," the report continues, "as it enters into cost of production since 1913, due to the fact that numbers of hours of labor have been disregarded. It is safe to say that the average farmhand in 1913 worked two hours a day longer than in 1919. The length of the work-day did not become involved in farm labor until long after it had been a strike issue in the industrial world."

Truck Used By a Co-operative Milk Delivery Association

COMPETITION BOOSTS PRICE

Declaring that "the excessive costs of milk distribution are costs which have gone up as a result of the competitive system," for which the city itself, in common with other cities of the country, is responsible, the report of Rochester's milk survey, which has occupied about 5 months and cost upward of $35,000, as submitted to the Common Council tonight recommended centralization of the business of milk distribution in the city of Rochester under municipal control, "on the ground that the present competitive system is a menace to public health because of insufficient sanitary care of the product, and because of unnecessary and excessive expenses."

LANCASTER COUNTY LEADS IN CORN PRODUCTION

According to information compiled by the Bureau of Statistics, Department of Agriculture, twenty-one counties in Pennsylvania average better than forty-five bushels of corn to the acre for the crop just harvested. The average yield per acre for the State was 45.6 bushels as compared with 38.2 bushels last year.

Lancaster takes the first place with a yield estimated at 58 bushels of shelled corn per acre. Berks is second with an average yield of 56.2 bushels. York third with 53.3 bushels. Cumberland is next with 52.5, and Franklin closely following with 52.3 bushels. Adams, 50; Chester, 50; Union, 47.6; Lebanon, 47.3, and Beaver, 46.5 bushels.

AGRICULTURAL NOTES

Farmers have it within their power to correct any economic inequalities which exist if they would but exert it thru organization.

It is hardly too much to say that the annual loss from plant diseases on the average farm would pay the wages of the hired help.

The average annual per capita consumption of butter in United States is 17.5 pounds compared with 25.6 pounds in Australia. The average annual per capita consumption of cheese in United States is 3.8 lbs. compared with 12.3 lbs. in Denmark.

It requires 2,700 pounds of fresh manure to make one ton of rotted manure. Plant food is more available in rotted manure, and, if fermentation and leaching is prevented, its physical condition is much better. Most weed seeds will be dead in rotted manure.

The number of horses in Greater New York in 1914 was 110,144 and in 1919 75,740. This shows a decline of 32 percent, or approximately one-third, within the past five years.

Storage losses are of the greatest economic importance since they involve the destruction of such a large amount of human labor. An apple rotted in the orchard is not so great a loss as one to which has been added the cost of picking, packing, hauling and handling, to say nothing of overhead storage charges.

PENNSYLVANIA NOTES

Pennsylvania ranks second in population and thirty-second in land area among the states of the Union.

The farmer is the largest employer of labor in the United States.

The farmer has the key to the storehouse from which capitalist, laborer and all the rest must eat.

The average yield of honey per colony in Pennsylvania this year is estimated at 33 pounds compared with 71 pounds last year.

Pennsylvania apples won the silver cup at the recent apple show held at Milwaukee by the International Apple Shippers' Association.

A musty smell in the apple bin is a sure indication of Blue Mold rot in the fruit. Since this fungus spreads rapidly the apples should be picked over regularly and the rotten fruit removed.

THE WORLD'S WHEAT CROP

The world's wheat production for 1919 was 2,074,761,000 bushels, or 92.7 percent of the 1918 production and 96.5 percent of the five-year average, according to figures on fifteen countries furnished by the International Institute of Agriculture at Rome, made public by the crop estimates bureau. The countries included were Spain, France, England, Wales, Scotland, Italy, Netherlands, Rumania, Switzerland, Canada, United States, British India, Japan, Tunis, Denmark and Algeria.

The sugar beet production for Spain, Netherlands, Switzerland, Canada and the United States was 117.2 percent of the 1918 output, or 103.5 percent of the five-year average, being placed at 10,390,000 tons.

GERMANY GETS WHISKY

Much of the whisky now in the hands of distillers in the United States will be sent to Germany. The market in England is overflooded with the American product. In France and other countries a different sort of liquor is preferred by most drinkers, it was said.

The Transatlantic Commercial Corporation, which is acting as exporting agent for much of the whisky now on the way to the seaboard, said today it was advising all its clients to send the liquor to Germany, pointing out that warehouse space in Hamburg is cheap, and that the opportunity to sell it appears good.

Arrangements already have been made by one Kentucky distillery to ship to Germany 5400 barrels.

The exporting agents expect that there will be little difficulty in finding cargo ships enough to take out all the whisky that Americans desire to export before January 16. Since last June one exporting agent has sent 75,000 barrels of Kentucky whisky to England. Much of this has been put on the market, but it has been found difficult to wean consumers from Scotch.

A "Reminiscence" Evening

"Make Me a Child Again, Just For Tonight"

Altho the above idea was expressed in more than just the games we played at one of our neighborhood parties, we did enjoy the "remembering" parts of the entertainment so much that I think you may like to hear about it.

Invitations came pouring in (by hand,) a few days before the party, each in a wee kid-size envelope, and on the tiny sheet of each one's invitation was pasted an old-fashioned, or otherwise child-picture, colored daintily with water color paints just as we used to color them when we were six years old. Each picture represented some phase of childhood: A boy coasting, another eating "pancakes," a little girl in full skirts and much beruffied. A "bare foot boy" driving the cows, or whatever one could cut out of the pictorial parts of magazines, or newspapers. The invitations were addressed to the married couples as "Johnny and Fannie Jones," Buddy and Tot Smith, (if other-day nicknames were known), and each person was requested to bring his or her "earliest" photograph. Also, we were each asked to dress like children.

Some grown-ups were too dignified for this last, but nearly every one did condescend to, at least, wear something childlike. All the women wore their hair in a childlike style, one curley headed lady being particularly entertaining because of her cut little double row of real curls. The men also wore bright cravets, or in some way represented boys. Some of us not-afraid ones wore short skirts, middy blouses, hair tied with ribbon bows, great big ones, and looked as much like children as we could.

First thing was an entertainment of singing and "speaking." The "Barefoot Boy," Riley's, "The Raggedy Man," "Waiting for The Cat To Die," "The Old Hay Mow,"—Rileys Child Rhymes are full of "The Olden, Golden glory of the days gone by." Songs like "Wont you come To My Teaparty," "Comrades," and a duet, "I Don't Want to Play in Your Yard." All these helped to make a very enjoyable selection which may be varied according to the hostess' taste, and don't utilize the phonograph. Sing, read or "speak" 'em yourselves.

After the literary entertainment, we were rounded up in a double row and the hostess pointing with decisive forefinger repeated, "Eeny, meeny, miney, moe, catch, a, nigger, by, the toe etc., to find who were "It" for the various small tables, each arranged for four. Table number one contained a fish pond, another was for playing Tiddley Winks, Dominoes, whatever was easy to play and old-timey. After a given number of minutes a bell rang and the couple ahead in each game went to the next table, and so progressed from one to the other so there wasn't time to become bored.

Next the song "Won't You Come to My Teaparty," which had been reserved for the purpose, was sung by one of the "little grils," and we were invited out to the long table for luncheon. The table had for a centerpiece a most beautiful candy-and-candle decked birthday cake. Other candles in brass candle sticks were used as well, and, with the usual artificial light placed high, made a very pretty picture. At the left of each plate, reposing on an individual butter plate was a lemon with a stick of peppermint candy inserted into it. Piled high in as near the style that children use in building blocks as might be, was a "building" of gingerbread blocks. At the opposite side of the birthday cake was a plate of sugar cookies cut like hobby horses, Teddy Bears, sweet ladies with clove-stem mouths, a clove bud nose and toothsome staring currant, eyes. Coffee was served instead of cambric tea, but this was the only concession made to the dull time of grown-up NOW.

Some timid and over nice ones hesitated to "suck" their lemons, until one of the ladies set the example —and you should have heard those gray-heads sucking! Lemon and candy sticks aren't to be sneezed at, and they were pronounced good, and very good by "all present."

Later, the cake was cut after the guests had begun to wonder if they weren't ever going to get a piece of it. An "honored" guest was requested to blow out the candles and cut the cake, which she did with great care, and they a cry of amazement, when the paper-lined frosting gave way to a Jack Horner Pie of sawdust in which were ribbon ends for each guest to pull. At the end of each ribbon was a weed doll, wistles, a top, Humpty Dumptys—whatever very small "present" could be placed in the "pie." And we played with 'em! Oh, don't you doubt it! We whistled, spun tops, tried to "pick Humpty Dumpty up again." How everybody did laugh.

Then we were ready to "guess who," which quieted us down a bit. The hostess passed photographs of old-fashionedly dressed children about among us, and we tried to guess who they were. Babies of forty years ago, full-skirted little girls with smooth-brushed hair, very demure; girls and boys of varying periods from forty or more years to twenty years back in time. I recall that my own picture, a baby of a few month's age, was generally believed to be a boy. because "he" was so fat.

Each guest had a paper numbered like the numbered photographs, and wrote down the name next the number of who she or he believed that particular photograph to represent. A prize was given for this great perspecacity,—a skipping rope to the girl, and a "mouth organ" or jack knife to the "little" boy who guessed right the most number of times.

And then it was time for the reminiscences. Each guest was begged to tell some childish experience. Theso were both funny, sad, and some were "almost" tragic, like that of an old lady who at the age of five, and a very timid little maid, was told to go and borrow a "goose" from a near-by tailor neighbor. Her dread of the fearful creature was very real, and her relief at finding that there was more than one kind of goose in the world was interesting indeed, to some who had never heard a sad-iron called by that name.

After the guests were "capped and hooded," and ready to go, or ready all but their caps, we all stood in a circle with crossed hands each grasping the friendly hand of the neighbor at each side of each "Scotch" fashion, and sang to the piano accompaniment," "Should Auld Acquaintance Be Forgot?" Oh, but it was a good party even if there were both a laugh and a heartache in it. Everyone kept the heartache to himself anyway, and we smiled and smiled and were glad of the reflected "olden, golden glory of the days gone by."—Mrs. N. W. W.

An Attractive Home and Well Arranged Grounds

FARM BUREAU ACTIVITIES IN NEW YORK

The annual meetings of the various county farm and home bureau organizations of New York State have now quite generally been held. That the farm bureau has clearly established its value as one of the most constructive influences in the life of the farmer has been definitely shown by the annual meetings thruout the agricultural counties of the state. In spite of reduced financial aid from governmental authorities above, the bureaus are forging ahead, blazing the way for enlarged spheres of service with an ever increasing membership.

A summary of the recommendations offered by the various bureaus, as related to activities for 1920, may be outlined as follows:

Continuation of wool pooling with closer co-operation with State Federation of Wool Producers.

Petitioning of Congress to secure protection to American Wool producers by the enactment of a high tariff on wool importations.

Action to be taken at once to ascertain amount of nitrate of soda needed by members with the idea of securing it from the government at cost, if possible.

Petitioning government to make muriate of potash available to farmers, duty free.

Investigation of cheaper rates on truck and auto insurance.

Membership fee raised to $2 and drives for new members opened on school district basis, with a captain in charge of each town.

Breeds of live stock to be standardized.

Source of good seed should be located earlier in the season and only guaranteed seed recommended by the bureaus.

Better packing of all celery and vegetable crops should be encouraged and a standard celery crate, 16x23 inches urged.

Field tests on leading crops carried on in 1920.

Investigation of alfalfa and clover seed supply with tests for alfalfa.

Value of concrete tile should be investigated in view of tile shortage.

Continuation of use of state ditcher as present scale of prices is not conducive to private ownership.

Encourage farmers to make use of drainage experts from the State College of Agriculture.

Elasticity in scale of charges for ditching whereby a difference is made in the cost of digging under easy, medium and difficult conditions.

Barn demonstrations should be continued.

Better sires should be introduced on more farms.

More dairymen should join the League and organizations of breeders and poultrymen formed.

Spray information service to fruit growers should be continued. The value of this service might be increased by study of weather maps on the part of growers.

Orchard tests of lime-sulfur solution vs. dust.

The principal speaker at many of the meetings was James H. Howard, president of the American Farm Bureau Federation, president of the Iowa State Federation of Farm Bureaus and president of the farm bureau of Marshall County, Iowa. Mr. Howard is the owner of a 480-acre farm at Clemon, Iowa. Addressing the annual meeting of the Orleans County Bureau at Albion, he declared that the marketing problem is one of considerable interest to the farmer.—A. H. P.

THIRTEEN MISTAKES

Judge McCormick, of San Francisco, says these are the thirteen fundamental mistakes of life.

1.—To attempt to set up your own standards of right and wrong.

2.—To try to measure the enjoyment of others by your own.

3.—To expect uniformity of opinions in this world.

4.—To fail to make allowances for inexperience.

5.—To endeavor to mold all dispositions alike.

6.—Not to yield to unimportant trifles.

7.—To look for perfection in our own actions.

8.—To worry ourselves and others about what cannot be remedied.

9.—Not to help everybody, wherever, however and whenever we can.

10.—To consider anything impossible that we ourselves cannot perform.

11.—To believe only what our finite minds can grasp.

12.—Not to make allowances for the weaknesses of others.

13.—To estimate by some outside quality when it is that within which makes the man.

The exports of condensed milk are running much higher this year than last. For the ten months ending October, 1918, the exports were $59,299,393. For the ten months ending October, 1919, the exports were $100,330,366.

Birds are good friends of the farmer. Encourage the children to fix up the Christmas tree, when its glory is past, as a feeding station.

"THE NIGHT AFTER CHRISTMAS"

'Twas the night after Christmas, when all thru the house,
Every soul was abed and as still as a mouse;
Those stockings so lately St. Nicholas' care
Were emptied of all that was eatable there,
The darlings had duly been tucked in their beds,
With very full stomachs and pains in their heads.
I was dozing away in my new cotton cap,
And Nancy was rather far gone in a nap,
When out in the nursery there rose such a clatter,
I sprang out of bed, crying, "What is the matter?"
I flew to each bedside still half in a doze,
Tore open the curtains and threw off the clothes,
While the light of the taper served clearly to show.
The piteous plight of those objects below.
For, what to the fond father's eyes should appear,
But the pale little face of each sick little dear;
Each pet, having crammed itself full as a tick.
I knew in a moment none felt like Old Nick!
The pulses were rapid, their breathing the same;
What their stomachs rejected I mentioned by name;
Now turkey, now stuffing, plum pudding of course.
And custards, and crullers and cranberry sauce—
Before outraged nature all went to the wall—
Yes, lollypops, flapdoodle, great things and small;
Like pellets, which urchins from popguns let fly,
Went figs, nuts and raisins, jam, jelly and pie.
Till each error of diet was brought to my view,
To the shame of mamma and Santa Claus, too.
I turned from the sight, to my bedroom stepped back,
And brought out a vial marked Pluvpacae,
When my Nancy exclaimed—for their suffering shocked her—
Don't you think you had better, love, run for the doctor?"
I ran—and was scarcely back under my roof,
When I heard the sharp clatter of old Jalap's hoof;
I might say that I had hardly turned myself around,
When the doctor came into the room with a bound.
He was spattered with mud from his head to his boots,
And the clothes he had on seemed the drollest of suits;
In his haste he'd put all quite away on his back,
And he looked like John Falstaff all covered with sack.
His eyes how they twinkled! Had the doctor got merry?
His nose looked like port and his breath smelt of sherry;
He hadn't been shaved for a fortnight or so,
And the beard on his chin wasn't white as the snow.
But, inspecting their tongues, in despite of their teeth,
And drawing his watch from his waistcoat beneath,
He felt of each pulse, saying "Each little belly
Must get rid"—here he laughed—"of the rest of that jelly."
I gazed on each plump, chubby, sick little elf,
And groaned when he said so in spite of myself.
But, a wink of the eye, as he physicked dear Fred,
Soon gave me to know I had nothing to dread.
He didn't prescribe—but. went straightway to work
And dosed all the rest—gave his trousers a jerk,
And adding direction while blowing his nose,
He buttoned his coat, from the chair he arose,
Then jumped in his gig, gave old Jalap a whistle,
And Jalap started off as if pricked by a thistle,
But the doctor exclaimed, ere he drove out of sight,
"They'll be well by tomorrow — good night, Jones, good night."

RURAL EDUCATION

First steps to be taken for the establishment of a branch of the State government which will be devoted exclusively to the betterment of education in the rural districts have just been taken by Dr. Thomas E. Finegan in the appointment of Dr. Lee L. Driver, of Randolph County, Indiana, to be chief of the new state bureau of rural education. Before Dr. Finegan became superintendent of public instruction he was in charge of the rural education and legislative end of the New York State educational department and it is understood that in the development of school matters in the country districts he has been given a free rein by Governor William C. Sproul. In a recent conversation Dr. Finegan said that he had been working on plans for the improvement of the school system in the rural sections of Pennsylvania ever since he came to Harrisburg and that he had been applying not only what he had learned in similar work in New York State, but the result of observations in other states, especially the agricultural states of the Middle West. "Pennsylvania" said he, "presents a rather unusual problem in that it is industrial and has geographical features that really make it a couple of States." Dr. Driver has spent his life building up rural schools in Indiana and is said to hold that there is no reason why the facilities in the country as far as general advantages go should not be equal to the towns and altho realizing that this state presents a big problem will undertake it early in the year confident that things can be worked out so that recommendations can be made next winter. Dr. Finegan plans to name assistants who will be familiar with the State's system so that Dr. Driver will have men at hand who can cooperate vigorously.

DEAR SHOES

A speaker at a farmers' meeting recently, talking of high prices told the following:

"There is too much cost added to the farm product and stock from the time it leaves the grower until it reaches the consumer. As an illustration: On my farm I had two cows die. I gave my wife the proceeds of the sale of the hides. She purchased a pair of shoes with the money. Now she is wearing an entire cow hide on each foot, or the money equivalent of it at the price she paid for the shoes."

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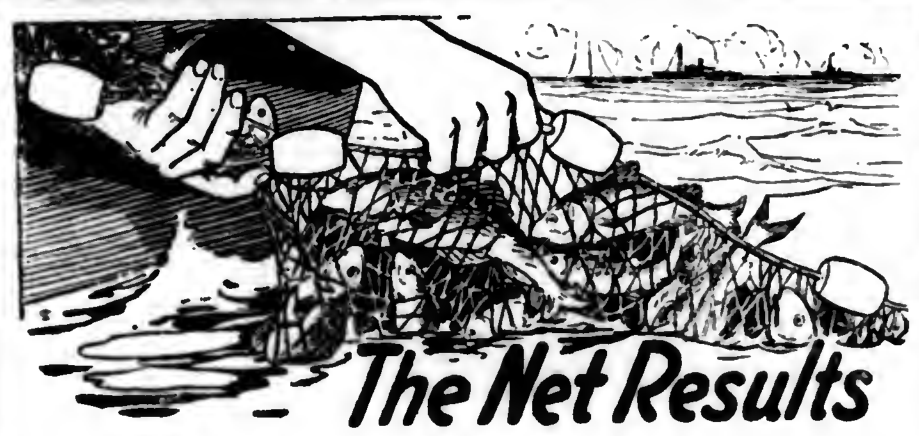

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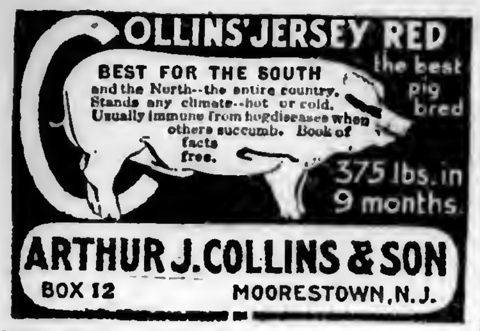
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from the best blood strain as Longfellow Double and Lord Premier Successor strains, both having been grand champions. One 6 months old grandson of Longfellow Double, several servicable boars, and both bred and open gilts of the Successor strain. Also 10 weeks old pigs, sired by a son of Rival's Baron Duke 2d that weighed over 900 lbs., dam of sire being Maybelle of W. G. Several pure bred Jersey and Ayrshire bulls, 2 to 6 months old. OLD FORGE FARM, SPRING GROVE, PA., C. R. FREED, Mgr.

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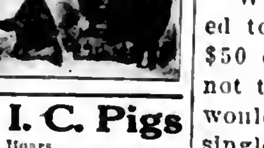

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Berkshire Pigs 7 boar pigs from a 600 lb. sow. Extra large, with strong backs. $20 each for the best 3, balance at $15. A. B. Kirsch, Highland Stock Farm, Nicktown, Pa.

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Reg. Big Type SPOTTED POLAND-CHINA pigs, bred from a son of O. K.'s Pride No. 30. H. C. KYMER, R. 4, Shippensburg, Penn'a.

DUROC JERSEY GILTS bred for spring farrow. July and fall pigs, Col. and Orion Cherry King breeding. Priced to sell. Geo. W. Crim, Uhrichsville, Ohio.

Durocs, all im. Yearling and Fall yearling boar and Fall boars. Fall gilts, bred for Aug., Sept. and Oct. Spring pigs, e. sex. I. D. Jackson, R. 10, V. Wert, O.

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Big Type O. I. C.'s Serviceable boars. Gilts of all ages. Fall pigs. G. P. ANDREWS, DANSVILLE, MICH.

WHAT MAKES LAND VALUES?

I was very much pleased with the letter of C. H. E. on "The Landlord's Side" in your issue of December 13th because it furnishes opportunity to present the landlord and tenant problem, and the Single Tax solution, from an angle not generally perceived.

C. H. E. writes of "buying his farm," and of how he and his wife worked early and late to get the farm paid for, the land improved and new buildings provided. After this had been accomplished, circumstances compelled him to "lease the farm and get a tenant." Is it not evident that in the buying of this farm he merely bought the right from some other man of going to work upon it? The land in so far as we know has always existed, or at least, that no former owner made it or gave it value, for he states that after all the labor of himself and wife in improving the land and erecting buildings he estimates the selling value at from $4,000, to $6,000,—showing that he either got the land very cheap or got his land and building improvements for nothing.

If he paid as much as $25 per acre (or $3,500) he has proven that he got nothing for the original purchase price except, as I said before, the permission of the farmer owner to go to work.

The difference between $3,500 and $6,000 (the highest salable price he gives) is only $2,500. For this $2,500 he has given I don't know how many years of labor of two people and I don't know how many hundreds, or thousands of dollars worth of land and building value, besides paying taxes for I don't know how many years, not only on the land valuation, but on the improved land and building value.

Whether the price he was compelled to pay to the former owner was $50 or $25 or $10 an acre, he does not tell us, but whatever it was, he would not have had to pay it if the single tax was in operation, because he would find no idle holder with land for sale.

The point I want to make is, that along with millions of other citizens, both C. H. E. and I are the victims of the same immoral and unjust, but strictly legal, system of private ownership of land. The only difference being that I admit I have been victimized and would destroy the system, while C. H. E. and many others cannot or will not admit they have been skinned and would perpetuate the system.

About 30 years ago I had to pay $6,000 for a piece of land 18x125 feet, with a house upon it. The building, at that time, could have been duplicated for $3,500—making $2,500 which I had to pay to the system for the privilege of using a small piece of land in my native county in order to perform, what is considered a most laudable purpose, establishing a home. The case cited by C. H. E. should prove to all victims that land, used by real working farmers or for the erection of homes in the city, seldom shows enough of enhanced valuation to make up for the labor expended, the taxes paid and the deterioration of the improvements. Even should these farming or residential sections of land be changed, thru the growth and progressive desire of the collective body, the farmer or home user would get very little of the enhancement. The useful producer or merchant in the business sections of large cities, seldom profit in the tremendous enhancements of values which often occur. It is the land gambler, speculator or idle holder who, 99 times out of every hundred, reaps the major portion of the loot wrung from the useful producing members of society.

C. H. E. and I would get (under Single Tax) our 150 acres of farm land or our 18x125 feet of home site land for nothing. Whatever improvements would come to us we should pay for at a fair price, but no tax whatever would have to be paid on them. The only thing we would have to pay to the community, would be a yearly rental for the use of the land, and, this rental would be based on its natural advantages, its nearness to market or to business centers, good roads, or other utilities owing their existence to public growth and progressiveness.—Oliver McKinght.

AGAIN THE DAYLIGHT FAD BOBS UP

Some of our cities and towns in their frenzy for clock tinkering remind me of the little boy's prayer: "O Lord I want a drum. I lay me down to sleep I want a drum. I pray the Lord my soul to keep I want a drum," etc. The demand for special time for special localities instead of a standard time is decidedly undemocratic and can lead only to confusion. Some towns seem to ignore general welfare and assume to govern themselves in a matter that is decidedly one for control by the Federal Government. When the cities have all counted heads and then joined hands in this matter, probably the farmers will again be called upon to speak their say. Some eastern cities have declared for fast time but what do Pittsburgh, Chicago, Denver, Frisco, and hundreds of other cities and towns want? There are the towns of Sit Still and Rest Easy. These towns would like the mill whistle to blow an hour late and the trains to come in backwards behind time. We find all kinds of conditions and desires but why not on a question of so general importance be just industrious Americans abiding in the customs and decisions of Uncle Sam.—D. H. Watts.

FARM BUREAUS

Not since the Grange became a virile organization has any movement to amalgamate the interests of the farmers taken on such proportions as the farm bureau organization. That it is here to stay is now a definite reality, yet its possibilities have scarcely been touched. In little Yates County, one of the smallest in area among the agricultural counties of New York, it is estimated that the fruit growers picked up an extra $30,000 thru the spray and pruning service of the bureau, all in one season. The farm bureau is rendering actual service to every farmer, whether a member or not. It will render increased service as its members multiply.

COUNTY NOTE

We have been having over one week of zero winter weather with several light snows with some sleighing. Farmers are about done with their farm work except their winter butchering. Farm laborers are working at public works at Burnham. Winter wheat looks fine. People mostly well some influenza but in a mild form. Wheat $2.15 bu.; oats, 65c bu.; corn, $1.25 bu.; eggs, 72c dozen; butter, 65c pound; chickens, 24c pound; lard, 30c pound; shoulder, 30c pound; bacon, 30c pound; onions, $1 bu.—S. D. D

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Tiffany's Superior Chicks That live. Silver, White, and Columbian Wyandottes, Buff, Barred, and White Rocks. R. I. Reds, White and Brown Leghorns. Pekin, Rouen, and Indian Runner Ducklings (heavy type). Aldham Poultry Farm, R. 39, Phoenixville, Pa.

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Bronze, Narragansett, Bourbon Red, Black and White Holland breeding turkeys from the finest flocks in America. Write for special prices to close them out. F. A. CLARK, Xenia, Ohio, R. 5.

S. C. White Leghorn Baby Chicks for 1920 delivery. Tom Barron strain. Order early. C. P. Shirey, Stewartstown, Pa.

WHITE LEGHORN LAYING PULLETS, YEARLINGS. Best strains, excellent stock, heavy layers. FOREST FARM, ROCKAWAY, N. J.

Barred Rock COCKERELS good strains, $3.00 to $4.00 each. J. I. HERETER, Gettysburg, Pa., R. 4.

200,000 Chicks—for 1920. Now is the time to place your order, prices reasonable. Sat. and safe delivery guar. Cata. free. Keystone Hatchery, Richfield, Pa.

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Chester Whites Pigs for sale. Special price on boar pigs. All stock registered. ALLAN R. MORTON, ASHVILLE, N. Y.

DUROCS and P. C. PIGS $30 Pair Pedigree. Not akin. S. O. WEEKS, DeGraff, Ohio.

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REG. O. I. C.'S ALL AGES. Booking orders for September, October and November Pigs. BLACK DIAMOND MINORCA FARM, MT. BETHEL, PA.

BIG TYPE POLAND CHINA PIGS 3 months old. Sired by Longfellow 103751. W. C. KEYSOR, GREENWICH, OHIO.

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Berkshire Bargain. Three year old Shenandoah "G" Delchester Prince 4th and 2 bred sows $200. All reg. L. C. TOMKINS, ELLENTON, PA.

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O. I. C. Males 2 and 3 months old. Big, smooth kind. Reg. free. BRUBAKER BROS., Star R. Cocolamus, Pa.

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FOR SALE OR EXCHANGE for ponies Black Percheron stallion colt, two Red polled heifers bred, Jersey heifer, extra good. All registered and priced right. F. B. STEWART, ESPYVILLE, PA.

NEAR-BY STOCK FARM offers Reg. Ayrshire cattle, Reg. Berkshire pigs 3 to 5 months, a few bred sows. Best of breeding. White Wyandottes. J. A. McMAHAN, POTTSGROVE, PA.

For-Sale 1 Shropshire and 1 Yearling Rambouillet ram. Also large ram lambs, both breeds. 6 growthy O. I. C. sows, April and May farrow. Stock reg. H. C. Beardsley, Montour Falls, N.Y.

REG. P. CHINAS, BERKSHIRES, C. WHITES, large strains, all ages, mated, not akin; 8-wk. pigs, br. sows, service boars. Beagles and Collies. Write for circ. P. F. HAMILTON, COCHRANVILLE, PA.

WANTED Nuts (all kinds), calves, poultry, fancy eggs and Hot House lambs. WM. H. COHEN & CO., 232 Washington Street, New York City.

FOR SALE—O. I. C. PIGS. ALSO RABBITS, Pigeons, Owls, and Bluerocks. Write for prices. FRANCIS SCHEIB, GRATZ, PA.

Chester White Hogs, All Ages
Shorthorn Bulls. R. L. MUNCE, Canonsburg, Pa.

Cattle For Sale. 2 loads feeders and 2 loads yearling steers. Also any number 1, 2 and 3 yr.-olds from 600 to 1000 lbs. Isaac Shanstrom, Fairfield, Iowa. R-8.

PURE BRED Brown Swiss Bulls, also one pair young Jennetts. Come and see the goods. C. Eugene Bown, Forksville, Pa.

For Sale: Registered C. W. gilts and serviceable boars and pigs. Also Jersey Bulls, all ages. J. A. BOAK, NEW CASTLE, PA. R. 4.

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Prolific Berkshires with size and type. Priced to sell. JOHN C. BREAM, GETTYSBURG, PA., R. D. No. 4

Reg. Poland Chinas Choice Spring gilts and boars. Aug. and Sept. pigs shipped on approval. R. H. LYLE, Cadiz, Ohio.

Chester Whites Boar and Sow Pigs. Bred Sows. Collie dogs. ARCADIA FARM, BOX D, BALLY, PA.

Reg. O. I. C. Pigs for sale, 3 months old, either sex. Write your wants. A. J. Marshall, Oakland Farm, Williamsport, Pa. R.1

Large Berkshires Registered. May farrow, also October pigs. Both sexes. Prices reasonable. C. H. TOLAND, FREEPORT, OHIO

For Sale—1 Reg. O. I. C. Boar, 16 mos. old. 1 Reg. O. I. C. Sow, 2 yrs. old, with pig. 1 Grade Sow, 3 yrs old, with pig. B. A. Corkran, Midlothian, Va.

Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Lame Cow.—I have a cow about 8 years old who is very lame in fore leg. She went lame 6 weeks ago and I thought her shoulder was dislocated. Our local veterinary examined her, he was inclined to believe she had fracture of the knee, or perhaps one of the bones were split. He prescribed liniment, which I applied without results. She is not inclined to stand on foot and seems to suffer less pain when down. Her feet are good. There is a cavity in shoulder, but our veterinary said it was owing to the position she took while standing. She came fresh three weeks ago, but calved 2 weeks too early. She has good appetite and seems to be in good health. B. G., Dalton, Pa.—Your veterinarian is perhaps right, she may have fractured bone of knee; if so, all that can be done is to keep her quiet until the fractured bone unites. If a boney union occurs she will perhaps get well and travel sound; however, there is danger of a fibrous union taking place, if so, she will be more or less stiff in knee. Understand, she may be lame in shoulder and not lame in knee. Give her rest and good care. Apply equal parts turpentine, aqua ammonia and raw linseed oil to tender part of leg once a day.

Corn Founder.—I have a mare 7 years old that has been well and sound until about seven weeks ago, she had an attack of colic, from eating too much green corn. Since then she has become very weak on her front legs. She has been treated by several veterinarians, but she is no better; in fact, she is growing worse. They call her ailment Corn Founder. S. B., Stocton, N. Y.—Doubtless her fore feet are in bad condition, perhaps an effusion of either serum or pus has taken place in foot. Stand her in wet clay 2 or 3 hours daily, or poultice with oil meal, and apply wool fat to wall of hoofs. It is considered good practice to apply blister to coronets every two weeks and she should be shod with wide webbed shoes that have plenty rolling motion. All things considered she is perhaps incureable.

Nasal Catarrh Worms.—My five-year-old mare caught cold. Since then she coughs and has considerable nasal discharge; besides, she passes quite a few worms. For the past six weeks she has been gradually losing flesh. She is fed good corn, corn fodder and some pea hay. E. D. Eden, Md.—Mix one part dried powdered sulphate of iron, 1 part salt, 1 part ginger, 1 part bicarbonate of soda and 4 parts powdered gentian and give her a tablespoonful in ground feed 3 times a day until she is well and in good condition.

Infected Bull.—I would like to ask your advice in regards to a valuable bull which I recently purchased. I am told that he has been serving cows which suffered from contagious abortion and, if so, how long will I have to keep him from cows for fear of him infecting them? J. F. M., Worton, Md.—For safety you had better remove the long hairs at end of sheath and flush out sheath with one part Lysol and 99 parts clean, tepid water. This should be done daily for few days before you commence using him for service. It is good practice to flush sheath right away after each service, especially if you suspect the cow of being an aborter.

Warts on Bull.—I have Guernsey bull 10 months old in good health, but he has many warts on head and neck and a few on back. What can be done for him? J. A. B., Winfield, Pa.—Dissolve one dram salicylic acid in two ounces of acetic acid and apply cautiously to warts every day or two and it will take them off. Give him two drams Fowlers Solution of arsenic at a dose in feed or in drinking water 3 times a day.

SEMI-SOLID BUTTERMILK
"Make 'Em Grow Fast"
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All You Want! Just When You Want It! BEST HOG FEED ON EARTH!
SEMI-SOLID BUTTERMILK is pure creamery buttermilk with NOTHING added—nothing taken away but the water. NOT MODIFIED by the addition of SULPHURIC ACID or any other preservative. Its own natural LACTIC ACID keeps it fresh.
We Guarantee Every Barrel of It
Also guarantee that you will be satisfied with results from feeding it.
Our SEMI-SOLID BUTTERMILK is the only buttermilk on the market that you can drink yourself or use to make batter-cakes for your table.
Iowa Agricultural College, Ames, Iowa, fed two groups of hogs, same number, same litter—record per 100 lbs. gain in weight.

	Days	Corn	Meat Meal	Wheat Middlings	Weight
No. 1	216	442 lbs.	33 lbs.	31 lbs.	296 lbs.
No. 2	156	148 lbs.	9 lbs.	14 lbs.	299 lbs.
Gain or Saving	62	294 lbs.	24 lbs.	17 lbs.	3 lbs.

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SEMI-SOLID BUTTERMILK is a safe feed—sterilized and pasteurized.
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The highest natural Golden Yellow color, delicious individual flavor, and high content of butter fat—combine to make Guernsey milk in greatest demand by discriminating consumers. Write for our free booklets.
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that test 4% OF FAT FOR THE YEAR'S MILK PRODUCTION. Grandsons of the ONLY COW of ANY BREED—ANYWHERE—that ever made two consecutive yearly records under full age that averages over 24,000 lbs. of 4% milk, 1200 lbs. of butter each year—one year strictly official. Three months bull calves $100 and up; service bulls $150 and up. GEO. E. STEVENSON & SONS, CLARKS SUMMIT, PA.

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Two are coming two years old, one three years. Better see these bulls; see the size and milking ability of dams and the remarkable calves the older one is getting. They have been raised under ideal conditions and are priced right. PLUMLYN FARM, Fairview Village (near Norristown), Pa.

Holstein Reg. Bull, 17 months old, from a good 30 lb. bull, dam a good producing cow. Weight 625 lbs.; sure server; dark-colored; good individual. Only $75. THE OAKS DAIRY FARM, Wyalusing, Pa.

Reg. Holstein Heifer Calves, from officially tested dams and a 30 lb. sire. Write for prices, pictures and peds. Walter M. Cruttenden, Wilkes-Barre, Pa.

Registered Holstein Friesian Cattle Sons of the great Finderne Sir Valdessa, a 37 lb. bull, for sale. MILLARD E. BASEHOAR, Littlestown, Pa.

Holstein Bull Calves $25 each, 5 days old, unregistered. $30 each with papers. High producing reg. dams and sires. L. C. TOMKINS, ELLENTON, PA

FOR SALE: Nice Guernsey bulls of May Rose and Sheet Anchor breeding a grandson of Langwater Royal. Reasonable Hayes C. Taylor, Embreeville, Pa.

Registered Holstein and Guernsey bulls from calves to serviceable age. 250 animals in the herd BONNYMEADS FARMS, R. D. 1, Harrisburg, Pa

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Few choice bull calves—A couple fine young cows, priced very reasonable to effect ready sale. Bull calves from fine A. R. cows, or cows now on test for Advanced Registry. Excellent opportunity to found a herd of high class Ayrshires. Your inquiries and visit to the farm will repay you.
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BEST in High grades and Registered Holsteins. Elegant high grade calves $25 each. With ten calves will give choice registered bull free. Will accept Liberty Bonds and W. S. S. at par. Guarantee safe arrival and gladly ship C. O. D. Write your wants. C. W. ELLIS, JR., Cortland, N. Y.

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King Korndyke Sadie Vale Jr., No. 20391, two nearest dams averaging 36 pounds of butter in 7 days, heads my herd. Butter records from 17 pounds two-year-olds to 34 pounds at full age. Also high grade Holstein calves, either sex, $15.00 each. Write your wants. PAUL H. STEVENS, Prop.

Oakhurst Farm Ayrshires present offering—20 young cows of the choicest strains, bred to freshen this winter and spring in calf to a high-class bull. GUY D. POWER & SON, Auburn, N. Y.

WE WILL GIVE THE USE OF A
Finely Bred Reg. Holstein Bull Calf
for three years to any responsible farmer who wishes to improve his herd. Mugget Hill Farm, Charlton, Mass.

HIGH GRADE HOLSTEIN CALVES. Either sex. Shipped anywhere. Write for prices. Satisfaction and safe delivery guaranteed. FRANK GAMEL, PINE GROVE FARM, LOCKE, N. Y.

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Ayrshire Bull Calves From high record A. R. Dams ROBERT TEMPLETON & SON, ULSTER, PA.

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Milking Shorthorns Bull Calves sired by Glenside Royal Stamp for sale C. M. KENNEDY & SONS, Ulster, Bradford Co., Pa.

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Meet us at our advertising booth at the State Farm Products Show, Harrisburg, January 20th. We can offer you special bargains in registered bull calves of good breeding from pure bred Holsteins, Jerseys, Milking Shorthorns and Ayrshires. D. K. SLOAN, Secretary, Bradford County Livestock Breeders' Asso'n., Towanda, Pa.

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Everybody ought to sing the old songs. Now's the time to sing them. In this period of unrest that the country is passing through the old songs will help keep everybody contented and happy. I want to do my part. Just send me your name and I'll send you my book of the Old Favorite Songs **FREE.** The book won't cost you a cent. *It won't put you under any obligation to me whatever.*

With the book I'll tell you all about my superb MASTERTONE Phonograph. You never heard of anything like it. You never saw a finer phonograph than my MASTERTONE. **And you** can have this splendid instrument in its beautiful Mahogany or solid Black Walnut cabinet finish—**at** ***half or less than half*** what any other machine would cost you.

Here Are the Facts About My MASTERTONE

My name is Harry C. Phelps, of Columbus, Ohio, and perhaps you know me. In the last 20 years I've sold millions of dollars' worth of merchandise from my own big factories to people all over America. Hundreds of thousands of people know me like a neighbor.

Now I've got a phonograph offer to make to my friends or to any reader of this paper that I am ready to go on record as saying *cannot be equaled anywhere.*

The picture of it is on this page. *But the picture doesn't half do it justice.* It has a great big, beautiful cabinet—48 inches high—20 inches wide—23½ inches deep—in either Black Walnut or Mahogany—satin finish—hand polished—the latest art style. Equipped with the marvelous MASTERTONE Reproducer—giving clearest, purest, most natural reproduction of the human voice or any musical instrument. Some of the greatest living experts have declared it the finest phonograph ever built. I don't claim that. I do claim it is one of the three great phonographs now being manufactured.

Mail the Coupon for My 10 Day Free Trial Offer

I want you to hear my MASTERTONE in your own home—at my risk—no obligation to keep it if you do not say it is the best you ever heard or saw. Then I want you to have the opportunity to get this magnificent instrument at My Low Bargain Price.

I sell the MASTERTONE just as I sold my fine buggies and carriages, *direct from the factory to you*—one small profit. I have no expensive connections or sales methods. I realize that if you take my MASTERTONE into your home you wouldn't part with it at twice the price. You'll compare its clear, rich tone—its perfect reproductions—with ordinary phonographs.

You'll talk about it. **Your friends will** talk about it. **And that will make plenty** enough sales for me.

I want you to have all the facts—**the truth** about phonographs. I want you to **read** the fascinating story I will send **you telling** just how my royal MASTERTONE **is** constructed. I want you to **know what** goes into it and how it is put **together.** Fill out the coupon below and **get the** whole story.

Height 48 inches
Width 20 inches
Depth 23½ inches

10 DAYS' FREE TRIAL In Your Own Home

I'll send you six record selections to play it with. Play *any* record without special attachments. Enjoy real music with the silent, velvety MASTERTONE motor. Notice the golden purity of each note, due to the MASTERTONE India mica reproducer. Observe the automatic stop. Machine stops itself at end of record.

If You Are Not Satisfied I'll Return Every Cent!

You have your choice of either Black Walnut or Mahogany finish. I'll send the MASTERTONE to you *at once.* You use the MASTERTONE and the records for ten days. Play it for your family, your neighbors, your friends. Take a vote of the whole family on it—and if you don't say it is as fine as any phonograph costing twice as much—if you want to part with it for any reason—I'll take the phonograph and the records back and refund every cent of the purchase price.

I'll Send You My Written Absolute Guarantee

I cannot begin to describe the superior mechanism of my MASTERTONE—the 29 ways in which it excels other phonographs. You have to hear the celebrated MASTERTONE Reproducer with genuine imported India mica diaphragm. You have to hear its Patent Tone Modulator. You have to *enjoy* the records played by the MASTERTONE'S extra large, powerful and silent motor.

The rich, mellow tone is not equaled, and the MASTERTONE is made to last a lifetime. Get my guarantee.

Now—fill out the coupon today. Don't delay—for I want you to get the MASTERTONE as soon as possible. The first in each neighborhood will be the fortunate ones—for there will be a rush to take advantage of my offer. Remember, you can get the Song Book whether you order or not.

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The Phelps Factories
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HARRY C. PHELPS, Pres. The Phelps Factories
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Send me your **Book of Favorite Songs FREE,** and details about your offer of the Mastertone Phonograph. This does not bind me to pay a cent or put me under any obligation whatever.

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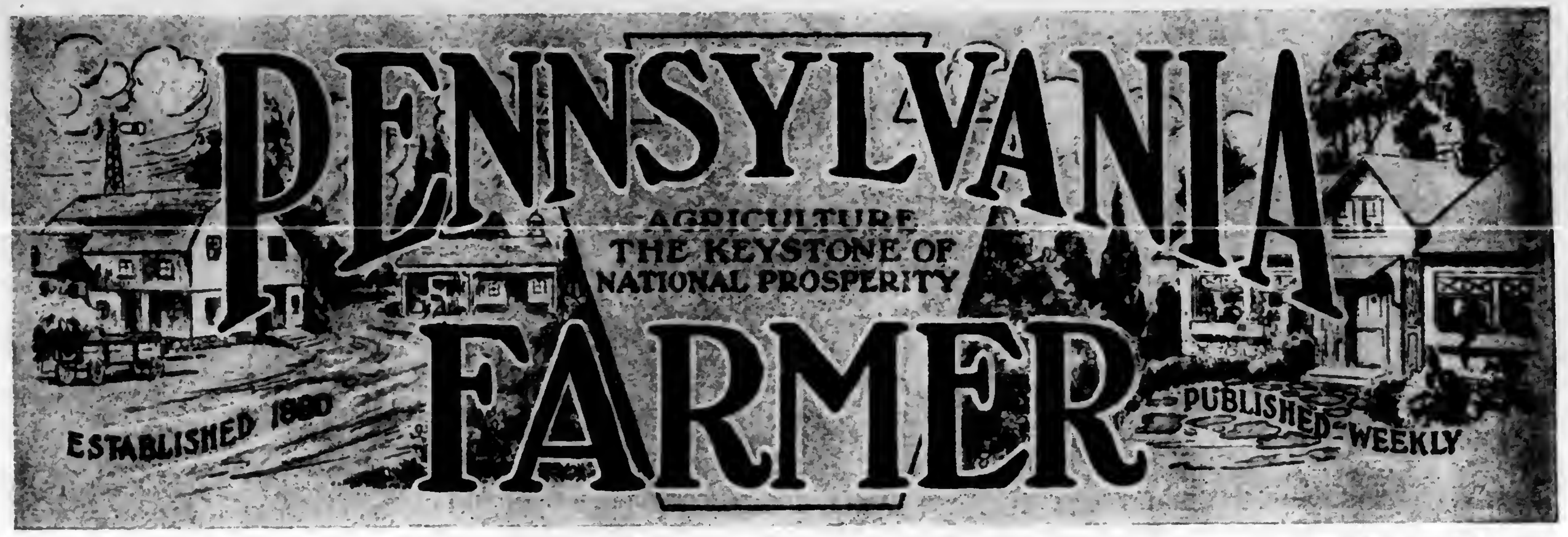
ESTABLISHED 1880
AGRICULTURE THE KEYSTONE OF NATIONAL PROSPERITY
PUBLISHED WEEKLY

PENNSYLVANIA FARMER

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Volume 47 PHILADELPHIA, PA., SATURDAY, JANUARY 10, 1920. Number 2

You Can Cut Barn Work in Half

In the barns that are James equipped, the increasing cost and scarcity of labor is much less a problem; for James Equipment makes barn work easy.

James Equipment not only cuts labor in two, but makes it possible for children to do work that without James labor-saving devices would require a man's strength; chore time becomes almost play time for boys who work in the barn.

Cleaning The Barn

The easy running James Carriers turn the disagreeable, dirty task of cleaning out the barn into a near-pleasure. They make a boy's job of what used to be shirked by all—and are an investment that pay profits of 25% or more a year in labor saved.

James Scrapers make quick work of cleaning cement floors; the James Stanchions, with the James Alignment Device, keep the stalls and cows clean, by aligning the cows at the rear, so that manure falls in the gutter and not on the platform.

Feeding The Cows

The easy way of feeding the cows is the Jamesway—the James Feed Truck or Feed Carrier, and James Feed Mangers. Rolling easily along the track or on the cement floor, the James Carrier or Truck make unnecessary the lifting of heavy baskets filled with feed. With their big, roomy tubs they save much walking to and from the feed rooms, and in a short time pay for themselves in labor saved.

Watering The Cows

What a job this used to be in winter time—keeping a fire going in the old time tank heater, or breaking the ice in the tank so that the cows could drink.

And how they hated to drink—with the north wind howling, the snow or sleet driving, and the drinking water icy cold.

No wonder the milk yield dropped in winter time—for feed that should have gone to make the milk was used to warm the cow, and the water needed to make milk was never drunk.

James Drinking Cups have changed all that. A sanitary cup for each cow provides fresh water day and night. It flows in automatically as fast as the cows drink.

Water—the simplest means of increasing milk yields—is often disregarded by dairymen. Those who realize how greatly milk flow is increased by James Cups are reaping huge profits on their investment.

Reports based on milk records of 28 herds (739 cows) for instance, show an average increase per cow per day of 2.45 lbs. This is 490 lbs. in 200 days, which at $3.50 per cwt. totals $17.15; with a saving of $2.50 per cow in labor and 55c in fuel. That's a profit of 400% the first year.

Other reports and other investigations confirm these figures. Ask us for the proof. Then get James Cups busy right away making these big profits for YOU.

"Airing" The Cows

Pure air is just as necessary to life and production of milk as feed and water.

And a cow needs TWICE the weight of AIR per day that she does of *feed* and *water combined.*

Do your cows get enough pure fresh air? Feed, water and air. The feed costs money—lots of it. But water and air are free—the only expense is getting them to the cow, and that amounts to very little.

The James Ventilators help get the foul air out of the barn, help bring the fresh air in to the cows. Ask for full information regarding these wonderful ventilators and about the James Ventilating System.

Other Work-Saving James Devices

There are many other James devices that save labor, increase milk yields, help sanitation and improve cow health, such as Cow, Calf and Bull Pens, Feed Mangers, Calf Pail Holders, Sure-Stop Swinging Post, Swinging Cranes, "Safety First" Bull Staff, Handy Milk Stools, etc.

Also equipment for the hog barn, horse barn and beef barn:

The James Way Sunny Hog Barn provides sunshine and sun warmth on the floor of every pen two-thirds of the sunlit hours. The James Hog Barn Book, sent on request, tells all about it.

Free Dairy Barn Book

The 336 page book—"The Jamesway"—tells all about the James inventions that save so much of labor, prevent spread of disease, promote better cow health, protect against dangerous bulls, make simpler the care of calves and sick cows, and increase milk yields.

Easy Installation

It explains the easy way of putting up carriers, setting up stalls and pens and attaching drinking cups.

Skilled help is not required, because of the ingenious James Anchors and because the equipment is assembled at the factory.

Barn Plan Service

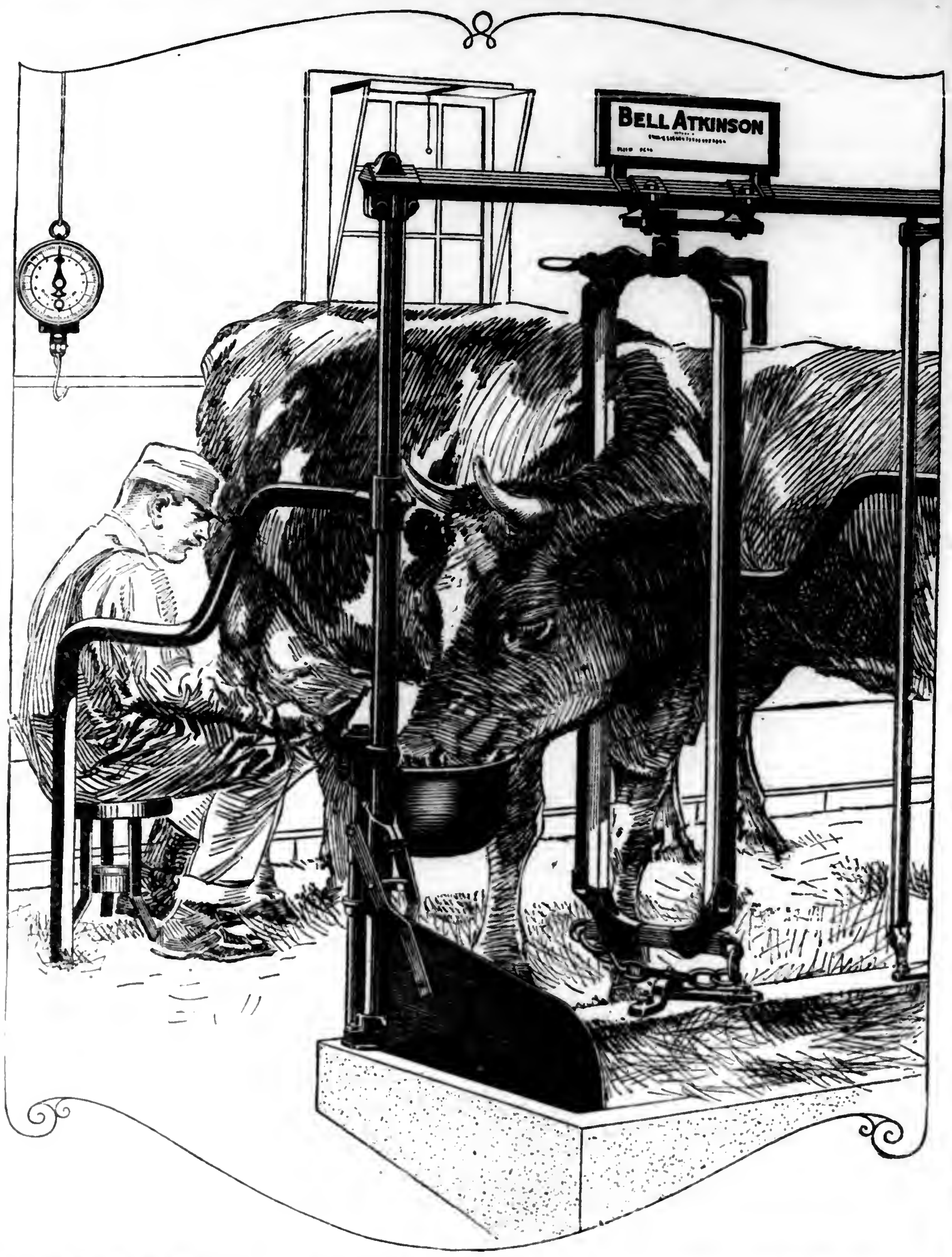
It tells about James Barn Plan Service; the many James barn experts who are at your service—men who know what has been successful and what has not, what not to do as well as what to do in planning convenient, money-saving barns.

Their advice on barn planning, ventilation and other barn problems is free, with no charge for floor plans. Send for the book—a postal card request will bring it—get the full details of how to build a barn, how to ventilate a barn, how to cut the barn work in half, how to make more milk—and more money.

James Mfg. Co. Ft. Atkinson, Wis. Elmira, N.Y. Minneapolis, Minn.

The Jamesway

Labor Saving Equipment for the Dairy Barn



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PENNSYLVANIA FARMER
AGRICULTURE THE KEYSTONE OF NATIONAL PROSPERITY
ESTABLISHED 1880 PUBLISHED WEEKLY

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Vol. 47—No. 2 PHILADELPHIA, PA., SATURDAY, JANUARY 10, 1920 75 Cents per Year

Nitrogen in Explosives and Fertilizers

The Possible Effect of Converting the War Munitions Plants Into Plant Food Factories

By Dr. JACOB G. LIPMAN, N. J. EXPERIMENT STATION

The average acre of cultivated land contains, to a depth of 9 to 10 inches, from 1,500 to 8,000 pounds of nitrogen. In exceptional cases the nitrogen content may range considerably beyond the figure just given. All of the soil nitrogen is of atmospheric origin. The compounds of this element have gradually accumulated in the earth's surface thru the activities of bacteria alone, or of bacteria associated with higher plants. The processes responsible for the accumulation of nitrogen in the surface of the earth are always active under favorable conditions. On the other hand, there is a constant loss of soil nitrogen thru the rapid decomposition of vegetable mattter, the formation of soluble nitrates and the leaching out of these by rain. In cultivated land the losses of soil nitrogen are increased by the sale and removal from the farm of crop and animal products. It is estimated that the arable soils of the United States are annually losing between 9,000,000 and 10,000,000 tons of nitrogen. This loss is largely offset by additions of nitrogen compounds thru crop residues, animal manures, fertilizers, etc. Nevertheless, when due allowance is made for the compensating factors, it is found that there is a probable annual net loss of 3,000,000 to 4,000,000 tons of nitrogen.

It has been recognized for a long time that cultivated soils, even such as have been but recently placed under cultivation, seldom provide the growing crops with the maximum supply of nitrogen. Hence, as the crop practices become more intensive and as the demand for food from the city populations grows louder, an effort is made by farmers to supplement the soil resources of nitrogen by additions of materials containing this constituent. Within the past 75 years there has grown up an important fertilizer industry which produces and distributes vast quantities of material containing the element nitrogen. In 1918 there were exported from Chili about 3,000,000 tons of nitrate of soda; there was also produced, as a by-product in the making of coke and gas, an equivalent of 1,500,000 tons of sulfate of ammonia. The nitrogen furnished by these two important fertilizers was augmented by that contained in packing house by-products like tankage, dried blood, horn and hoof meal, bone meal, etc., as well as cottonseed meal and other vegetable cakes used as fertilizers. Aside from these, the fertilizer industry included in its nitrogen resources large quantities of nitrogen componds produced by chemical and electrochemical methods. All told, there were available at the outbreak of the war more than 1,000,000 tons of nitrogen in the various products known as commercial or artificial fertilizers.

Since the beginning of the present century a number of processes have been devised and improved for the manufacture of nitrogen compounds from atmospheric sources. Among these there are at least three products which are of outstanding importance. One of these, known under the name of calcium cyanamid, is made by heating calcium carbide in an atmosphere of nitrogen gas. Another of the products is ammonia made by combining hydrogen and nitrogen gas by the use of the Haber process. The third product is nitric acid made by combining nitrogen with the elements of water. The nitric acid thus produced is usually combined with lime and sold as nitrate of lime. It is stated on good authority that the German plants have a capacity equivalent to 300,000 tons of nitrogen per annum fixed by the cyanamid process and of 200,000 tons per annum fixed by the Haber process. This would be equivalent to 2,500,000 tons of sulfate of ammonia, or more than 3,000,000 tons of nitrate of soda. By developing its vast water power resources, Norway is producing atmospheric nitrogen compounds both by the cyanamid and the nitric acid process.

Prior to 1914 the farmers of Europe used a very large proportion of the nitrate of soda produced in Chili and Bolivia, and likewise most of the sulfate of ammonia produced by the coking establishments in Germany, France and Great Britain. Large stocks of nitrate of soda and of sulfate of ammonia had been accumulated in Germany by 1914. In spite of the large stores of these nitrogen salts, Germany would have refrained from military aggression but for the knowledge that her plants, built for the fixation of atmospheric nitrogen, could supply the maximum needs of her army and navy. The outbreak of the war led to the commandeering of the supplies of nitrates and ammonium salts for military purposes The farmers of Europe were able to obtain only such relatively small supplies of these materials as could be spared by the military organizations in their respective counties. It soon became apparent that food production declined not alone on account of the lessened supply of farm labor, and the reduction in the acreage of cultivated land, but also on account of the inadequate supply of nitrogenous fertilizers. When the war came to an end the belligerent nations of Europe were able to place at the disposal of agriculture their greatly increased facilities for manufacturing atmospheric nitrogenous fertilizers. In this country, also, one of the large plants built by the War Department for the making of calcium cyanamid became a possible factor in the manufacture of supplies of combined nitrogen for the agricultural industry of the United States.

Aside from the so-called primary products, like calcium cyanamid, ammonia and nitric acid, it is possible to produce at these plants a number of secondary products all more or less suitable for use as fertilizers.

It is, therefore, important to determine how the plants built for the manufacture of explosives can be utilized in times of peace for the making of fertilizers that would best serve the purposes of crop production. From the standpint of energy consumed it is not difficult to ascertain which might be the most desirable and most profitable materials. From the standpoint of crop growth the situation is much less certain, especially in view of the variations that exist in the make-up of different soils and in the requirements of different crops. The problem is still further complicated by the preferences and prejudices of the farmers in the different localities and the methods in vogue in the application and distribution of fertilizers in different localities.

Recognizing the need of more accurate information on the value of the different nitrogenous materials, and especially those of atmospheric origin, for agricultural uses, the Nitrate Division of the War Department instructed the writer to visit a number of the European countries and to make a study of the more important factors that may directly or indirectly affect the present and future use of nitrogenous fertilizers. In studying the problem assigned to him, he had occasion to visit France, England, the Scandinavian countries, Germany, Holland and Belgium. He found in all of these countries an insistent demand for nitrogenous plantfoods. Agricultural teachers and investigators, leading farmers and fertilizer manufacturers and distributors all agreed that, with the restoring of normal conditions, the plants built for the manufacture of explosives could be utilized to their full capacity for the production of nitrogenous fertilizers. They all agree that the capacity of these will need to be expanded and additional plants will have to be erected if the supply of nitrogenous plant food is at be at all adequate for meeting the needs of the soils and crops. When an effort is made to meet these needs the water power resources of Scandinavia, Germany, Austria, France, Italy, Switzerland and Spain will be developed very rapidly. Scandinavia alone can ultimately develop, it is said, one million horse power. This should be of value for other important purposes aside from that of the manufacture of nitrogenous fertilizers. Such development will be one of the important compensations that must come out of the havoc wrought by the war, and it is safe to prophesy that the remarkable industrial progress awaiting Eastern as well as Western Europe will be the outcome partly of the investment of capital and effort in the organization of great establishments for the fixation of atmospheric nitrogen. These plants, intended primarily for the making of explosives, will find ready use in the manufacture of fertilizers, which in their turn will stimulate the production of food, increase yields per acre and will release labor for non-agricultural pursuits. The efforts of Europe to become independent of imported breadstuffs and animal products will react in a profound way on the agriculture of North and South America. Hence, one may even now discern far-reaching changes which the materials, serving as explosives in times of war and as fertilizers in times of peace, will bring into the economic life of Europe and the United States.

The question that naturally arises is, what effect will largely increased production in Europe have upon American agriculture?

A Discussion of the Fertilizer Situation

Articles Covering Many Perplexing Points

OBSERVATIONS ON FERTILIZERS

By J. P. STEWART.

The experience and conclusions of our friend Hulsart of New Jersey, as recorded in the Pennsylvania Farmer of December 13, on page 16, are very interesting. His experience is very similar to that of many others and particularly that of the potato growers of Aroostock County, Maine. They spent a lot of money up there last spring in high-priced, potash—containing, fertilizer mixtures in the hope of overcoming a condition of potash hunger in their potato fields which has been developing during the last four years. At the same time a few of the more independent chaps decided to have fuller information on just what they were applying before it was too late, by buying their fertilizer ingredients separately and making up their own mixtures. All kinds of dire calamity were predicted for them as a result of this "unorthodox" action, and the comparative results were awaited with a great deal of interest.

In this case it happened that many of the ready-mixed, high-potash fertilizers had been made with potash which had been secured from a certain point in California where the borax content is naturally very high, and no adequate steps had been taken for its removal. As a result, the more of these mixtures a man applied, and hence the greater expense and pains that he underwent to have his crop right, the worse were his results. Under these circumstances it was not at all difficult for the "unorthodox," home-mixture people to score a very decided victory even from the standpoint of results. Their advantage from the viewpoint of costs moreover, was fully as great. The net result of the whole proceeding apparently is that practically all the potato growers in that important region have now gone together and employed on expert to purchase their fertilizer materials separately for the entire season and to mix them up as desired. This will enable them to know just what they are putting on their crops, and will also give them the advantage of whatever economies may thus be effected.

The experience in that section, at least in part, is likely to be repeated anywhere in the country and at any time. It took quite a shock, to cause some to see it.

The financial advantages of home-mixing so far as possible may be seen from the following facts. In the first place, it appears that a general advance has been announced in the prices of all mixed fertilizers for use next spring, which ranges from $3 to about $4.50 a ton above those charged last fall. The effect of this is to make a fertilizer of average grade, such as a 3-8-3 for example, cost the farmers about $53 a ton at retail in central Pennsylvania.

At the same time, we have direct quotations of December 15th on the unmixed materials in the form of nitrate of soda, acid phosphate, and muriate of potash,—each of which is unexcelled in its class—which would enable them to be laid down at our station in combination carlots at about $4 per unit of ammonia, $1.50 per unit of phosphoric acid, and about $3 per unit of potash. At these figures, the three percent of ammonia carried in the mixture referred to above can be secured for about $12, the eight percent of phosphoric acid at about the same cost, and the three percent of potash for about $9, or the full equivalent of the above mixture can be obtained at a total cost laid down at the station of only $33.

When the above materials are used for the plant food carriers, moreover, the total weight required to equal the ton of 3-8-3 mixture is only 1,475 pounds. If we add $5 to the cost of the home-made equivalent, to cover incidentals, market variations, and the labor of mixing,—thus bringing it up to $38,—we find that there is still an extra charge of nearly 40 percent, and an extra weight of about 35 percent in the commercial mixture.

We realize fully that not all of our fertilizer supply can or should be secured from the above-named carriers alone, that many materials of lower grade and availability must be utilized in order to meet the total requirements and avoid prohibitive costs in the long run, and that this will naturally tend to increase the cost and average weight of the current plant-food supply. We do not believe, however, that it is necessary to anticipate these ultimate costs quite so fully just now, when everyone is expecting the farmer to be kind enough to lead off in the downward revision of prices. We feel that it is necessary and desirable that information concerning the form in which the plantfood is carried in any given lot of fertilizer, should be given to the men who are to increase our food supply.

It is evident, therefore, that there are only two possible means of escape from our present method of stumbling along in the dark so far as our fertilizer supply is concerned. One is for the farmers to get together, as in the potato section of Maine, and buy the simple, unmixed materials so far as possible, and then do the mixing themselves as desired. The other is to secure the necessary revision in our present fertilizer-control laws so as to insure that the prospective user of any ready-mixed fertilizer may know the form as well as the percentage of plant food that it carries, before it is purchased or used. Additional legislation giving some competent and conservative administrative body proper jurisdiction and control over unfair practices in general in the fertilizer trade, will also have to come before the situation is really made right.

Rape Is An Ideal Forage For Sheep and Swine

It may be possible for some of these improvements to be secured on a safe and effective basis, by the more progressive farmers and their organizations working on legislation within the various states. It is not likely, however, that any effective control over unfair practices in general, can be secured in this way, and it is also probable that the present objectionable lack of uniformity in the various state regulations would be increased by such an attempt. It seems, therefore, that the proper place to secure the needed improvements in the present, mixed-fertilizer situation is by the way of national legislation, which is wholly lacking at the present time.

This national legislation should not supersede nor interfere with present state legislation in any important way, but would probably bear about the same relation to state laws as the present national pure food law does to the state food laws.

In this connection, we trust that we shall be violating no confidence when we state that such national legislation has been definitely drawn up and presented for the consideration of the proper committees in the present Congress. The great need of some really effective legislation of this sort should be apparent to all. The prospective increase in the price of mixed fertilizers for use next spring in the face of a practically national demand for lower food prices, and over which increase the states have no control, should be sufficient in itself to prove the need.

This legislation, moreover, can undoubtedly be passed if the real, bona fide farmers of the country can be made to realize its significance and importance to them. Indirectly, also, it is of almost equal importance to everyone who is interested in logically reducing the cost of food. We do not know of any more valuable use that both of these classes of people could make of a portion of their time this winter, than by looking into the general situation here outlined, and then taking appropriate measures toward securing the necessary corrective action on the part of their representative or senators in Congress. In this connection also it should be remembered that individual efforts are likely to be much more effective, if they can be exerted thru some live and appropriate organization. If the farmers and consumers generally are really looking for an opportunity to do something that will tend to relieve the present conditions under which they are laboring, here is their chance.

WHAT THE MANUFACTURERS SAY

Production of Fertilizer Likely to be Short

There is at the present time an apparent shortage of fertilizers for the spring of 1920 due largely to the following reasons:

The strike in the phosphate rock mines in Florida for a considerable period of time this summer and early fall, was one of the most serious things that the fertilizer industry has had to contend with. Florida supplies the bulk of the phosphate rock used by manufacturers in the east, and the strike resulted in a complete tying up of practically all of the mines, and while the strike today is technically over, none of the mines are as yet producing full tonnage. During the strike the laborers scattered, most of them finding employment in the citrus fruit section, and many have not yet returned. As a result of the strike the operators have agreed to put the men on an eight hour basis, which means three shifts instead of two, and will require a fifty percent increase in the number of laborers. The mines are not located near large cities where they can draw on labor, but are located at out of the way places where it is necessary for the mine owners to supply the miners with houses in which to live. Before it will be possible to add the additional number of men, it becomes necessary to build houses, and this of course takes time.

On account of this shortage in production it has been necessary for manufacturers to buy hard rock, which formerly was only mined for export shipment, and use it in their production of acid phosphate, resulting in a very much higher cost.

The strike in the Spanish pyrites mines, and at the port of Huelva, Spain, has greatly curtailed the shipments of pyrites to this country, and has made it necessary for many manufacturers to go back to brimstone again, with the resultant high cost for their sulphuric acid. The reduced production has added to the cost of overhead charges per ton, and the cost of labor is considerably higher than it was when the armistice was signed.

These conditions have resulted in making the cost of acid phosphate considerably more than it was last Spring.

In connection with the raw materials for complete fertilizers, the manufacturers are considerably worried over the probable shortage in the supply of potash, which certainly will not be anything like sufficient to supply the demand that

is already evidenced from the orders that are being placed. The promises of shipments from Alsacian mines, as well as Germany, will not be carried out, due first to a strike in Alsace which lasted about ten weeks, and second, to a lack of fuel for use in concentrating potash salts; third, to inadequate transportation facilities. Manufacturers report that they are receiving again orders for brands containing 6-8-10 percent potash, but such brands cannot possibly be supplied this year.

The supply of sulphate of ammonia will be very greatly reduced because of the coal strike. This has resulted in an increased demand for nitrate of soda, and of course, as is always the case, the price has advanced considerably. Nitrate of soda is being offered today by the importers at a much higher price than it was purchased for three months ago.

The other ammoniates, such as tankage and cotton seed meal and fish, are extremely scarce, due, I think, more to the fact that a very large percentage of all of these articles is now going into food for cattle, which formerly was only used for fertilizer purposes.

There is no question but what the fertilizer manufacturers are today confronted with far more serious problems than with anything they had during the war, but every possible effort is being made to keep up the production to the highest possible point.

My own personal opinion is that there will be a considerable shortage in production thruout the eastern part of the United States for the spring, 1920, as compared with the spring, 1919, and because of the high price of cotton and other farm products, I do not believe there is any question but that the demand will be at least ten percent greater than it was last year. This is a most unfortunate situation coming at a time when the cost of living is terrific, and can only come down by increased production so that the supply will be equal to, or greater than the demand.

I have only recently returned from abroad, where I spent three months in England and on the Continent, and as a result of my investigation I find that there is a world shortage of Acid Phosphate, and that the situation over there is far more alarming than it is here, for they have practiced more intensive cultivation than we have, and are absolutely dependent upon the use of large quantities of fertilizer per acre. I am quite confident that the shortage in Europe, outside of Germany, Austria and the Balkan states, will be at least one million tons of acid phosphate for the year 1920.—W. D. Huntington, President National Fertilizer Association.

THE PURCHASE AND USE OF FERTILIZERS

When a manufacturer or business man begins any business, he realizes that in order to make that business successful he must be able to place his products, whatever they may be, before the consumer at a price no greater than other like products can be purchased. In other words, he must meet all competitors, both in quality and price; otherwise, he fails to make the necessary profit, hence his undertaking is not wholly a success.

One of the principal factors governing all business adventures is knowing the quality and value of all raw material that must be purchased in order to produce a finished product. That factor is just as important in farming as it is in any other business. When the farmer goes in the market to purchase plant food he should know what materials have the greatest value and be governed accordingly. He should not defer all knowledge and responsibility on the fertilizer manufacturer. It behooves us farmers to look out for ourselves. In order to do that we must have knowledge and exercise business ability when making our purchases, and not depend upon some other fellow to tell us what we ought to know ourselves.

Recently the writer has been looking into prices of fertilizer for the coming season and finds that all carriers of nitrogen in an organic form are exceedingly high. Dried blood, high-grade tankage and the like are costing $7.50 per unit. This means that each pound of actual plant food costs 37½ cents per pound. Nitrate of soda can be bought in car load lots not greatly exceeding $60 per ton. A pound of plant food contained in this carrier at $60 per ton will not exceed 20 cents per pound. Furthermore, the amount recovered by the crop is greater in the form of nitrate than in any other form. Experiments at various experiment stations have conclusively proven this point.

In many manufactured goods, but little if any nitrate is used as a source of nitrogen. Many farmers think, and have been taught to believe that because of the soluable nature of nitrate of soda it soon leaches out of the soil and is lost. This may occur where heavy applications are made at time of planting the seed, and when heavy rains follow.

Last season's experience, together with present market conditions and scarcity of organic forms of nitrogen carriers, is the cause for this article. The scarcity and high price of materials is a strong incentive to adulterate or use low grade material, and low grade goods are dear at any price.

The writer proposes, for the coming season, to use acid phosphate, 16 percent grade, 1600 pounds and 400 pounds nitrate of soda mixed together. This will give me 3½: 8½ fertilizer. Where potash is essential for full crop production I will use 1500 acid phosphate, 400 pounds nitrate and 100 pounds nitrate potash. This will give me a 3½: 12: 2½ mixture. Where a higher percentage of potash is desired it can be made by using 1400 pounds of acid phosphate; 700 of nitrate and 200 pounds muriate of potahs: The materials can be bought today for the first formula for $32. For the second formual for $38.50; and for the third, for $44.50. Let any reader of this article try to duplicate either of these formulas for the same money and see what he can do. Furthermore, you have the satisfaction of knowing there is no discount on the goods. It will show performance in the field. On quick growing truck crops a supplementory application of nitrate of soda during the growing season may be beneficial. I invariably use it on my market garden crops with paying results.—C. C. Hulsart.

Top Dressing Grass Fields With Manure or Fertilizer Pays

IS BORAX IN FERTILIZERS INJURIOUS?

Numerous cases where Southern farmers who use much fertilizer injured their crops by applying American potash either alone or in mixed fertilizers, were reported last year. This was due to the fact that much American potash contains borax in sufficient quantity to be harmful where large amounts of fertilizer are applied. This conditon has caused the United States Department of Agriculture to issue an order that all fertilizers containing more than one-tenth of one percent show on the bag or other package just how much borax is contained. This has a tendency to make fertilizer users afraid of American potash. For ordinary conditions however, this fear should not prevent most farmers who want some potash from using the American variety. This is due to the fact that most farmers do not make large applications of fertilizer. They seldom apply more than three hundred pounds to the acre and these or smaller amounts will not carry borax enough to do any harm.

It has been found that to do harm to crops ten pounds of borax per acre is required when applied with the wheat drill or broadcast. It would require one thousand pounds per acre of a fertilizer containing as much as one percent of borax, and one percent is very unusual. Where fertilizer is drilled in the row with a corn planter attachment there is a little more danger from borax since it only takes two pounds of borax per acre to be harmful in that case. This would require two-hundred pounds of fertilizer containing one percent borax, and it is unsafe to apply more than one hundred pounds of any fertilizer in the corn row, for the reason, that heavy applications in the corn row do no good when hot dry weather comes on. Harm may even result from firing or other causes. General farmers need have little fear of American potash.—Missouri Agr'l Circular.

TILING OBSERVATIONS

The laying of underdrainage of any kind is a pretty serious business. I have had quite a bit of it done and have been around a good bit of it that other farmers have had done. I see so many places where men have been careless or have tried to save money and have thereby lost 10 times what they saved that I want to urge more care.

My farm needed tile and this spring I put in 9,000 of 4 inch and 5 inch tile. I feel that the things I saw other places saved me a good deal of money. When the ditchers first started work I was on the job all the time watching the making of joints and so on. My outlet was in a 15-inch main tile and all the 4-inch ones were tapped into that.

I have seen a good line of tile run to an outlet and stop there. No hole was cut thru the main tile at all. Some water probably soaked thru the joints in time, but the efficiency of the tile was probably 5 percent. I know where a ditcher this spring was putting a string thru that ran 160 rods and he struck a stone. Instead of digging back and going around the stone he just laid the tile over it and went on. The tile were 3 or 4 inches higher there than in the rest of the ditch.

I see that it pays to make some sort of a protection for the end of the tiles when they open into an open ditch. Cattle tramping along the edge of the ditch and the natural wearing down of the banks will often fill the end of a tile and so cut off its outlet. One of the best ways I have seen to cure this is to use a piece of iron pipe 4 or 5 feet long at the end of the ditch. This will hold up to place and can stick out far enough to prevent these troubles. Cementing the end of the tile is a good thing. A form built around the outlet of the tile and cemented so the tile is at right angles to the face of it seems to be a good way to get at this filling-up trouble.

A gate or strainer of some sort over the end of a tile that is cemented will keep muskrats and the like from filling a tile up. These animals will make a great deal of trouble if there is a chance—and they usually find the chance.

Old ditchers tell me that it is wise to have the outlet of a tile empty into the main ditch on a slant. They draw better and the pressure of the water in the main ditch is not so apt to force the tile's water back. All in all it will pay one to use every care in putting in tile. There is no way that one can sink money must faster and leave it sunk than in putting in tile the wrong way. There is no better farm investment than tiles if put in carefully and well. It may be a busy time but every farmer ought to be close to the job. Watch every joint and if everything is all right you will know it. If it isn't you will also know it and can stop operations. It won't pay to put in any tile wrong. Better leave them on top of the ground.—Earl Rogers, Ohio.

The Digestible Nutrients and Fertilizing Constituents in feeds and feeding stuffs have been carefully determined and these results may be secured in published form and should be in the library of every farmer. Live stock manure if properly handled should contain on the average more than 80 percent of all the fertilizing elements, nitrogen, phosphorus and potassium, found in the feed. This fertility may be returned to the land.

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Our Job is to serve our readers. Whenever and wherever we can help you, write us.—The Editors.

The Automobile Show

THOSE who are contemplating the purchase of an automobile, or even if only interested in making comparisons and studying new designs and mechanical appliances, should not fail to attend the annual automobile show which will be held in Philadelphia, at the Commercial Museum Building, 34th Street below Spruce, from January 10 to 17. The Truck Show will be held the next week at the same place. This is expected to be the largest and most representative display ever seen in Philadelphia. There will be displayed 71 different makes of automobiles, and in addition 30 different accessory firms will display the latest and best in automobile equipment.

Government Goods

FARMERS have been under the impression that only the residents of cities had an opportunity to purchase surplus army goods. This, however, is not the case. Arrangements have been perfected by means of which it is possible for people anywhere to receive any kind of goods for sale, and they are many, by parcels post. Immense stocks of almost everything produced for the army are for sale at low prices, cost of transportation prepaid. Some of the articles in which farmers might be especially interested are: Harness, spades, blankets, stable blankets, buckets, woolen underclothing, stockings, shoes, gloves, rubber boots, raincoats, storm hats, etc. In food lines they have canned beans, tomatoes, corned beef, sausage, etc.

Full information as to goods and prices may be obtained by addressing, Maj. Charles E. Jones, Surplus Supply Officer, 21st and Oregon Avenue, Philadelphia, Pa.

Where Will the Loss Be?

IT IS interesting and amusing to note the wail of sympathy expressed by most of the newspapers concerning the immense "loss" which will result from the enforcement of the prohibitory law. Items have been added until a total of one billion three hundred million dollars has been reached, and the plaintive cry goes up that there should be a respite in the dry period so that the stocks of liquor could be disposed of and the nation would not lose all this money. While certain individuals may fail to realize their expectations of two years ago, we do not see how the nation will be the loser. Does a man lose the money he transfers from one pocket to another? Is it lost for 100,000,000 people to keep their money in their purses instead of turning it over to a few thousand? Is it lost if it is spent for bread instead of booze? Is it lost if it is spent in homes and business instead of being paid out as taxes to support almshouses, jails and penitentiaries? All this newspaper twaddle is either "inspired" by money, or else the editors are hopelessly ignorant of what the real public sentiment is.

Do You Boom Your County?

WE believe our readers will be interested in reading Mr. Hulsart's article beginning on first page in which he shows the wealth and productiveness of Monmouth, his home county. We have another article which will appear later in which the writer shows his county to be the leading dairy county and the leading county in the production of purebred cattle. Such articles have their chief value in increasing the respect and pride of the home people in their county and in their business. It has been charged that farmers are, as a class, lacking in this form of patriotism; that they are inclined to feel that any other place is more desirable because it has more advantages, and that their calling is the meanest and least profitable of all.

We hope that others will be lead by the reading of the articles mentioned to look at their home county and their own community and see if they cannot find in them something to be proud of. If not, see if there are not some natural advantages that might be developed by intelligent effort. Every community which becomes known for the production of some product in quantity puts itself "on the map" and, as Emerson would say, "the world will wear a path to its door." It takes intelligence, application and cooperation to do this, and this last element is what is especially lacking in many places. May we not have more Monmouth Counties?

Mistaken Economy

SOME years ago it was a common belief among dairymen that corn meal was injurious to a dairy cow; that it tended to produce fat instead of milk, and that she should be fed larger amounts of protein feed instead. While this belief is no longer common, the same affects are secured by the man who thinks he cannot afford to feed corn at present prices and that he can dispense with it and feed concentrates alone more economically. This is a mistaken notion. Even when silage rich in corn is fed, experiments have conclusively proven that it pays to add a generous amount of corn meal or its equivalent to the ration. The cow can profitably use a larger amount of protein feed if the proper proportion of carbohydrates is maintained. Without the latter in proper amounts, the proteins are thrown out after a limited amount is assimilated. Taken all things into consideration corn, even at the present prices, is as cheap as any other element in the ration.

What of the Farm Bureau?

THE reports from many of the agricultural states would indicate that a greater development and use of the farm bureau is being made than is the case in some of the Middle Atlantic States. The present movement to federate the bureaus into a national organization, made up of state organizations, seems to be gaining in momentum, except in these latter states. New York State, however, has a live state organization and was one of the 33 officially represented at the late meeting in Chicago for national federation. The question we are interested in is, what are the other Middle Atlantic States going to do about it?

It is not our purpose here to argue either for or against federation, but we would like to see the farmers of these states exhibit a more active and intelligent interest in the matter. Are the farm bureaus as now organized and conducted meeting the greatest needs of the farmers? If not, Why? These are the questions which the Middle West farmers asked. They answered the first question in the negative, hunted for an answer to the second, then set out to find a remedy. The remedy proposed is a full organization of the farmers of the counties and the determination to have the full control of the farm bureau activities in the hands of farmers, even to the direction of the county agent's work and the addition of cooperative business enterprises.

We believe the time has come for a full and free discussion of this matter here in the east. It is not fully performing his duty as a farmer for a man to oppose the farm bureau system upon the grounds of prejudice, nor yet to acquiesce in an unintelligent, half-hearted manner. The movement is costing too much money to ignore, or even to continue if it is falling short of its possibilities. If there are organic changes in the system necessary, the farmers have it within their power to have them made. We have little sympathy, however, with that opposition which is based wholly upon prejudice or jealousy. Let the discussion of the subject be conducted with intelligence and with the desire to reach the best possible conclusion. Criticism of the original purpose is not enough. Since the law exists and is likely to continue the question for the intelligent farmer is, how can the farm bureaus be conducted so as to best serve the interests of agriculture?

Rural Schools

WE were glad to have our sentiments as expressed in a short editorial two weeks ago seconded by the article, "Who is Responsible" which appeared last week. It is high time the people would "speak out in meeting" on some of the vital subjects affecting country life. They who assume to speak for farmers should be sure of their ground and endeavor to fairly represent the people of this great calling, or else the people should select other representatives. Many of our leaders need to use the tugs of their harness more and the breeching less. Without any question it is education—education in its broadest sense—that is more needed by people of all classes to make the most of their lives, and the present situation clearly proves that the little red school house and its equipment are inadequate for the job. We have little sympathy with that kind of "reform" which displays itself in destructive criticism alone.

The new Superintendent of Public Instruction in Pennsylvania, has appointed a deputy whose entire efforts will be directed towarda the improvement of rural educational advantages. This man has made a success of this line of work and his efforts here should at least have the good wishes and support of country people and their organizations. The road of progress is all the way up hill and the load needs pullers instead of pullbacks.

Governmental Limitations

IT IS plain enough that if none of us ever did anything, or produced anything, we would all be naked, homeless and starved. Until we get to work and produce something there is not much to govern, unless it be to form a sort of mutual defense society to prevent the stronger from killing and eating the weaker. So the fundamental fact of government is work. "If any would not work, neither should he eat." We must not get the idea that any kind of government man can devise will make it unnecessary for him to work. And just now, when there is a shortage of almost everything that human beings need, due to the great waste of the war, the governments of the world are right in their conception that anything that will cause the people as a whole to produce more goods will be to the benefit of the people as a whole.

What is needed is a spring of human endeavor other than the law of selfishness, a motive that has the interests of others more in view than one's own interests, which, however, should not be neglected. The present governments of earth are far better than none at all; and we all do well to think about their activities in constructive fashion, considering what they can reasonably do in the interests of the people as a whole without at the same time becoming intolerable nuisances by inefficiently and expensively doing what private enterprise can do better, and by attempting to decide for us just how we shall think on questions in which they are interested. The more the people expect the Government to do for them the less efficient they will become.

In our grandfathers' day people were more interested in local government than in state and national affairs. They were anxious to do their part at home. The attitude is reversed in these times and citizens neglect home government and have great expectations as to what paternalism can do for them. It is time to hark back and revive the individual purpose and determination which characterized our sturdy ancestors.

HARRISBURG LETTER

Cooperative Units. — From what people connected with various branches of the state government say, more steps to organize cooperative associations for purchase or sale of commodities have been taken the last six months than known in years and the early appearance of severe weather has apparently stimulated interest in such formations. In any event, reports have come here of numerous meetings to organize associations among farmers and rural dwellers and the coming of spring may see the start of a movement which will do much toward that stabilization of prices. Over a dozen charters have been put on record by associations formed for cooperative buying and selling, or stores, in what might be called rural counties, one significant feature being the number of such units formed by men of foreign birth living in the same communities. The State Bureau of Markets which has been giving attention to the problems attending cooperative associations is now engaged in making a survey so that people will be given the benefit of such advice or information as the state may possess. One curious end to the matter is that the benefits of the act of 1919 relative to cooperative agricultural organizations are not known to many folks.

Cold Weather Reported.—Rural reports to the Department of Agriculture indicate that there is severely cold weather all over the state and that streams are frozen in every direction, some of them as deeply as in the very cold winter of 1917-18. However, the general belief is that wheat and stock were both in excellent condition at the start of the really cold weather and that a return to "old fashioned" conditions will not do harm. The weather has interfered to a certain extent with the attendance at farmers institutes and in other activities.

Rates Going Up.—It is probable that some proceedings will be taken before the Public Service Commission to question the advances in rates of a number of electric and telephone companies operating in rural districts which have lately advanced rates for the second or third time. Inquiries have come here which indicate that consumers are getting together to make community fights against the changes and by the time the railroads come back to state control it is likely that some interesting proceedings may be launched that would head off a disposition to boost schedules again.

To Buy More Toll Gates.—The State Highway Department has negotiations under way for a dozen more turnpikes, in which purchases the counties will join. The mileage bought last year was greater than ever known in a year and state and counties had to meet heavy bills for improvements, Bucks County spending over $35,000 and York and Lancaster large sums.

Development of Alfalfa.—The figures issued by the State Department of Agriculture on alfalfa raising are impressive as ten years ago there was not 10,000 tons raised. The figures for 1919 show 176,773 tons from 62,-214 acres. Cheste Crounty leads with almost 7,000 tons with Berks and Northampton also raising much. An interesting study would be the spurt taken in the last three years.

Oleo Record Goes.—The record for issuance of oleomargerine licenses has been broken all to pieces. For the third time in as many years the marks have gone up and in 1919 there were 5710 licenses issued, yielding more than $550,000.

The Dog License Code.—The test of the state dog license code is going to come this year. It is estimated that close to 400,000 dogs were licensed in 1919 and there has been sharp criticism of the way the law has been enforced, altho over 75,000 were killed because of lack of owners or neglect of owners. The state authorities are calling upon counties to enforce the law and the counties are claiming that the state is not doing all it could. The truth is that enforcement will be just what the people of the county want it to be and that a valuable code is in danger of being revamped by the next legislature.—Hamilton. Harrisburg, January 5, 1920.

NEW YORK LETTER

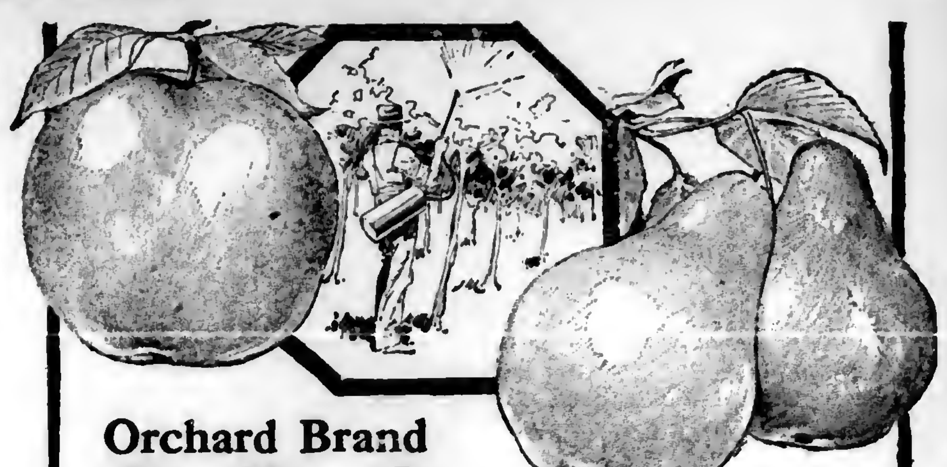
Teacher Problem.—At the annual meeting of 500 principals of high schools of the state last week Dr. Eli Mayer, economist of Albany, recommended a minimum salary of $1600 per year for the teachers of the state. This would double the present wage. Last summer the salaries were raised $100 per year in rural schools and proportionately in the higher sohcols. This has had, as yet, little or no effect in making the profession more popular as it is not enough so but that untrained workers at almost any work today can earn more. There was a great deal of feeling exhibited over present conditions at the meeting. A salary sufficient to keep teachers contented with their work and to make it an inducement for young people to take the necessary training is absolutely essential, if the present standard of schools is to be raised or even maintained as a large share of teachers have gone outside the profession to seek better opportunities. The people of this state are coming to see that radical changes in our educational system are necessary.

To Humanize Prisons.—The Gray Brotherhood, an organization of reformed ex-convicts, is starting a movement to humanize the prisons of the country. There are 18,000 members, and they aim to get a plank in the platform of one of the big political parties in the next presidential campaign to be devoted to prison reform. They claim that of the 500,000 convicts, men and women who annually emerge from American prisons fully 90 percent are potential Bolshevists. The present methods they claim, are breeding anarchists and our state prisons are being flooded with "Red" literature. It is known they say, that recently four "Reds" had themselves convicted so they could work behind the bars. The present crime wave is attributed to bad prison policy in Chicago and elsewhere, and our state would be suffering equally from it were it not for the efforts of Thomas Mott Osborne who did much for our prisons, and who during the war, returned 10,000 former convicts, with "made over" characters back into the navy, enough to arm three battleships. He was then in charge of the naval prison in Portsmouth, N. H. where conditions had been very bad.

Politics and Agriculture.—Rural indignation runs high over the recommendation of George Gordon Battle, a Tammany investigator of the high cost of living specially appointed by the Governor. He urges that Commissioner of Agriculture Charles S. Wilson and Commissioner of Foods and Markets Dr. Eugene H. Porter, be removed from office, and that the two offices be filled by appointment by the governor. Profiteering of distributors remains unattacked while the farmers' interests as directed by these men are to be made a political football. The power of removal his with the State Council of Farms and aMrkets which has exhibited considerable political tendencies. Farmers are anxiously wondering if the Council will dare to act on the recommendation, or if the Legislature will dare to approve this and other policies recommended by the report. It would seem that with the policies recommended by this commission and the fair price milk commission that farmers interests are soon to be stirred to the foundations, for good or bad. Farmers are adopting a "sit tight" policy all over the state as regards food production the coming year, due to these activities and the lack of farm labor.

CROPS OF NATION ONLY FAIR

There is little in the crop situation this year to indicate that any sharp reduction in the price of food is to be expected. According to the U. S. Bureau of Crop Estimates, the yield per acre of all crops of the country combined is below the average of the last ten years by a fraction of one percent. In New York and other northeastern states down to southern Pennsylvania and Ohio crops yielded a little better than usual. The same was true in the group of states west of the Mississippi, from northern Iowa and Nebraska south to Texas and Arizona. Oklahoma has been particularly fortunate, for good rains there caused the crops to be 40 percent better than usual.



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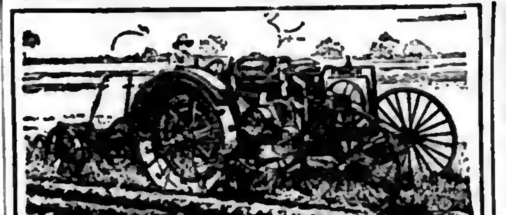

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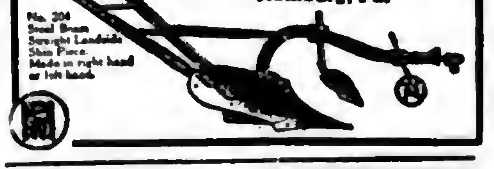

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Waverly, N. Y.

TI-O-GA FEED SERVICE

DAIRY

KEEPING TAB ON THE COW

People are doing a good deal more in recent years to determine the production of individual cows aside from cow-testing associations. The results of the whole herd are interesting and valuable, and are comparatively easy to determine. Every farmer ought to ascertain what his herd is doing. To determine the production of individual cows requires more attention. It is necessary to weigh the milk of each cow one, two or three days each month, and make some computations. It may be better still to weigh the milk of each cow at every milking and keep a record. In a number of cases men are hired for this work, to the extent of weighing and recording one day each month, providing there are twenty-five other farmers in the vicinity who are willing to share in the work and expense. This forms a cow-testing association. It has its advantages and its disadvantages. The payment of a fair sum for one day each month for the year is not a large sum. Were that the only expense it would be comparatively easy to form associations. The other expenses include carrying the man each month to the next member of the association—not a serious matter—and the boarding of the man while at the farm. This last is in many cases the most serious feature of the whole affair on many farms. Were it not for this item there would be more associations formed. Under these circumstances, many farmers are inclined to weigh, and record there own weights about three days each month and from these records make up their own statistics. This has the advantage of keeping the dairyman more closely in touch with his own affairs than where some one else is employed to make the records. It has the disadvantage of allowing the work to be neglected whenever it is inconvenient to do it.

Whatever the method, the results are interesting. Results of individual cow records are not so different however from those of herd records. Take, for example, two herds the average production of one of which was 3.034 pounds of milk, and the other 5,520 pounds. The range in the first case was from a little under two thousand pounds up to nearly four thousand. None of these were really good producers. The failure to produce better may very probably be due to improper feeding, but the herd average indicates the value of the cows as producers almost as well as the individual records, the other herd ranges from four thousand to seven thousand. It would hardly be wise to say that any of these cows are to be regarded as unprofitable especially as the lowest producer is a two-year-old. In this case the heifer producing about four thousand pounds was shortly discarded. This was all right enough if the dairyman had enough better producers or could readily procure them. These cows were unquestionably well-fed, and their feeding is as well indicated by the herd average as by the individual records. In this I am by no means trying to depreciate the value of individual records. Every dairyman ought to have them. In the absence of them he should get his herd average, at least. Unfortunately a great many dairy farmers never do even this much. Indeed it is the exception where such determinations are made. There is ample opportunity for any amount of missionary work in this particular line. The man who is even thinking of making individual records is not the one who most needs attention, but the one who has never inquired into the conduct of his herd from any point of view needs jogging. I am surprised at the number of dairymen who get their statements from the creamery with the check and never take the statement home, to say nothing of ever figuring out the average for the year. Unquestionably the number who do make computations is increasing as is the number who make individual records in one way or another. The agitation of the past two or three years has set a lot of dairy farmers to thinking and to making figures, but it is not satisfactory until everyone does something at it. I have little patience with those who say the farmer knows nothing about his cows unless he has his figures and a full set of them, for he does know commonly, but he is a lot better off if he keeps some records.

"Financial Satin Noble"

I saw the records of three young cows recently. At two years, the best one produced nearly 5900 pounds of milk. The next year she gave 7400 pounds and the third year about 7650 pounds. There is no criticism on this cow, unless one can get a better one which is doubtful. The second heifer gave for the three years 5000 pounds, 5700 pounds, and 5900 pounds respectively. This too was a good record. The third produced 3950 and 5475 for the first two years and was then sold for beef. I was unable to determine whether this heifer was sold because she did not produce well or for some other reason, but it was assumed that production was the reason for disposal. If this be true, she should not have been sold, especially as the fat was 166 pounds and 230 pounds respectively. If the owner could replace this heifer with a better one it was his privilege to do it, and a good thing for him. So long as there are so many cows in the country that are producing under three thousand pounds of milk, and four thousand to five thousand pound cows are so hard to get, a young cow of so much promise ought not to be sacrificed in the way here indicated unless there was some other reason for doing so. The man who can do better work is fortunate, but some man who is far below should have the advantage of a cow so good as this one appears to have been.

Now just see how this works out in the market milk district. Weigh the milk of every cow on the fifth, fifteenth and twenty-fifth of every month. Add these three items together and annex a cipher and you have practically the correct amount of milk for the month. Make a permanent record of this and you readily get the year's total at the end of the year. An occasional test of the milk is also desirable so as to keep tabs on the poorer testers. If the breeding and development are good, the lower testers are likely to be the better producers in pounds and not uncommonly are quite profitable cows where only forty cents a pound is paid for fat, as in the shipping territory. Now add to the above procedure, membership in a cow-testing association, if there is one and you are situated to accommodate the man. This will give you a test of the milk readily. But keep up your own records of at least one or two or three days a month, irrespective of the tester's records. It will give you a closer contact than if you only take the tester's figures.

NATIONAL DAIRY SHOW CHAMPION LEADS IN BUTTER FAT PRODUCTION

Imp. Prospect's Rose des Houards 89003, owned by W. W. Marsh, Waterloo, Iowa, has completed a year's record in Class GG of 13157.8 pounds of milk and 726.85 pounds of butter fat, which exceeds by 38 pounds of butter fat the former double letter record of junior two-year-olds. This is truly a remarkable accomplishment to be added to her 1919 National Dairy Show honors, where she was made senior and grand champion female of the Guernsey breed.

Imp. Prospect's Rose des Houards 89003, was bred by Sir Everard A. Hambro, England, imported in dam, and was dropped September 7, 1916. She was exhibited in the 1918 show season and won first prizes at the Iowa and Minnesota State Fairs, and at the Dairy Cattle Congress in Waterloo, Iowa. She was exhibited again at the National Dairy Show in 1919, and won her championship honors the day on which she completed her Advanced Register test.

The young man who gets married nowadays must have either lots of money or lots of nerve.

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The cows that make the big milk records are well fed and well bred, to be sure. But, above all, they are in the pink of condition. The constant strain of heavy milk production will wear down the vitality of the digestive and genital organs of the best of cows, and the result is such ailments as Abortion, Retained Afterbirth, Barrenness, Scouring, Bunches and Milk Fever. Any of these diseases can be successfully treated and eliminated with KOW-KURE, the great cow medicine. The medicinal properties of this famous remedy act directly on the organs of production and reproduction, putting the cow's system back to normal, healthy action. A decided increase in the milk yield is sure to follow. Feed dealers and druggists sell KOW-KURE; 60c and $1.20 packages.

Consider cow-health first, and your dairy will be a leader, and a money-maker. Our free treatise, "THE HOME COW DOCTOR," will give you valuable pointers on how to treat and prevent cow diseases. Ask for your copy.

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Fertilizer is highly concentrated. It is many times richer than manure. It must be applied properly. When planting by hand, the fertilizer should be well covered by the soil or thoroughly mixed with it, before the seed is dropped.

If applied by machine select one that mixes the fertilizer with the soil thoroughly. Some corn planters have a special attachment for mixing the fertilizer with the soil. If you have one, be sure to attach it.

If fertilizer is applied broadcast, sow it evenly. Fertilizer should not be applied to grass or grain that is moist. Apply around, and not on, other plants.

—Advt.

HORTICULTURE

VARIETIES OF APPLES AND PEARS

"Editor Pennsylvania Farmer:

"I would like to have you discuss the Wealthy, Grimes Golden and Hubbardston apples for home use and local markets. Stating their date of ripening, when in their prime, and the kind of soil they are adapted to.

I also wish to plant the following varieties of pears, and I wish you to point out in the following list those that will prove profitable in Southern York County: Bartlett, Kieffer, Garber, LeConte, Seckle and Worden Seckle." A. S. F., Manchester, Pa.

This letter was referred to Prof. H. A. Surface, Mechanicsburg, Pa., for reply and discussion.

Reply:—The Wealthy apple is one of the very best summer apples that can be grown in your region. I have found it one of the most desirable and profitable. The color is red, striped to dark red, quality excellent, juicy, mildly sub-acid, ripening during a long period—from the middle of July to the the last of August, keeping well, and standing shipping in a satisfactory manner. The trees bear when very young, and produce regular heavy crops. As they ripen before the fall apples they are especially desirable. The fruit keeps fairly well, but the purpose of the grower should be to put it on the market at once and clear the way for Smokehouse or Summer Rambo. The Wealthy is especially desirable to plant as a filler, or where a quickly bearing, temporary tree is wanted to occupy the ground between permanents. It will do well in any well-drained loose soil.

The Grimes, also called Grimes' Golden, and Golden Pippin, is one of the highest possible quality that can be grown in your region. It can be called a late fall or early winter variety. There should be three pickings of it, commencing about the middle of September. It reaches its best in November, and is the best possible variety for the Thanksgiving trade. The fruit is uniformly light- golden yellow, sometimes slightly pink, with straight or nearly parallel sides, crisp, spicy, mildly sub-acid, tender, juicy—excellent. The fruit is produced mostly in the interior of the tree, and the inner twigs should not be clipped out, altho the tree should be pruned by the open-head system. It is not a very young bearer, and if allowed to over-bear will be an every-other-year tree. It does not keep long in open storage and should not be kept longer in cold storage than for the holiday trade. It is best to sell and use the Grimes in its normal season of the late fall and early winter, and keep others, like Stayman, for real winter use. The trees want good deep soil, either limestone, alluvium, or loose shale or shale loam soil.

The Hubbardston is a good red apple of fair size, red to yellowish and carmine in color, mild to sweetish sub-acid dropping early in your latitude, and not keeping as well as northward. It is generally said to be a little later, both in time of ripening and date of use than the Grimes, but in your region they will come nearly together. They are so nearly together that either will take the season and place of the other, and I recommend the Grimes in preference, with Stayman as the main planting for winter use and local markets.

Of the varieties of pears mentioned above the Bartlett is by far the best commercial variety. The grower will find that he can sell ten bushels of Bartlett pears to one of any of the other kinds. The consumers nearly all know and call for the Bartlett. We have to book orders months ahead, and all that is necessary is to let customers know when they are ripe and they will be after them.

The Kieffer is better than no pear, and may be good if picked when it commences to ripen and laid away in the darkness to mature slowly. The LeConte is not much better than Kieffer, and is planted chiefly as a pollenizer for the Kieffer. Garber is not of highest quality, and Bosoc and Lawrence should be planted in its place. The latter is an excellent late pear. The Worden Seckle is an improved Seckle, a little larger than the old Seckle, and is one that should be planted in every orchard. You will probably never get enough of them to meet all demands, as the trees do not bear heavily when young and the small pears do not fill the measure as fast as do Bartletts. Pin your faith to Anjou for early, Bartlett for mid-season Clairgeau for just a little later, Lawrence for later, and Nells for latest.—H. A. S.

Scene on the Farm of Thomas Davis, "Celery King" of Central Penna.

EXTRA EARLY CABBAGE PLANTS

The cabbage seed for next spring's crop has been planted. In fact the plants are already four or five inches high and they are being transplanted to their winter quarters which consists of cold frames and wooden doors about the size of sash. The plants are set with the aid of a dibble in rows three inches apart and about an inch apart in the row. The essential thing to remember is that the plants must be set deeply, that is just so the heart of the plant is above the surface. In this way the freezing does not split the stem of the plant.

The wooden "sash" are raised four feet high on the southern end and supported by a stick during clear mild weather and they are lowered during cold spells. Plants handled in this way can be set in the field during March in the latitude of Philadelphia and the heads will be extremely early. However, it must be remember that seed of the Wakefield varieties is adapted to this treatment, while Copenhagen market early cabbage must not be sowed until after New Years. Otherwise it may bolt to seed without forming a head.—R. W. DeBaun.

THE AMATEUR GARDNER

Oh, once I knew a gardner,
A back-lot gardner he,
Who sought to stop the famine
In the lands beyond the sea.

You'd have thought he was a mason
When you heard the fellow howl
That he couldn't plant tomatoes
'Cause he hadn't any trowel!

The egg-plant wouldn't grow at all,
Because he kept no chickens;
The troubles that this gardner had,
It really beat the dickens.

And sweet corn was forbidden,
For it has too many ears
Which may hear his secrets hidden,
And betray him, so he fears.

Rutabagas wouldn't root for him,
For he no pig would keep.
Potatoes could not use their eyes—
The onions made them weep.

The artichoked the pigweed
Till it squealed with all its might:
The oyster plant was in the soup
From morning until night.

The sunflower got a franchise
To light the garden streets,
So that giddy Miss Bell Pepper
Cantalope with Sugar Beets.

The cow-peas chewed the ragweed,
And horseradish had the colic;
The cauliflower made the bread,
But flavored it with garlic.

The gardner paused to wipe his brow
And wet his parching lips;
He said "I'll quit and keep a cow;
Henceforth I'll raise cowslips."
—Wm. A. Libby, Clarion, Pa.

LUCY REVOLTS

My heart's inclined to lilting verse,
My soul to love,
My mind's inclined to think on things
Like stars above.

Avaunt thee, skillets, pots and pans,
Stay dirty, rugs;
I must indulge this flair of mine,
Else I'll go bugs.
—Kansas Industrialist.

When the Manure Supply Runs Out

IT'S the same old story—there is never enough manure to go round. Every year the supply runs out before all the fields are covered.

Supplement manure with fertilizer and make the manure go farther. You can cover more ground and get better results. Manure is good, but is not wellbalanced in plantfood. By supplementing it with proper fertilizer you make a balanced ration for any crop you wish to grow.

Fertilizer supplies in available form the additional plantfoods which must be brought to the farm. Use it with manure and increase your profits.

Write to day for our booklet, *"More Plantfood for More Corn"*. You should have a copy of this helpful little book; also one of our Automatic Formula Finders, which will help you to select the right fertilizer for each crop. Both are free for the asking.

"High Analysis" Fertilizer for Corn

One of These Will Fit the Conditions on Your Farm

The figures represent percentages of ammonia, available phosphoric acid and potash, in the order given:

For sandy and loamy soils, and all worn soils, especially where the manure supply is short—

2-10-6 or **2-10-4** or **2-12-2**

For use on clay loams or other soils which contain plenty of potash—

2-12-0

For use where the soil has plenty of available ammonia; where plenty of manure is used; where legumes are plowed under—

0-10-8 or **0-12-4** or **0-12-2** or **0-16-0**

SOIL IMPROVEMENT COMMITTEE
of the National Fertilizer Association

CHICAGO
1717 Lumber Exchange Building

BALTIMORE
1017 Stock Exchange Building

WHICH DO YOU WANT?

Clover, Alfalfa, Peanuts, Soy Beans, Cow Peas and all other legume crops require very large amounts of sulphur, which according to recent Agricultural Station experiments, and experience of successful farmers, is best and most economically supplied with

Agricultural Gypsum

By increasing legume growth Gypsum increases the nitrogen supplied to crops. Increases of several hundred percent in tonnage yield of Clover and Alfalfa are not unusual when AGRICULTURAL GYPSUM is used. ***Your local building supply dealer can furnish you Agricultural Gypsum.*** We will be glad to send you FREE, complete information regarding the various uses of Gypsum and its value as a soil builder.

A Gypsum Test Strip on Your Fields Will Show Its Worth in Legume Yields

GYPSUM INDUSTRIES ASSOCIATION
Dept. 5 —111 W. Monroe Street, Chicago

This illustration is an exact copy from Bulletin No. 163 of the Oregon Agricultural Experiment Station showing difference in yield of two plots of ground of equal size. Figure No. 1 shows alfalfa yield where soil was not treated. Figure No. 2 shows yield where Gypsum was applied.

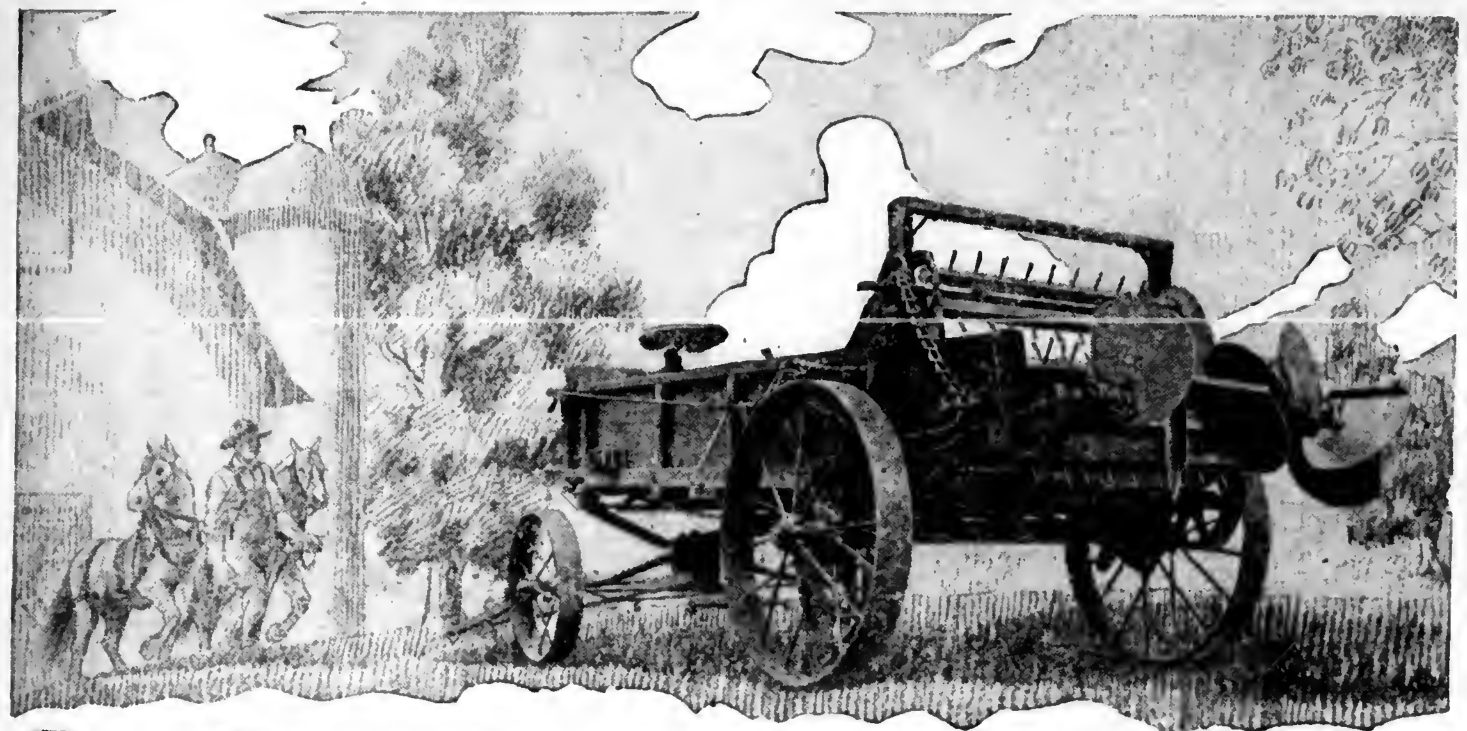
SOW SALZER'S SEEDS

Man's oldest occupation is agriculture. No other pursuit, however important in its way, can take foremost position from the producers of food. You take pride in saying, "I am a farmer". So do we. On our farms, we raise improved stock seeds and conduct thorough, practical soil tests. By every method known to the science of seed growing, we maintain our established position as

America's Headquarters for Field Seeds

Send TODAY for a copy of our 1920 general catalog—168 pages, profusely illustrated—98 plates showing 275 Salzer varieties in full color. A postcard will bring it to you—FREE.

JOHN A. SALZER SEED COMPANY, Box 562, La Crosse, Wis.



Safeguarding Your Prosperity

ALWAYS remember:- Your soil is your farm. As you look out over your broad acres, bear in mind that your measure of farm prosperity is dictated by those few inches of fertile soil-depth that feed your animals and bear your crops.

Your soil is your farm—and if this soil could talk to you, the first word of its cry would be "FOOD!" Regular feeding of nature's greatest soil food—manure.

Are you efficiently safeguarding your prosperity? Do you fully appreciate that this greatest soil-sustainer is a perishable product--and that unless it is spread evenly and uniformly, it cannot possibly do its best work for you?

NEW IDEA Registered U.S. Pat. Off. The Original Wide Spreading Spreader (Known as the NISCO in the West)

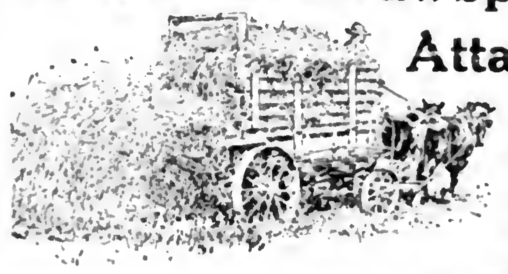
Why not decide—right now to put an end to soil starvation on your farm for all time? Decide today to start spreading regularly—with the New Idea, the choice of big-crop farmers everywhere—the perfected product of the inventors who first discovered the successful method of applying manure in a thin, uniform blanket—the product of an organization that has specialized for 20 years and has a chain of service branches throughout America.

The tremendous resources of this spreader specializing organization, its modern factories and great annual output make possible greater spreader value for your money and guarantee an absolutely dependable spare parts service.

Your soil is your farm! Play fair with it—by spreading all of your stable manure direct to your fields the year around. And play fair with yourself—by selecting the *genuine New Idea*—the simplest, strongest and best spreader that money can buy.

See your New Idea dealer today. And write for our famous book "Feeding The Farm" packed with fertilizing facts of inestimable value to the farmer.

NEW IDEA Straw Spreading Attachment



Why buy a separate straw spreader when you can have both a manure and straw spreader in one?

This simple attachment--for old machines or new--allows you to handle a big load of straw, shredding it finely and spreading it evenly eight to ten feet wide. Only a few moment's time required to attach it. Simple, light and compact, it takes up little space when not in use. Let your New Idea Dealer show you.

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Coldwater, Ohio
"Spreader Specialists"
We have Branch Offices in the following cities:-
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PEORIA, ILL.
SYRACUSE, N. Y.
COLUMBUS, OHIO
KANSAS CITY, MO.
JACKSON, MICH.
WATERLOO, IOWA
ST. LOUIS, MO.

PROPER SIZE OF ONION SETS

The size of the onion set has a direct effect upon the size and quality of the onion produced from that set. While setting onions last spring I decided that I wanted to test out the relative value of the different sized sets. Therefore I sorted out four groups of sets and had each set in every group just as uniform as possible.

The very large sets were about ⅝ of an inch in diameter. They started very quickly in the spring and the tops were very vigorous at all times. Seed stalks were very numerous so that they had to be "seeded" several times. Many of the onions had double hearts and the crop was small rough thick-necked and undesirable.

The medium large sets were ½ inch in diameter. They started quickly and grew very nicely. There were quite a few seed stalks so that it was necessary to pinch them out a couple of times. The yield was very good and the crop was ready to harvest just as early as the crop from the very largest sets.

The medium small sets were ⅜ of an inch in diameter. They produced the most excellent results so far as quality and size was concerned. However, they were a few days later in maturing than the crop from larger sets. Very few seed stalks started in the crop growing from medium small sets and there were no thicknecks at harvest time.

The very small sets were ¼ inch or less in diameter. They started very slowly and made a weak growth. No seed stalks developed and the onions were very good in quality, but extremely small.

The results obtained in this little test will be responsible for a little change of policy in growing future crops of onions from sets. Real large sets will be hustled off to the pickle factories and I don't care what happens to the real tiny sets. No one likes to set them anyway. Last spring the setters would continue to plant the largest sets in their pans until nothing but the tiniest sets remained. It was tedious and slow work to bother with the little sets. I didn't want them wasted so I had to tell the setters to be sure to use them because they made the largest onions. Next spring if the setters bury a handful of tiny sets in a hole made by a heel print, I will not dig them up and scold the offender. The medium sized sets are by far the most desirable.—R. W. DeBaun.

NICOTINE SULPHATE CHECKS LEAFHOPPERS

The apple leafhopper, a destructive insect that occurs in nearly every state of the union, may be materially checked by a single spraying with 40 percent nicotine sulphate in the proportion of one to 1,500, combined with soap, according to the Bureau of Entomology of the United States Department of Agriculture. The solution should be applied against the first-brood nymphs. The same treatment made three or four weeks earlier is effective against the rose leafhopper, tho this species is seldom injurious enough to justify a special application.

The apple leafhopper causes serious injury to apple nursery stock by extracting the plant juices from the terminal leaves. As a consequence the leaves gradually become undersized and fail to function normally, hereby retarding the growth of the trees.

PASSING EVENTS IN PICTURES

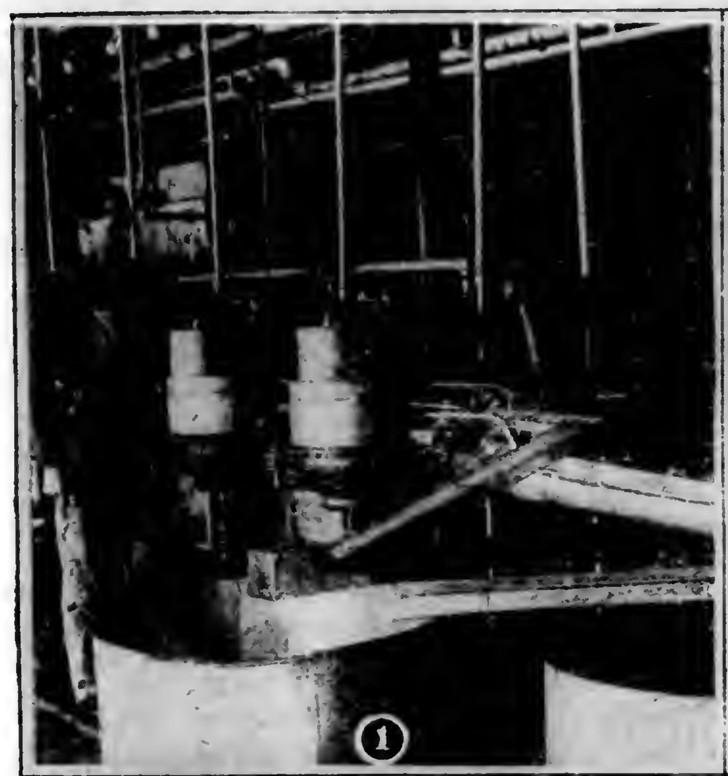


Photo. Copyright by Underwood & Underwood.

1.—Large Power Cream Separators. Separating Cream For Butter Making in a Modern Creamery.

2.—Packing Butter for City Markets in Creamery at Delhi, N. Y.

3.—This Elk's Mother Was Killed and the Young One Raised by Hand and Trained As a Horse.

4. What a Gray Heartless World This Would be Without Children.

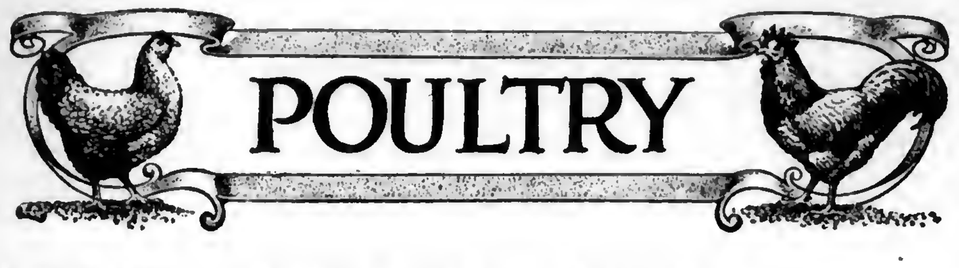
5. W. A. A. C's and Ex Munition Girls Learning Cookery in a Trade School to be Ready For Other "Auxiliary" Work.

6. Between Children and Animals There Is a Natural Affinity Which Should Be Recognized.

7. Part of the Roosevelt Collection in the Smithsonian Institution, Washington, D. C.

8. Performing an Operation on a Bird at "Mr. Dooley's Bird Hospital," New York City.

9. Harry Lauder, Famous Singer, (at Right) Just Trimmed the Big Man, a Chief of Police, at Golf.



POULTRY

ARTIFICIAL ILLUMINATION OF POULTRY HOUSES

A few years ago if anyone spoke about the lighting of poultry houses to increase egg production he was ridiculed. Even today if one discusses this lighting proposition outside of an up-to-date poultry section there is always some one who will remark, "You think you can fool the hen, do you?"

Briefly, these artificial lights are used to lengthen the days so that the birds may feed over a longer period of time than otherwise. Experience has shown that one of the reasons chickens do not lay more eggs in the winter time is because, during the short days of fall and winter, the average hen consumes only enough food to supply her bodily needs. Now, if we are to get a heavy yield of eggs when eggs are high, something must be done to get the birds to eat more food than just enough to keep her alive and supply body heat and the very best way to do this is to supply some form of light so that the bird can see to feed for a longer period of time each day, and thereby consume more food, which in turn will be converted into eggs, if it be of the right kind. It should be plainly understood from this explanation that the lights are only a helping agent and have no direct effect on the birds whatever, except to furnish them light so that they may see to feed. It can by no means be called forcing.

The lighting of chicken houses is coming into such general practice in up-to-date poultry sections that when one travels thru such a section as Vineland at night, did he not know the lights were those in chicken houses, he might believe he were in a big city. The good results these lights are giving are common with all who are using them. I have not heard of a single case where bad results could be traced to the use of lights. There is nothing but praise for them from all sides.

As a rule the lights are started about the middle of October and continued until about the middle of March. The time of starting the light each day and evening will depend on the season of the year. At this time, the middle of December, the lights are turned on at 4 A. M. until daylight and again at 4.30 to 5 P. M. until about 6 to 6.30 P. M., the idea being to allow the birds about 14 hours of light. It is very necessary to have the hours of light regular, as there is a possibility of the hens going into a moult just as they would from any other quick change.

It seems easier to get the hen to work and feed when the lights are turned on in the morning than at night, and therefore if the hens show an inclination to go on the roosts in the evening, even tho the lights are turned on ,it is advisable to start the lights earlier in the morning, the idea being to get them to feed the full 14 hours.

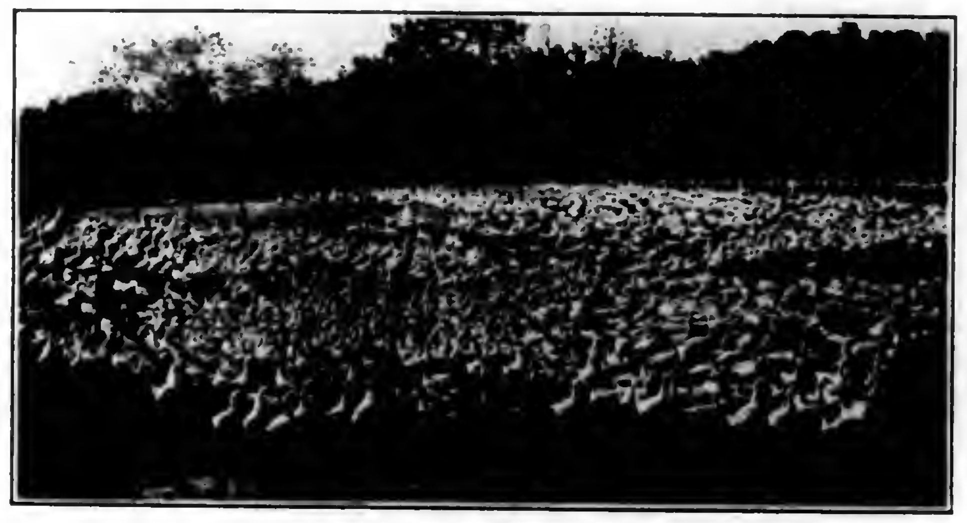
Much of the success in the use of lights will depend on the way the hens are fed. The time and methods used in feeding are just as important as the right kind of feed, tho this may be said where no lights are used. The feed and methods of feeding as recommended by our experiment station are being used by many poultry men with good results. It consists of the following:

Scratch grain (Parts by weight) Cracked or whole corn, 1; wheat, 1; oats, 1.

Mash (Parts by weight) Wheat bran, 1; wheat middlings, 1; corn meal, 1; ground oats (heavy) 1; meat or fish scrap (high grade), 1.

The mash is fed dry in the regular hoppers and should be before the birds at all times. A wet mash of the same ingredients may be fed before going to roost or during the middle of the day. Only enough should be given so that they will clean it up in a half hour; otherwise, they will soon get sick of it if left before them longer.

The scratch grain should be fed at least 3 times daily and in very cold and disagreeable weather may be fed 4 times, 10 or 12 pounds per hundred birds—the larger amount during cold weather.



Duck Yard of H. J. Huey, Vineland, N. J.

Care should be taken to feed only a small amount of the scratch grain morning and noon, otherwise they will fill up on this material and not consume sufficient mash. In the end, the time of feeding of the grain is entirely up to the judgment of the feeder; two essentials should be kept in mind; first, to feed it so the birds get a maximum amount of exercise; secondly, that they get sufficient to last them thru the night.

The results from the lights will show in a very few days; the following are the results from a house containing 225 birds (Pullet year) at Woodbine, N. J.

Lights started October 25, 1919 —Production 15 eggs:

November 1, production 33 eggs.

November 10, production 94 eggs.

November 20, production 125 eggs.

December 1, production 132 eggs.

These birds are far better looking and more vigorous after this production than similar birds without lights and not half the production to their credit. There are many birds which would lay heavily without lights, but these are the exception and they often lay at the expense of their bodies. The lights are of greatest benefit to the average hen and, needless to say, help to keep the heavy layer in better condition. It is safe to say the returns from hens fed where lights are used show at least three times the net returns over the others.

Much is to be learned concerning the use of lights on breeding stock. The New Jersey Experiment Station is carrying on experiments along this line and the results will be of great value to poultrymen everywhere. The general opinion is that they will be beneficial where early hatching is desired because of the better condition of the fowls due to their getting all the feed they need for bodily purposes and then enough extra for egg production.

No one would believe how quickly a hen will go thru its moulting period, when given illumination, unless he actually observes it. Whether this is good practice or not is still to be learned. There can be no possible doubt as to the value of lights when used with pullets or hens when they are thru their moult.

The cost of installing the lighting system in this poultry plant was as follows:

Cost of engine, generator and batteries, $450.00.

Cost of wiring house, 3 houses, 16 x50, $75.00.

Cost of lights per house per night, 5 cents.

These houses are wired with a 3 wire system which permits the dimming of the lights to form an artificial twilight so that the hens go to roost, otherwise, where the two wire system is used, it is necessary to enter and light the lights several times to get the hens to go to roost. Each house has 4 40 watt bulbs.

No charge has been made for depreciation, but this would be more than made up, due to the use of this same lighting system for the dwelling.

Gasoline and kerosine lamps may also be used for furnishing lights and will give just as satisfactory results as electricity. Of course, it is needless to say, the up-to-date farm lighting systems are most convenient.—Sylvan D. Einstein.

POULTRY WILL KEEP BETTER IF UNDRAWN

Undrawn poultry, contrary to the general impression, keeps better in cold storage and while passing thru trade channels than does drawn poultry.

Careful observations of a large number of shipments of both drawn and undrawn poultry, made under commercial conditions, showed that the undrawn poultry reached the consumer with fewer bacteria and with less chemical change in composition than the drawn poultry. The shipments were accompanied by the scientists from the time the poultry was killed, while en route on trains, and until placed in the cold-storage warehouses, and after being taken out of cold storage were followed while being handled by the wholesalers, commission men, and the retail dealers. Recording thermometers accompanied the shipments thru their entire course and the varying temperatures to which the shipments were subjected were recorded.

Much Drawn Poultry Spoiled

Samples were taken from the shipments at the time the poultry was killed, at the time it entered cold storage, at intervals while in storage, at the time they reached the commission men, again when the shipments reached the retailers, and finally when sold to the ultimate consumer. Bacteriological examination and chemical analyses were made of all the samples taken at the various stages. Changes as they developed were noted and studied. Comparisons were made of the samples taken from the undrawn poultry with samples taken from the drawn poultry. It was found that bacteriological and chemical indications of deterioration developed much quicker in the drawn poultry, and as the shipments progressed thru the various steps of commercial handling, the difference in the signs of deterioration became more marked. By the time the shipments reached the consumer, much of the drawn poultry was unfit for food.

Contamination From Handling

The experiments revealed that the drawing of poultry as practiced commercially always resulted in the bird becoming contaminated with bacteria which caused spoilage These bacteria multiply rapidly, and while their growth is checked by cold storage it is not entirely stopped. If it were practicable to draw poultry with the same precautions to avoid contamination that a surgeon uses in performing an operation—that is, with the use of sterile instruments and rubber gloves and under strictly scientific sanitary conditions, so that there would be no bacterial contamination in the process of drawing—the drawn poultry would be preferable to the undrawn. However, it is not practicable under ordinary commercial conditions to prevent some bacterial contamination in the drawing of poultry. To produce this result a trained bacteriologist and highly skilled workmen would be required in every poultry-killing establishment. The cost of such a process would be prohibitive.

It is the opinion of the specialists, therefore, that under usual commercial conditions undrawn poultry will keep much better than drawn poultry. The experiments upon which this conclusion is based were conducted several years ago, but continued observation of thousands of shipments of poultry under ordinary commercial conditions since then has served only to strengthen the opinion of the specialists who made the original experiments.

MOVING COLONY HOUSES

The chances of a low mortality rate with poultry are increased if the colony houses are moved to clean ground. It cuts down the danger from gapes which is a disease prevalent on contaminated soil. The new soil is more apt to grow an abundance of the tender green feed which poultry need. The old soil where the colony houses have been located contains much fertility which can be profitably used in the growing of crops. The soil will be sweetened and improved and in a couple years the colony houses can be brought back to their old location without risking the health of the poultry raised there.

Easily moved colony houses are a time saver. Small houses built on skids can be hauled with one horse. There is no necessity of jacking em up or loading them on a stone at. Larger houses are often built th hubs so wheels can be placed the sides and they can be moved ickly. Colony houses without ids or hubs must be laboriously aced on a stone boat or skidded long the ground early in the spring hen it is still frozen. Sliding the ouse on the ground is a hard strain n the building which soon shows in se paper on the sides, doors which o not fit and floors which become veak.

The colony house is a part of the oultry equipment which should give nany years of service. They will ast almost indefinitely if they are moved carefull and built strongly. We used to think that colony houses could be built of scrap material and put together quickly. But we now believe that they should be built of strong matched lumber with the roofing paper held on with strips. They must be substantial and be kept constantly in repair if they are to give the best service.—K.

A Vigorous B. P. Rock—Well Marked

AN IDEAL POULTRY LEG BAND

Many poultrymen and farmers use colored or numbered leg bands whereby poultry records of various kinds are kept.

Recently celluloid, pyralin or some similar material has been tried for leg bands with excellent results. They are to be had in all colors and are made in the shape of a key ring, easily fitted on the chicken's leg.

It cannot rust, and never cuts nor chafes the leg.

Many dealers in poultry supplies report that these new bands are becoming popular with the trade.

POULTRY NOTES

Hens being saved for breeders need roomy quarters during the winter—light, airy, but not breezy. Fowls need plenty of air, but not in rapid motion.

Concrete makes a good floor for the henhouses. No rat, skunk, weasel or 'possum is going to go thru it. It is a good plan to make the foundation walls to a height of four or five feet also of concrete.

Chickens need some salt in their food in winter. In summer green grass furnishes salt. Highly salted food, like pickled pork or salt fish, is fatal to fowls. Feed salt by salting the warm mash "to taste."—Strickler.

Take very good care of the pullets which are just beginning to lay.

More Dollars From Fewer Acres

No. 38

Why be content with meager profits when you may have more? Why stand by and let production costs crowd the profit out of farming? Use a Moline Manure Spreader to increase the fertility of your land and the greater yield will mean "More Dollars From Fewer Acres" without any increase in production costs.

MOLINE WIDE SPREAD MANURE SPREADERS

Lowdown, light running, and spread the manure, thoroughly pulverized, over a wide spread. Excellent work is assured through the use of a second beater which cuts and tears the manure, casting it well to each side. High grade materials, expert workmanship and the most modern design combine to make Moline Wide Spread Manure Spreaders the most satisfactory machines to use in building up the soil.

Now is the time to see your Moline Dealer about getting a Moline Spreader or write us for full information.

Moline Plow Co., Moline, Ill.

Nearest Branches at Poughkeepsie, N.Y. and Baltimore, Md.

The Moline line of Wide Spread Manure Spreaders includes three styles, each particularly well adapted for the work for which it is intended. Moline Wide Spreader No. 38 is built with 38-inch beater for use with two horses. It is a very handy machine and one that can be handled conveniently in tight places.

Where a larger machine is desired there is the Moline No. 50 Spreader built with 50-inch beater and fitted with three-horse eveners. Small farmers and truck gardeners will find the third style very satisfactory. This is known as the Moline Wagon Box Spreader and is built in standard 38-inch width for use with two horses.

No. 50

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Plows (steel and chilled)
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Cultivators
Grain Drills
Lime Sowers
Mowers
Hay Rakes
Hay Loaders
Hay Stackers
Grain Binders
Corn Binders
Pitless Scales
Spreaders
Wagons
Moline-Universal Tractors
Stephens Salient Six Automobiles

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Prices $18.50 to $23.50
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Perfect Automatic Regulation

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Any coal burning outfit can be converted into an Oil Heated Hover by introducing the Liberty Marvel Burner. Price $10.50.
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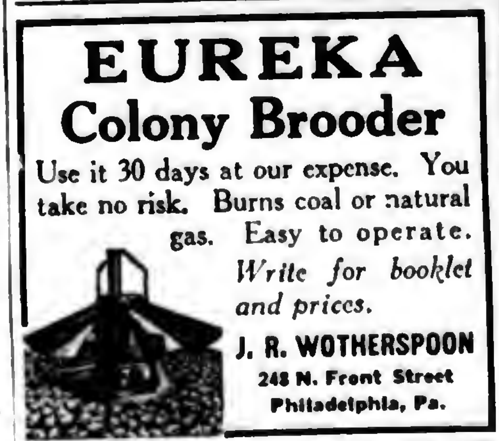

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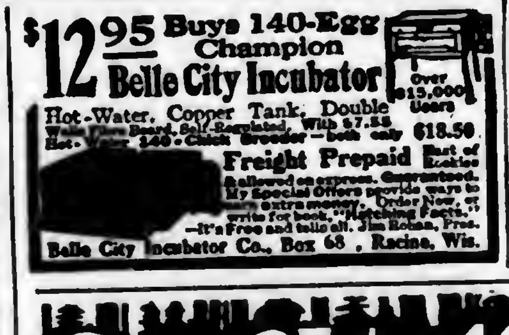

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At a Cost of 1½c Per Cord!
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FREE Write at once for Special Offer and Low Factory Direct Price. Get our offer.
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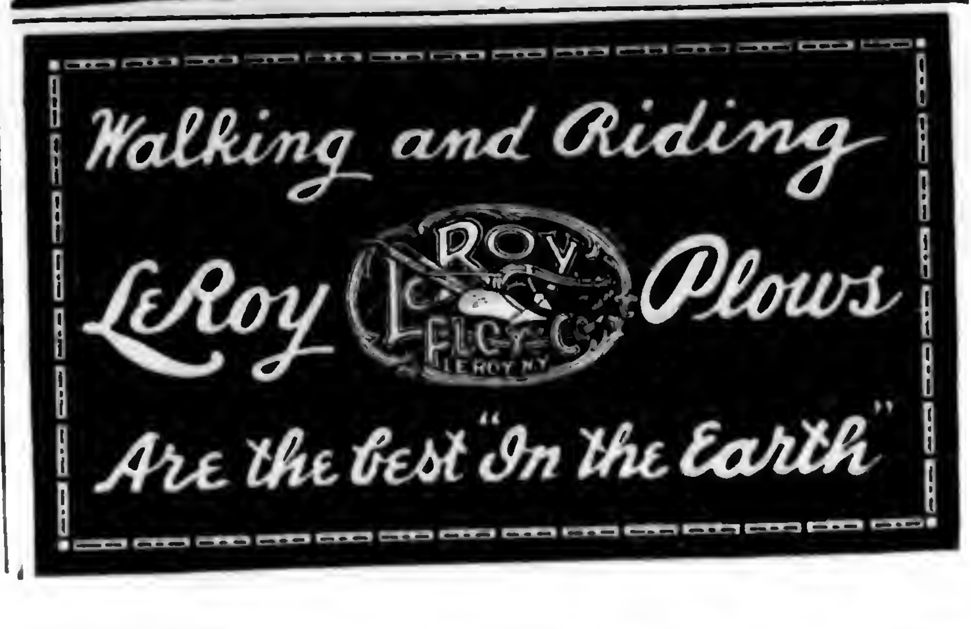

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This book tells you how to plant, fertilize, cultivate, irrigate and market the crop successfully. Every important vegetable is covered in a separate chapter. A valuable "Planting and Reference" table will aid you when ordering your spring supplies. Whether you grow vegetables for the canning factory or the market you will find this book helpful. If you tell us the acreage of vegetables you raise your copy will be mailed free. Write today for this book, "BETTER VEGETABLE GROWING."

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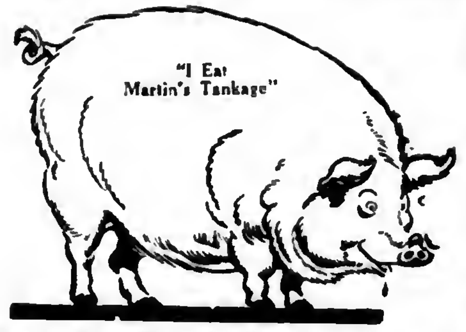

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DOES IT PAY TO FEED YOUNG STOCK?

Were I to quote my own experience, my answer would be in the affirmative: Yes, by all means; a question that I had decided long since I became a breeder and feeder.

My business experience in the packing and butchering line has shown me conclusively that, whether livestock is sold cheap or high, whether corn is selling at 25 cents a bushel, or at two dollars, the only way out is to feed.

Since I became a breeder, I have adopted the slogan "Breed, Feed and Weed." Early maturity, at whatever cost, is the best policy for the breeder to adopt; whether he is raising beef cattle, dairy cattle, hogs or sheep—it matters not.

Shorthorn and Grade Heifers

If it takes a certain amount of grain to grow an animal to a certain weight, the only course for the breeder to follow, is to feed that amount, as speedily as is consistnt, in order that the desired results may be attained.

During my 25 years' experience as a buyer of live stock I have come in contact with different breeders and feeders, and all conditions in the live stock business. I have bought yearlings of indifferent breeds of one neighbor for as much as I have paid another neighbor for his two-year-olds. I have bought spring pigs that weighed two hundred pounds at a certain time, when I have, at the same time, bought fall pigs weighing the same amount; showing conclusively that he who fed judiciously, was not only the gainer in pounds, but in time as well.

It is true that someone will say it is not possible for a young animal to get away with more than a certain amount of feed. We take it for granted that this is true, but many do not use that certain amount.

Only recently, I ran across an experience where two neighbors in Indiana bought a carload of Western Herford calves, 42 head, in the fall of 1918. The one marketed his calves in September, 1919, at an average weight of 890 pounds at $17 a hundred, or $151.30 per head, a total of $3177.30. The other fed his, as he supposed he was doing, and shipped them to the Cleveland market December 15th; they sold at an average weight of 650 pounds, at $11.50 a hundred, $74.75 per head—a total of $1569.75. The latter claimed that his cattle had access to grain every day, since he got them; but the other neighbors who made his cattle weigh 890 pounds got five and a half cents a pound more for them, and marketed his cattle two months earlier; and he surely fed judiciously. The proof of the pudding was in the sale of the cattle; one fed rightly, and the other fed "at it."

Right here at home we have the same experiences. The Frontier Farms last week sold 15 heifers and steers, Shorthorn yearlings, at an average weight of 910 pounds, at a price of 21¼, average of $193.38 per head, or a total of $2900.70; showing judicious handling and feeding. These cattle were not nearly two-year-olds, as yearlings are usually called, but did not average over a year of age.

Our own experience has shown that in our line, the feeding of a beef animal can be pushed so that they will gain from two and a half to three pounds a day, and can be made to weigh a thousand pounds or better at a year old.

We recently marketed a purebred Shorthorn steer at 14 months old, at a weight of 1085 pounds, at 20 cents per pound, which we bought from a neighbor breeder at $25 as a calf four weeks old.—From a paper read by Morris Schaffner, Erie, Pa.; President of Erie Co. Breeders' Assn.

LICE ON HOGS ARE COSTLY

Lice on hogs are extremely expensive. The fact was proved in experiments recently concluded by the Bureau of Animal Industry of the United States Department of Agriculture. It was shown that lousy hogs not only consume more food and make less meat, but that they are uneasy or restless, a condition that doubtless lessens the pork-producing abilities of the animals. When not eating, the lice-ridden swine spent most of their time rubbing themselves or running around. If strangers came near they were noticeably excited. This did not hold true of the hogs free from lice.

Three experiments, each extending three months or more and with from twenty to thirty hogs as subjects, were conducted. In one experiment it cost exactly $1 a hundred pounds of pork more to feed the hogs with lice than it did to feed the clean animals. In another, it cost $1.50 more, and in the third, $2.94 more. The specialists who conducted the experiments reached the conclusion that the main reason why hogs with lice consume more protein feed is due to the fact that the lice suck the blood from the animals, and the latter must use more feed to replace their losses.

But the lice-ridden hogs can not make up the blood sucked by their parasites. For instance, at the beginning of one experiment, 15 hogs with lice weighed a total of 1,167 pounds, and 15 hogs without lice weighed 1,025 pounds. At the end of the experiment the lousy hogs weighed 2,872 pounds, and the clean hogs weighed 3,150 pounds, altho the total feed consumed by the clean hogs weighed only 203 pounds more than that eaten by the animals with lice.

LEGUME HAYS GOOD FEED FOR BROOD SOWS

That clover and alfalfa hay are beneficial in rations for wintering brood sows is proven. When fed for this purpose, the alfalfa or clover hay is placed in wooden racks low down on the ground so that the animals may secure it easily.

Both clover and alfalfa have given satisfactory results when fed with corn to brood sows. The hay takes the place of a part of the more expensive grain ration, the common method being to give the animals a rather light ration of corn and plenty of hay and a little tankage. If no hay is fed, a somewhat larger amount of grain will be needed.

Brood sows on corn alone usually produce pigs on lighter weight and smaller bones, while those receiving hay and some tankage, as a supplement to the corn, produce strong, vigorous pigs with plenty of vitality One satisfactory ration tried consisted of corn, 14 parts, tankage, one part, and what clover hay the animals cared for.—Ohio. Exp. Station.

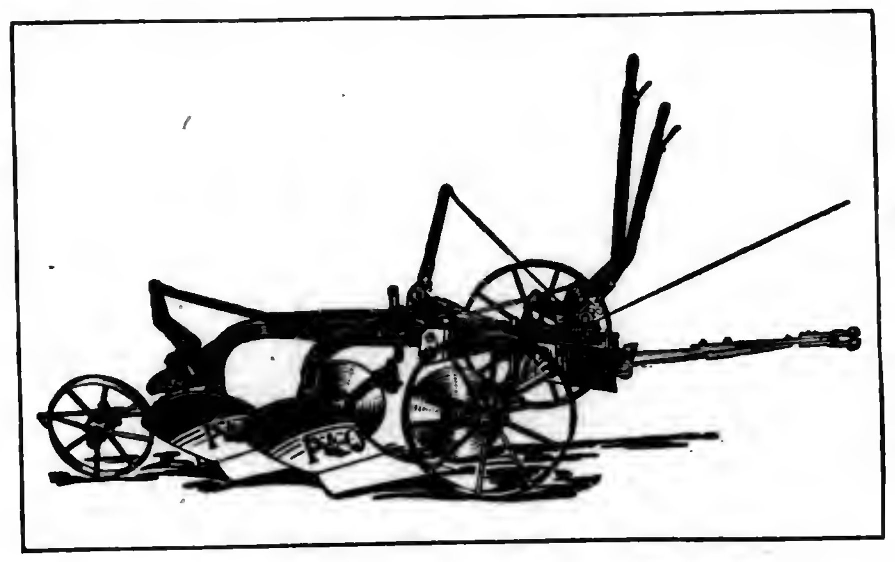
FREE HOG CHOLERA SERUM DISCONTINUED

The Bureau of Animal Industry of Pennsylvania makes the following regulations governing sale, distribution and use of anti-hog cholera serum and hog cholera virus in the state, effective January 1st, 1920:

1.—The sale or distribution, within this Commonwealth, of any anti-hog cholera serum, or hog cholera virus, is prohibited excepting upon specific permission in writing so to do from the Pennsylvania Bureau of Animal Industry.

2.—No person shall inject into, or otherwise administer to, swine, any hog cholera virus without first obtaining a specific permit, in writing, for the use of such product from the Pennsylvana Bureau of Animal Industry.

3.—No person shall inject into, or otherwise administer to, swine, within this Commonwealth, any anti hog cholera serum or hog cholera virus unless such serum or virus has been sold or distributed under a permit issued by the Pennsylvania Bureau of Animal Industry as provided in paragraph one of these regulations.—T. E. Munce, Director, Bureau Animal Industry.



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Call on the International dealer and have him explain the merits of the P&O Little Genius. P&O tractor plows are also made with disks. Write for catalog.

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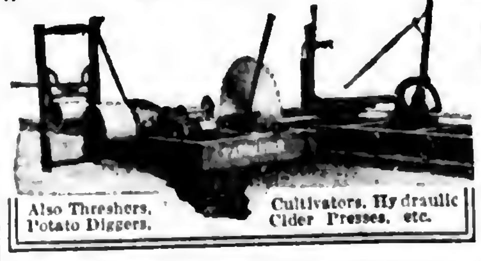
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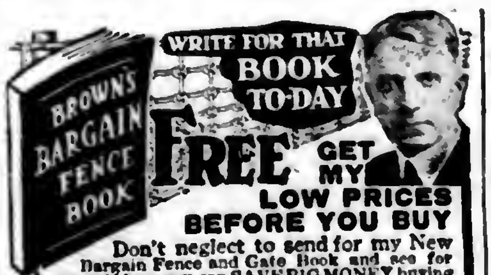

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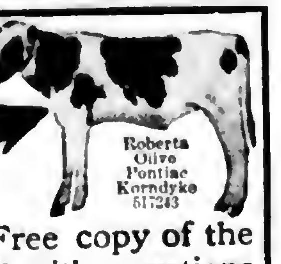

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WHEN GAME IS IN SEASON

How to Prepare it for Eating

For several weeks now thru the hunting and trapping season we on the farms may have an abundance of game to help out our meat supply. No matter how you cook it, it is good, but your family's delight in it will be brightened by serving it in some of these combinations:

Woodcock.—Serve with spaghetti and lettuce dressed with French dressing.

Quail.—Serve on toast or fried hominy or mush, accompanied by lettuce and French dressing.

Pheasant.—Broil or roast them the same as for young chicken, and serve with horseradish sauce for relish, and French-fried sweet potatoes, celery and bread. Half a cup of red currant jelly added to the gravy gives the bird a piquant flavor.

Wild Duck.—Serve it with cranberry sauce, macaroni and baked onions.

Fried Rabbit and Onions

Cut the rabbit into joints and soak in salt water until the blood is removed. Peel and slice 2 pounds onions, and fry in good lard until nicely browned. Then put the onions and rabbit in a saucepan, and stew until the meat is tender; season to taste and serve on squares of toast.

Stewed Rabbit

Joint the rabbit and soak to remove the blood. Put it in a kettle with some small pieces of salt pork, add hot water and salt and cook until the meat is tender. Make gravy of the liquid, pour it over the rabbit and serve immediately.

Rabbit Pie

Prepare the rabbit as for stewing, cook until tender, then remove the bones. Line a baking dish with biscuit dough, put in the rabbit meat with a few slices of bacon, lay on a top crust and bake in a moderate oven for about 30 minutes. Be sure to make a small hole in the crust for the steam to escape.

Jellied Rabbit

Boil the rabbit until the meat will fall from the bones, and let it stand in the water over night. In the morning chop it fine, season with pepper and salt, and press in a mold until firm. Slice and serve cold.

Squirrels

Squirrels may be cooked in any way that you would cook a rabbit. Our favorite way is to stew until nearly done, then roll in cornmeal and fry in deep fat.

Opossum

Skin, singe and wash the opossum inside and out. Fill with black walnut stuffing, sew up the slit and lay in a roasting pan. Add 1 chopped onion, 1 pint boiling water, 1 teaspoon salt and a little pepper. Roast for three hours, basting frequently. Serve with stewed cabbage, apple sauce and corn bread. Opossum is better if allowed to hang several days before using, provided the weather is cold.

Black Walnut Stuffing.—Peel one pound potatoes and boil until tender, drain and sprinkle with one teaspoon salt, shake over the fire until dry, then put thru a potato ricer. Add ¼ teaspoon pepper, 1 tablespoon butter (melted), 2 tablespoons cream, and ½ pint chopped black walnut meats. Mix thoroly.

Roast Opossum and Sweet Poatotes

Chill the 'possum thoroly after skinning and dressing. Save all the inside fat, and let the meat stand in cold salt water until ready for use. Rinse it well, then partly try out the fat. Leave the animal whole unless it is very large. Skewer it flat, lay skin side up in a pan, and bake in a hot oven until tender, being careful not to burn it. Peel some sweet potatoes and roast in the same pan with the 'possum, and lay them around the 'possum when serving. Make a gravy with this fat in the pan, seasoning it with salt, pepper and a little mustard.

Home Electric Outfit Makes Ironing Easy

Venison Steak

At the last moment before ready to serve your dinner broil the steak quickly, put on a heated platter, dust with salt and pepper, and serve with red or black currant jelly. If you let a venison steak stand any time after it is broiled it becomes dense and unpalatable. French fried sweet potatoes and celery go pretty well with it.

Venison Cutlets

Clean and trim slices of venison cut from the loin. Sprinkle with salt and pepper, brush over with melted butter and roll in soft bread crumbs, place in a broiler and broil 5 minutes.

Leg of Venison.—Prepare and cook the same as you would a leg of lamb, allowing less time so that it may be cooked rare, at which stage it is best.

Preparing and Cooking Muskrat

The flesh of the muskrat is dark red in color, but fine-grained and tender. Unfavorable opinions as to its flavor arise probably from lack of skill or carelessness in skinning the animal. Carefully and properly prepared, it is very appetizing, and will be enjoyed by most people.

Fried Muskrat

Wash the muskrat thoroly and cut into quarters. Let lie in salt water an hour or more, then wash, dry with a cloth, and season with salt and pepper. Dip the pieces into beaten egg diluted with water, roll in fine cornmeal, and fry slowly in fat in a frying pan for about an hour. Make a gravy by adding flour and milk to the fat left in the pan, season with salt and pepper, and add 1 teaspoon chopped parsley just before you pour the gravy over the meat.

Stewed Muskrat

Wash thoroly, cut into pieces and let lie in salt water for an hour. Then wash again, put in saucepan, season with salt, pepper and bacon fat. Let simmer slowly, and when nearly cooked, add 1 tablespoon chopped parsley, 2 tablespoons chopped onion. When entirely cooked, make a gravy with flour and the liquid in the saucepan, seasoning it to taste. Pour the gravy over the muskrat, and serve on a platter garnished with triangles of toast or fried bread and little sprigs of parsley.—Mrs. F. W. Stillman, Union Co., N. J.

GETTING THE MOST FROM FUEL

Rules For All Kinds of Heaters

1.—Be sure to have a check draft damper in the smoke-pipe besides the turn damper. Open it to check the fire. Close it to make the fire burn more rapidly. Experiment with it in the daily regulation of your fire. Make it do its work. The coaling door was not put on the furnace to check the draft.

2.—The turn damper should fit the smoke pipe loosely, and should never be entirely closed. With the average plant it may be kept partly closed most of the time in mild weather, but during severe weather it usually needs to be opened wide.

3.—Use the lift or slide damper in the coaling door only to let air into the firepot to consume the gases after fresh fuel has been added, especially if you are using soft coal.

4.—Have just enough draft, and that thru the ashpit door. This will let in oxygen enough to maintain proper combustion and to consume the gases that form while the coal is burning. This consumption of the gases before they pass up chimney contributes to the heat, and thus saves fuel. Do not open the whole ashpit door to make the fire burn more rapidly, but only the damper in the ashpit door. Opening the whole ashpit door supplies air faster than is needed for combustion, and the air is heated and passes up chimney, and is so much heat wasted.

5.—All heater pipes in the cellar should be wrapped with asbestos to conserve the heat as it passes thru them.

6.—Grates should be cared for properly. A short, quick stroke of the handle will sift the ashes thru the grates. And be sure to leave the grates in flat position when thru shaking. Clean the ashpit daily to prevent piling up off the ashes so that the grates will get over-heated. This makes them give out a great deal too soon. In severe weather grates should be shaken until a glow shows thru on the top of the ashes. In moderate weather a bed of ashes should be carried on the grates to prevent the fire from burning too rapidly and thus wasting the heat.

7.—Do not poke or slice the fire-bed. It causes draft holes and clinkers.

8.—Never shake a low fire until you have put on fresh coal and given it time to get on fire. Disturb your fire as little as possible. A thin fire wastes coal. Have a good body of fuel in the firepot rather than keep putting on a little at a time.

9.—Storm windows and weather-strips save heat.

10.—Keep the temperature of the living-rooms at 68 degrees or thereabout. Of course if there are old people or very little children, it will likely be necessary to have it a little warmer. Rooms where you do not sit are more comfortable if cooler, providing the air is kept a little moist. Keep a good thermometer hanging inside where you can look at it readily to see how the temperature is running.

11.—It is wasteful to let the temperature drop way down at night, for it takes twice as much coal to bring the heat up in the morning. Have living rooms kept comfortably warm, but open the windows of your sleeping rooms. Turn off heat in unused rooms.

12.—If you have hot-water radiators, and want to turn off the heat from them, make some thick slip-over covers for them, which will prevent them from freezing on severe nights.

13.—Always keep pans of water on radiators or near registers to keep the air sufficiently moist.

For Hot-Air Furnaces

1.—Provide cold-air return pipes from the first floor to insure good circulation of the warm air from all the rooms to the air heating chamber of the furnace. And regulate the window of the cold-air intake from outdoors so that not so much current will be coming on windy or very cold days. Some hot-air furnaces do not have any intake from outdoors, depending on letting in enough air by means of the opening of doors and windows in the living rooms.

2.—Always keep the water container in the air-jacket of the furnace filled with fresh water. Moist air heats much more readily than dry air, and is much more healthful for the inmates of the house. Moist air makes one feel warmer and more comfortable. It is therefore desirable to keep a dish of water near the registers of some of the rooms, if practicable. Can't very well do this tho if there is a creeping baby that will be sure to get into it.

3.—Hot-air pipes should have a good pitch upward from the furnace, and should be large enough to properly carry the amount of heat needed for that room. A separate pipe for each room, with a turn-off damper near the furnace works best, unless the furnace is a one-pipe affair.

4.—Be sure the fire-box is tight. All cracks should be thoroly cemented or a new section put into insure against smoking and escape of coal gases into the rooms.

5.—Know where the furnace clean out door is, and why it is there.

Steam Heater Rules

1.—The water in the boiler should be completely changed every spring and fall. Then draw a pailful from the bottom at least twice a week, and replace with fresh water. Clean

water in the boiler is very important in lengthening the life of the boiler, and in its effective operation.

2.—Look at the water-gauge every time you attend to the fire. Turn the exhaust-cocks above and below the gauge occasionally to make sure that the gauge is working all right; it must not get clogged so that it can not tell you how much water there is in your boiler.

3.—The level of the top of the water must always show at some point along the gauge. Its height will vary with the temperature of the water, but if it rises above the top of the glass there is too much water in the boiler, and some must be drawn off. If it sinks below the glass, some more water must be put in the boiler.

4.—Be sure that the exhaust valve of each radiator is working all right. Sometimes these valves need cleaning with a pin or soaking in kerosene. If in doubt about one of them, unscrew it from the radiator when the fire is low and there is no steam pressure, or else turn off the radiator, and see if you can blow thru it; if so, it is all right, but if you can not blow thru it, clean it until you can. It is best to have an extra valve or so to replace any that may be out of order.

5.—Keep all the boiler flues clean. Study the rules that accompany your heater.

Hot-Water Heaters

1.—Put in clean water every spring and fall.

2.—Occasionally take the radiator key and open all the radiator exhaust valves in turn to let out the air in each one, so that it will not interfere with circulation of the water.

3.—Be sure that the water shows in the glass gauge of the exhaust tank, which is usually located in the top story of the house, so as to be above the level of all the radiators.

4.—The boiler and the heat-conveying pipes of both steam and hot-water furnaces should always be covered with asbestos to keep in the heat.

Kitchen Ranges

1.—Avoid shaking the grates too much. Live coals in the ashpits mean wasted fuel. Clean the ashpit daily to insure against overheating the grate.

2.—Clean the entire stove well inside on top of the oven and below the oven, frequently and thoroly.

3.—Add coal frequently and in small amounts each time, and never shake a low fire until a little fresh coal is laid on and given time to get on fire.

Wood Fire Management

1.—For the kitchen stove usually not over two sticks at a time is sufficient. Overheating either with wood or coal is hard on the stove and unnecessary.

2.—Green wood is also hard on the grate and the lining of the firebox. It is also hard on the cook's patience. And a stick just a little too long to go in the firebox is an exasperation as well as a waste of fuel because the door must be left open while it burns off, which makes a fire risk and sends too much heat up chimney.

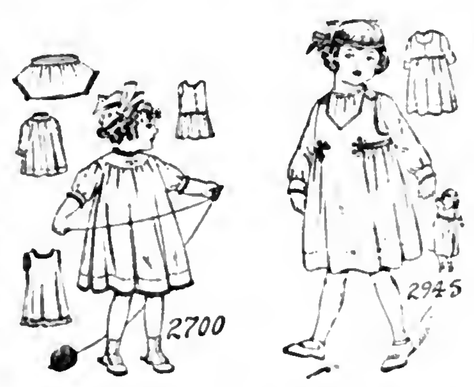
3.—Buzz up a lot of wood this winter for the kitchen stove from the refuse in your wood lots. A machine-power saw that will roll up to the logs instead of requiring a lot of pulling and hauling to get the logs to the saw would result in many a merrier kitchen stove as well as wood-burning furnace, and consequently many a happier home maker and cook on the farms of this section.

Dishes in which one may both bake and serve food save time and energy—and there's only one dish to wash instead of two!

PENNSYLVANIA FARMER PATTERNS

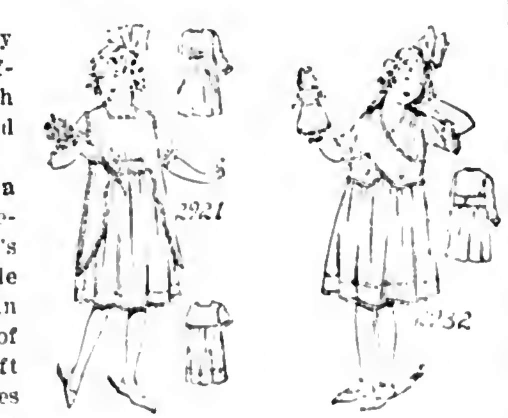
Give figures and letters of each pattern exactly as printed at beginning of each description or we will not be responsible for correct filling of orders. Give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261 S. Third Street, Philadelphia, Pa.

2700.—This model comprises a simple dress with round yoke, and long or short sleeves, drawers, and a slip with added skirt portion at the back with or without ruffe. Cambric, lawn and muslin are good for the slip. For the dress, batiste, lawn, cambric, percale, flannelette, challie or cashmere could be used. The pattern is cut in 5 sizes: Six months, 1 year, 2 years, 3 years and 4 years. It will require for the dress, 2⅝ yards of 36-inch material. For the drawers, ¾ yard. For the slip, 1¼ yard for a 2-year size. Pattern, 10 cents.



2945.—For this charming little model, one could use gingham and lawn, organdie or dotted Swiss, challie, crepe or satin. The dress is also nice for plaid suiting, for serge, seersucker or poplin, with the guimpe of crepe, lawn or batiste. The pattern is cut in 4 sizes: 4, 6, 8 and 10 years. Size 10 requres 2 yards of 27-inch material for the guimpe and 2⅞ yards for the dress. Pattern, 10 cents.

2921.—This model will make a very pretty dress for "best" or party wear. One could use batiste, lawn, mull, organdy, cashmere, taffeta, or a combination of silk and velvet. The overblouse or jumper could be of contrasting material. The pattern is cut in 5 sizes: 4, 6, 8, 10 and 12 years. Size 10 will require 2¾ yards of 44-inch material for the dress and 1¾ yard for the jumper. Pattern, 10 cents.



2932.—You could make this of dimity, dotted Swiss, voile, handkerchief linen, soft silk, challie, or gabardine. Lace or embroidery or hemstitching will form a suitable finish. The sleeve may be in wrist length, finished with a band cuff, or, short and loose. The pattern is cut in 4 sizes: 6, 8, 10 and 12 years. Size 10 requires 3⅛ yards of 38-inch material. Pattern, 10 cents.

You should have a Perfection Oil Heater in your home

Because

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- —It quickly heats up an ordinary room.
- —It is easily carried from place to place.
- —It is smokeless, odorless and absolutely safe.
- —It is solidly constructed and handsomely finished.
- —It is practically trouble proof, you *can't* turn the wick too high.
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Last year 145 boys in one department in this Industrial High School earned $29,918.07, while they were learning a trade and securing High School education at the same time. A number of girls also worked alternate weeks as stenographers and bookkeepers—, all applicants secured positions and the demand was not fully supplied. YORK, Pa. is indeed the CITY OF OPPORTUNITY for the thrifty, industrious family—look into it, call on or write for further particulars to the

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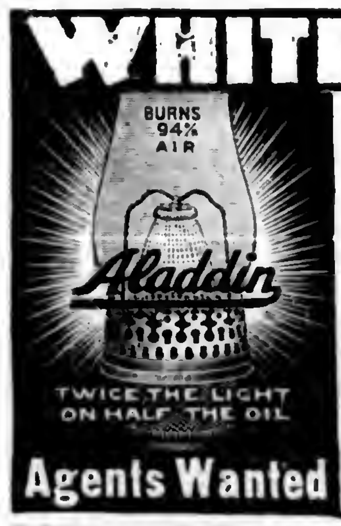

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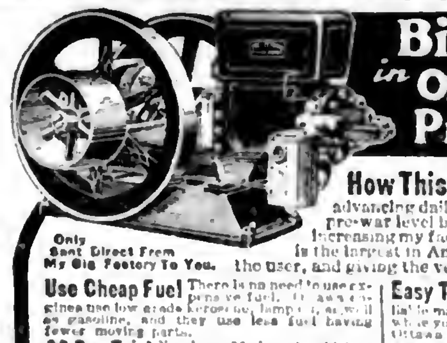

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AMERICANIZATION

Probably nothing is being talked about more at the present time than this immense problem confronting our nation. Some of our great men have gone so far as to say the lack of it is shaking the very foundation of our government and threatening us with revolution. While these are extreme views of the situation, and the recent coal strike settlement in which the leaders said. "We are Americans, we cannot fight our government?" proves they are, nevertheless, few of us realize how big is the problem.

One would hardly believe it, were it not proven by figures secured in drafting of our armies, that a large percentage in the United States can neither read or write at all, or cannot read or write our language. Can you imagine that tens of thousands of our population cannot read the ballot they vote, cannot read legal notices, are in constant danger in doing their work because they cannot read such signs as "Danger," "Carry No Lights, Explosives," and "Stop, Look and Listen?" The last census, which by the way cannot be as accurate as army figures, because there are many people who conceal the fact of their illiterary on account of shame, showed that five million people can neither read nor write any language whatsoever, and three and one-half million cannot use the language of our land; but this is held to be far from accurate, and the United States Department of Commerce and Labor places it at 25 percent based on the Army Draft figures, which in other words means twenty-five million people of this land can either not read or write any language, or read or write the language of our land. It is hardly believeable and I know it will set you thinking, asking yourself whether a condition such as this can possibly exist in our land of free schools and colleges. There are enough of these people to populate our three largest cities, New York, Philadelphia and Chicago. The army draft figures show that 16 percent of the people of New Jersey are illiterate, some states run much higher.

How are we going to solve this most important of all our national problems? Probably if our country were made up of people as loyal as the farmers who attended the recent meetings of the Farmers' National Congress and the National Grange Convention, we would have no such problem, for surely they are true Americans, regardless of the fact that they come to this country from all corners of the earth. What they said at those meetings will go down in history. It sounded so good, coming as it did at such a distressing time, that all the largest newspapers in the country hurried to write and print editorials on it. The New York Times, in closing a splendid editorial, said "Amid so much clamoring of foreign propaganda it is refreshing and consoling to hear the clear and strong voice of American producers and conservative patriots."

The Philadelphia North American wrote in reference to the despatches from the National Grange meeting, "Above all, he, (the farmer) is saturated with Americanism, with the spirit of democracy, with faith in the sanctity of law and order, of home and country."

We will, first of all, have to admit that the question of Americanism is not wholly a problem of the foreigner. For all too long poeple have been calling themselves Americans because grandfather fought in the Revolutionary War, or he was one of the signers of the Declaration of Independence or perhaps his ancestors came over in the Mayflower. Not thinking further, we have taken this as a perfectly sound reason for calling one an American. Dr. F. C. Butler, the man in charge of the newly created Bureau of Americanization at Washington, gives figures showing over 23 percent illiterary in a certain town in Pennsylvania where everybody could call himself an American, due to ancestry. Can these people be Americans when they cannot read or write the language of their land? Are we real Americans when we shun the Italian and call him "Wop," or the Polander a "Pollack," or the Jew a "Sheeney?"

Perhaps it has never occurred to many people that the problem of Americanization is one that does not confront any other counrty. Did you ever stop to think that in England they don't have to Englishize, in France to Frenchize, in Italy to Italianize, in Germany, to Germanize? But in America we must Americanize if we are to have a strong Government? It is our job to take these people who come here from every land on the face of the earth and Americanize them. These people come to our shores and only those who come from England can read and understand our language to any extent. The balance, as stated previously, either can't read or write our language or any other and up to the present time we have been content or ignorant of the fact that they man our three basic industries almost entirely. What has been the result of this condition; haven't they been led as the Farmers' Congress puts it "by false leaders who for pay and price would scuttle the ship of State," because they have not been Americanized?

To Americanize them we must teach them to use the language of our land; we must acquaint them with American ideals. In this process of Americanization we should not try to make these people over in our own image, but rather it should be one of building upon their own ideals and beliefs.

Theodore Roosevelt said, "There is terrible evil in our social and industrial conditions today, and unless we recognize this fact and try resolutely to do what we can to remedy the evil, we run great risk of seeing men in their misery turn to false teachers whose doctrines would indeed lead them to greater misery, but who do at least recognize the fact that they are miserable."—S. E.

A BIG SHOW NEXT WEEK

The 19th Annual Philadelphia Automobile Show for Passenger Cars will be held from January 10 to January 17, in the Commercial Museum Building, 34th Street below Spruce under the the auspices of the Philadelphia Automobile Trade Association. The Motor Truck Show will be held in the same building from January 19 to 24 under the auspices of the Trade Association in cooperation with The Motor Truck Association of Philadelphia.

The plans for both shows are entirely completed and demonstrate that the 1920 motor car exposition will be the largest and most representative ever held in Philadelphia. Upwards of 60,000 ft. of floor space is devoted to car spaces alone while the building, including aisle spaces, etc., covers an entire square of more than 100,000 square ft. of space.

Never before have so many different makes of passenger cars been

layed at a Philadelphia show and there been room to accommoe them, at least 6 more manufacers would have been represented. it is, there are to be exhibited different makes of automobiles, own by 54 different exhibitors who tribute the cars in this territory, compared with 57 makes of cars own last year by 47 distributors. addition to the car exhibitors, re will be 30 different accessory ms exhibiting hundreds of articles accessory equipment for more cars.

MAKING MAPLE SUGAR AND SYRUP

For two years we have made maple rup from about 185 trees. We iled in one big pan set over an ch made by placing two big green gs side by side, not quite the width the pan apart. The front door ru which the arch was fired consted of an old piece of sheet steel d the other end was filled with old discarded stove. When we uldn't buy sugar during the war e simply "trumped up" this makeift rig on the spur of the moment nd made 115 gallons of syrup and 16 pounds of soft sugar the first ear. Last year we made just an ven 100 gallons. The outfit could e used in a pinch but this year we ave a fair supply of sugarwood rawn to a conveniently located spot ear the sugar bush and a much betr plant in process of construction ere. The wood has previously been t just as it was needed, but that ade the sugaring far too strenuous. he old rig, too, was at the house nd the sap had to be drawn to it, hich by the new arrangement only he syrup will be drawn.

The old rig was only about 6 feet ong and the new one will be 12 ft. eople who ought to know, claim a 2 ft. rig uses little if any more fuel nd boils more than twice as fast. This time we shall have a substantial ement arch and a series of pans omewhat after the style of an evaprator. Last year we made sugar ill all of us were literally played t. Next season we hope to acomplish more at a less expenditure time and energy. We have a buding maple sugar association in our ounty which should help out the aple situation materially.

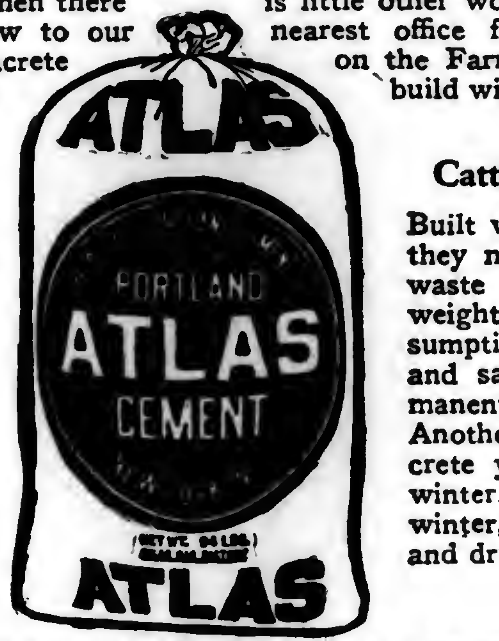
In any case, we intend to make a upply for home use, at least, and e can easily use 60 gallons. After he buds start we always make some "buddy" soft sugar if the sap still ns. It is fine for sweetening cooks or any baked goods that do not equire white sugar. None of us eat "buddy" sugar or syrup at all, but n cooking the disagreeable flavor enirely disappears.—E. M. A.

DELAWARE INSTITUTES

The Farmers' Institutes this year ill begin at Selbyville, Monday, anuary 19. The following schedule has been arranged:

Selbyville, January 19 and 20; Ocean View January 21; Frankford, January 22; Georgetown, January nd 24; Milton, January 26 and Lewes, January 28 and 29; Mil- January 30 and 31; Laurel, uary 2 and 3; Seaford, February d 5; Bridgeville, February 6 and reenwood, February 9; Harring- February 10; Felton, February nd 12; Dover, February 13 and Smyrna, February 16 and 17; ly, February 18; Townsend, uary 19; Middletown, February St. Georges, February 23; New e, February 24; Tallyville, Feb- 26; Hockessin, February 26.

CONCRETE ON THE FARM
THE ATLAS PORTLAND CEMENT COMPANY
NEW YORK CHICAGO



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ATLAS Cement can be used successfully for indoor concrete construction during the Winter months, particularly when there is little other work to keep farm help busy. Send the coupon below to our nearest office for our books "Concrete On The Farm" and "Concrete on the Farm in Cold Weather" which tell what and how to build with ATLAS.

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Now is the time to build your indoor cooler. Then when warm weather overtakes you, it will be ready to keep milk cool and sweet. The protection afforded against loss will save many times the cost of the few bags of ATLAS required. Build now—in spare time.

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—the right kind of spraying materials you choose is more so. For instance:—Let us show you our Calcium Arsenate—what a finely divided, fluffy powder it is, and how its good suspension and its dry dusting qualities will work to your advantage.

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CATALOG FREE Get it today. Printed in colors. Full of Bargains.

Improve your property now. A few dollars invested in Evergreens, Shrubs, Plants, etc., increases value hundreds of dollars. [illegible]

100 STRAWBERRY PLANTS $1.50

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Beat the Fuel Shortage

As low as $10

Don't depend on coal these days. Install a Hertzler & Zook Portable Wood SAW and be sure of your fuel supply. Easy to operate. Our No. 1 is the cheapest and best saw made to which a ripping table can be attached. Guaranteed for 1 year. Money refunded if not satisfactory. Write for catalog.

No. 1

HERTZLER & ZOOK CO., Box 29, Belleville, Pa.

A Worthy New Member of the Famous "Acme" Tillage Line

For more than 40 years "ACME" Tillage Tools have helped to make the American farmer the world's most efficient producer of food stuffs. The best features in standard disc harrow construction have now been combined with exclusive new features in the

"Acme" Disc Harrow

The discs are so shaped as to enter the ground with a clean cut. The direct thrust of the axles is taken up on dust guarded ball bearings instead of cast bumpers. These features make the draft light. Offset gangs do away with the middle ridge so objectionable to the careful farmer. The gangs can be set independently—the driver can hold the tool to its work on steep hillsides. Pressure springs make the discs "bite in" and prevent skipping of low spots.

"Acme" *Disc* Harrow: Fore trucks, tongue or a combination of both as desired. 8 sizes, using two, three or four horses.

Order early so as to secure a full season's use. Write today for circular and prices.

Duane H. Nash Inc., 137 Elm St., Millington, N. J.

Markets

PHILADELPHIA PRODUCE

Philadelphia, January 5, 1920.

The movement in all kinds of fruits and vegetables for several days past has been very slow on account of the very cold weather prevailing. Supplies of potatoes are not heavy and for several days the receivers did not dare open their cars on account of the cold weather. The market is ruling very firm as the trade wants potatoes and as soon as the weather moderates there will undoubtedly be a good active movement, and it would not be surprising if prices would be somewhat firmer. At this writing Pennsylvania potatoes are selling from $[illegible] to 3.75 per cwt. New York states from $2.70 @3.50 and Maines mostly around $3.40. Sweet potatoes, on the other hand, are not so active as supplies have been fairly heavy and they cannot be sold but have to be moved. For this reason lower prices are prevailing on the hamper stock which are selling from $2@2.15 for the No. 1's with the No. 2's at $1 [illegible] 1.25.

Vegetables

There has been very limited demand for all kinds of southern vegetables. The supplies have been [illegible] but the trade was afraid to purchase them, fearing frost damage. For this reason the market has not been cleaning up well except in the case of a few of the more hardy vegetables which do not show the effect of frost so easily, the market is generally lower than was prevailing last week. A few of the noted exceptions are [illegible] beets, carrots, onions, and cabbage; these commodities all sell higher than they did a week ago.

As soon as the weather moderates, however, we look for a firm active market on all vegetables and to clean most of them will recover the decline in price which has been caused all most entirely by lack of demand, due to the cold weather. At this writing the range of values on the various vegetables is as follows: Anise, per barrel, $2.25@2.50; green beans, $2@$[illegible] per hamper; wax beans, 50@$2.50 per hamper; old beets, $3@4 per barrel; brussel sprouts, 20@30c per quart; old cabbage, $[illegible] per ton; savoy cabbage, $3.50 per barrel; washed carrots, $[illegible] per barrel; cauliflower, 75c@$2 per crate; celery, $1.50 [illegible] per crate, $1@1.50 per [illegible]; Egg plants, 50c@$2.25 per crate; Endive, $4@[illegible] per barrel; Escarole, $4 [illegible] per barrel, kale, $1.25@1.50 per barrel; lettuce, $1@2.75 per hamper, $1@2 per box; lima beans, $5@5.50 per hamper; [illegible] $1.50@2.50 per 3/4-bu. basket; yellow onions, $6.50@6.75 per 100-lb. sacks; white onions, $4.45 per bushel crate; parsley, $13.50 [illegible] per barrel; peas, $2.50 [illegible] per hamper; peppers, $1@2 per crate; parsnips, $2.50 [illegible] per barrel.

Fruits

The very same conditions apply to fruits as to vegetables. Owing to the very cold weather there has been very few [illegible] moving, the trade appears to be looking for fancy apples free from frost. But many of them are showing off condition, being frozen—and these are selling very slowly at low prices. The market on apples is generally lower except for an occasional lot of extra fancy free from frost which are selling bringing good prices. [illegible] are selling from $[illegible] 7.25 per barrel; best Ben Davis sold at $6; Ganos [illegible] some [illegible] Grimes Golden brought $7 [illegible]. One car of Pennsylvania [illegible] Winesaps sold today at $[illegible] 9.50 per barrel. York Imperials sold [illegible] $7 per barrel. These varieties comprise the bulk of the supplies of barreled apples at this time. Box apples are selling all the way from $1.75@3.25 per box for the various varieties with some [illegible] frozen selling [illegible] $1@1.50. [illegible] meeting a [illegible] market at $[illegible] per barrel and $1 [illegible] 25 per crate.

Poultry

[illegible] demand for [illegible] is not nearly as [illegible] was [illegible] Christmas and New Year's holidays [illegible] same time [illegible] good [illegible] are [illegible]. Sales are being made [illegible].

Live poultry.—[illegible] 36@38c; [illegible] 27 [illegible] fancy chickens, 32 [illegible] 34 [illegible] roosters, 22@[illegible] [illegible] 30c; turkeys, [illegible]

Dressed poultry.—[illegible] turkeys, [illegible] western [illegible] turkeys, [illegible] fowls, 34 [illegible] 37 [illegible] 42 [illegible] nearby broiling chickens, 45@[illegible]; ducks, 37@42c.

Eggs

There has been a [illegible] of about 9c per dozen in the egg market during the past week. At this writing, Pennsylvania and other nearby current receipts are selling at 72c per dozen with [illegible] 74c. Some special fancy marks of [illegible] are exceeding these quotations. Western [illegible] are bringing 70@71c per dozen.

Rabbits

Supplies of rabbits are [illegible] and with the cold weather [illegible] have been arriving in better condition. [illegible] from 75c@$1 per pair.

LANCASTER PRODUCE MARKET

Lancaster, Pa., January [illegible] 1920.

[illegible]

nips, 15c ½ peck; potatoes, 25@30c ½ pk; do., $1.65@1.75 per bushel; sweet potatoes, 35c ½ peck; cabbage, 5@10c head; cauliflower, 15@25c head; lima beans, 20c quart; onions, 10c box; lettuce, 20@25c head; celery, 15@20c bunch; oyster plant, 10c bunch; egg plant, 15@20c each.

Fruits.—Apples, 35c per quarterpeck.

YORK PRODUCE MARKET

York, Pa., January 5, 1920.

The light inquiries and buying reported last week still continues. Just why this condition obtains is a matter of speculation. Are the prices actually beginning to fall or is there a scarcity of money after the holiday rush in buying?

Eggs.—80c per dozen.

Butter.—Country, 70@75c pound; separator, 80@85c; milk, 12c quart.

Poultry.—Hens, 24@28c pound; dressed, $1@2 each; turkeys, 50@55c pound; geese, 35@40c.

Vegetables.—Potatoes, 15@30c ½ peck; $1.65@1.85 per basket; lettuce, 8@15c hd.; cabbage, 5@12c hd.; beets, 5c bch.; onions, 5c bch.; 20@25c ½ peck; lima beans, 30@35c quart; soup beans, 25@30c quart; celery, 5@12c stalk; turnips, 15c ½ peck; apple butter, 15@50c quart; sausage, 34@38c lb.; pudding, 30c pound; pork steak, 40@45c pound; bone meats, 30@35c lb.; lard, 30@34c pound; dressed hogs, 19@20c lb.

Fruit.—Apples, 50@70c ½ peck; Yorks, selected, 45@50c ½ peck; Stayman, 60@75c ½ peck; pears, 25@30c ½ peck.

Retail Grain Market.—Wheat, $2.40; corn, $2; oats, $1; rye, $1.70; bran, $3 per cwt.; middlings, $3.50 cwt.

Wholesale Grain Market.—Wheat, $2.20; corn, $1.50; oats, 80c; rye, $1.40; bran, $47 per ton; middlings, $57@65 ton.

PHILADELPHIA LIVE STOCK

Philadelphia, January 5, 1920.

Receipts of live stock for week ending January 3, were as follows:

	Beef Cattle	Sheep and Lambs	Hogs
Total for Week	2,136	4,452	8,102
Previous Week	2,087	5,563	9,208

Calves.—Receipts of calves last week were 819 head against 1,005 head week previous.

Beef Cattle.—The market for steers and cows was quiet, with offerings ample for the limited requirements of the trade. Other kinds were in moderate supply and demand, with little change in prices. Steers, good to choice, $15@16.50; do., fair to good, $13@15; common to fair, $11@13; cows, fat, per lb., good to choice, corn fed, 9½@10½c; fair to good, 7½@9½c; do., common to fair, [illegible]@7½c; calves, extra choice, $22@23; fair to good, $19@21; common, $12.50@16.50; heavy and rough, $8.50@12.50; Tennessee, choice, $18@19; other southern, $9@13.

Sheep and Lambs.—The general market ruled steady with a fair demand and moderate offerings of fine stock. Sheared sheep, wethers, extra, $11.50@12; good to choice, $9.50@10.50; medium, $8@9; common, $[illegible]; ewes, fat heavy, $8.50@10; spring lambs, choice, $19.25@19.50; medium, $17@18; culls and common, $12@14.

Hogs.—Offerings were moderate and values were steadily maintained with demand fair. Quotations for best western, $1[illegible]@17; nearby good, $15.50@15.75.

City Dressed Stock.—There was a good demand for steers, heifers and cows of fine quality and values were well maintained. Other descriptions were in fair request and values were generally firm. Steers, 17@20c; heifers, 15@20c; cows, 11@17c; calves city dressed choice, 28@30c; country dressed, 24@26c; steers, 14@20c; lambs, spring, 23@31c; hogs, 22c.

PHILADELPHIA HAY AND GRAIN

Philadelphia, January 5, 1920.

Baled Hay and Straw.—Receipts, 72 tons of hay. No. 1 cleaned up and firm. We quote: Timothy hay, choice, $34; No. 1, $33; do. No. 2, $31@32; do., No. 3 $27@29; sample, $24@26; no grade, $20@23; clover mixed hay, light mixed, $[illegible]; do. No. 1, mixed, $28@29; straw, No. 1 straight rye, $10@15.50; do. No. 2, $14.50@15; do., No. 1 tangled rye, $11@14.50; do., No. 2, $13@13.50; do., No. 1 wheat straw, $14.50 [illegible]; do. No. 2, $13@13.50; do., No. 1 oat straw, $15@15.50; No. 2, $13@13.50.

Bran.—Quiet but steady. Car lots to arrive, including sacks: Soft winter bran, western, in 100-lb. sacks, per ton, $50@50.50; spring bran, in 100-lb. sacks, per ton, $40@40.50.

Corn.—[illegible] as to quality, $1.55@1.62.

Oats.—No. 2, 95@95½c.

PHILADELPHIA DAIRY MARKET

Philadelphia, January 5, 1920.

Butter.—Receipts, 1672 tubs. The Produce Exchange was closed and there was little wholesale trading on the street. Prices showed no quotable change. Quotations:

Fresh, solid packed creamery, fancy, high-scoring goods, 7[illegible] 72c, the latter for jobbing sales; [illegible] 69c; extra firsts, 66@68c; firsts, 60@64c; seconds, 58@59c; cold-storage creamery, as to quality, 57@69c; sweet creamery, choice and fancy, 71@73c; do., fair to good, 6[illegible] 70c; ladle-packed, as to quality, 50@52c; [illegible]ing stock, 47@49c; fancy brands of nearby prints jobbing at 77 [illegible] 79c; good to choice, 68@76c; fair, 63@[illegible].

Cheese.—[illegible] but quiet. Quotations were as follows: New York, whole milk [illegible], held, [illegible] 33[illegible]; held specials higher; [illegible] fair to good, 32@32½c; fresh made, [illegible]; do., fair to good, 31@[illegible]; Wisconsin whole milk flats, held, fancy, 32½ [illegible] specials [illegible] held, fair to good, [illegible] 32c; jobbing sales of [illegible] goods [illegible].

NEW YORK MILK MARKET

New York City, January 5, 1920.

[illegible] fell off somewhat last week [illegible] greater than [illegible]. The January rate [illegible] 200 mile zone is $[illegible] per 100 pounds, about 8c per quart, add [illegible] cents for each one-tenth of one percent [illegible] butterfat.

The Feed Situation

Monthly Letter Reviewing Supply, Demand and Price of Dairy Feeds

With the exception of cottonseed cake and meal and linseed feed, which have recently shared further advances in prices, slight depression has developed in some of the important commodities used on an extensive scale by dairymen and other feeders of the East. Feed markets normally follow a downward price tendency in the latter half of December and early in the new calendar year, and, after having witnessed an almost uninterrupted upturn in values in the past two months, the reaction this season was not surprising despite the firm undertone of the trade. Bran and shorts, alfalfa and other varieties of hay, alfalfa mixed feeds, corn and the sorghum grains have gradually eased off. However, the declines were not of a drastic character, nor is there any indication that the downward trend will continue for any lengthy period.

Prospects for a heavy movement of corn from the large producing areas of Iowa, Illinois, Nebraska and surrounding states to terminal markets has been employed as a "bear club" against feed prices. Recent open weather conditions in most sections of the country also have added to the bearish tone. These influences were felt during the holiday period, when demand is usually slack, so feed values were naturally forced down.

Corn is attracting much attention among the consumptive trade of the East, not particularly because prospective buyers are preparing to enter the market, but because of its effect on other feed stuffs. Fluctuations in the corn market yield a tremendous influence on other commodities. The movement of the leading coarse grain has been comparatively light thus far, owing largely to a shortage of cars for shipment to terminal markets. Advices from the interior indicate farmers are selling their grain freely, with country elevators in the important growing districts already loaded. Orders have been issued by officials of the railroad administration to give grain the preference in loading, which should aid in enlarging the movement to markets. Both speculative and cash market operators have been discounting the probable heavy movement of corn in recent weeks, but further losses are anticipated.

For the crop year as a whole dealers and other students of the trade are bullish, inclined toward the corn market. With wheat around $3 a bushel in western markets and oats approaching the $1-a-bushel mark, it is claimed that corn cannot sell below its present value or even at current prices for any lengthy time. Relative values of commodities are important in calculating future prices. When corn will reach its low point in the cash market is now difficult to forecast, tho it is probable that if receipts at terminals are heavy in January and February, which usually is the case, prices will be lowest in these months. Of course, there is an enormous corn crop in the United States, practically all of which is merchantable and high in quality, but the demand is correspondingly heavy. Orders for corn have been held back in recent weeks because of hopes for lower prices when the large movement begins.

Recessions in alfalfa hay prices have been relatively small. In Kansas City, the largest forage market in the country, the legume has eased off only little more than $1 a ton, with the fancy, pea-green leafy alfalfa at practically the high point of the season. In view of the heavy movement of alfalfa hay from Colorado, Kansas, Nebraska and other Western states, near a record in volume, the fact that the market declined only around $1 a ton is surprising, and indicates the really strong undertone of the trade. Many had predicted a break in prices during the holiday season, but demand has been and still is of too broad a character to permit of any sharp losses. The East still is a heavy buyer of alfalfa, dairymen and other feeders of Pennsylvania and surrounding states taking large quantities from the Kansas City and Omaha markets. Choice alfalfa is selling in Kansas City at $37 to $38 a ton. No. 1 is bringing around $35 to $36.50, standard at $31 to $34 a ton, and brown or No. 3 alfalfa at $24 to $27.

In addition to the buying by the East, there is an enormous movement of alfalfa to the South, Southeast and in the large feeding states near the Kansas City market. Even Texas, which early in the crop year ranked as a surplus hay state and which made shipments to the Kansas City market, is today drawing alfalfa from that center for her range cattle, and the state promises to become a heavy buyer before the close of winter, owing to large cattle holdings. Not only Texas, but other producing states, including Kansas, will probably begin bringing in hay from Colorado to carry stock thru the winter. To what extent purchases will be made is uncertain, depending in a large measure on weather conditions.

Available stocks of alfalfa in the country are not so large as usual at this period of the year. Colorado is the principal source of supplies, and the quality of hay there is fairly good on the whole, meeting the needs of dairymen. Some sections of Kansas still are heavy shippers, and Nebraska is shipping considerable hay, the quality in the latter state is not so good. Alfalfa prices are expected to hold around the present level, if not advance to slightly higher levels. A break in prices is improbable for the immediate future, and hardly not until the opening of spring, when new crop hay and pastures turn values down. Free car supplies in January and February may lessen bullish enthusiasm.

Bran and shorts offer encouragement to consumers who are looking forward to declines in prices. The mill officials are in an easy position, and majority sentiment of the trade favors further recessions. A high point of around $42 a ton, sacked was reached in Kansas City, and $43.50 in Minneapolis during December, with St. Louis having quoted a top of $44 and Chicago around $45. But the market has eased off around $3 a ton, and in instances up to $4 a ton from the top, with Kansas City offering the product at $38 to $39 a ton and other markets on a freight differential.

Sales of bran to dairymen of the East have been light on the whole thus far this winter, at least during the past month. Why the light buying of bran in view of the heavy demand for alfalfa hay is a query which bears interest in the market answer by the fact that holdings in dealers' hands have been heavy, while dairymen have bought on a small scale. At any rate, doubt is expressed as to whether the enormous supply of bran produced by flour mills of the United States has gone into actual consumption. Thus far on the crop flour mills of the country have produced about 75,000,000 barrels of flour, or 11,000,000 barrels above a year ago, which means a mill feed output of approximately 2,700,000 tons, or about 400,000 tons more than in the corresponding period in 1918-1919. It is believed that holdings at mills and the warehouses of jobbers and other handlers account for a considerable portion of the increased production.

Some in the trade predict a drop in bran prices to around $35 to $36 a ton in the West. A continuation of open winter weather, with no let up in flour production, which now is the prospect, may bring about the declines in prices to such a basis. Shorts are holding around $45 a ton in Kansas City, with flour middlings in the Northwest around $50 a ton. Further declines in shorts prices may be expected to develop before the opening of the spring farrowing season. In this connection, the tendency of corn prices will have much to do with fluctuations in the offal feed.

As recently forecasted, the sorghum grains are on the downgrade. From a high point of above $3 per hundredweight in the forepart of December, kafir and milo, both of which are used on a large scale by poultry raisers and by mixed feed manufacturers of the East, are selling around $2.40 to $2.55 per hundredweight in Kansas City, the principal sorghum grain market. The crop of kafir and milo in the Southwest is the largest on record, but car shortage has restricted the movement, and prices are not yet believed to be on a stable basis.

With a good demand from the range territory of the Northwest, including the Dakotas, Montana, Wyoming, Idaho and Nebraska, some of which states suffered severely from drouth during the summer months, cottonseed cake and meal have strengthened further. In Chicago the market is around $85 a ton for 45 percent protein cottonseed meal, and in Arkansas and other Southeastern states, from which mixers of the East draw the bulk of their high concentrate feed, the market is around $72 to $75 a ton for the 36 percent grade. Cold pressed cake is worth around $62 to $64. Linseed meal is selling around $83 a ton in Minneapolis. It is very improbable that prices will recede in the immediate future. Both cotton seed and flaxseed are very scarce, particularly the latter, and mill activity has been restricted. Mill production is being absorbed as rapidly as turned out.—Sosland.

Receipts of milk and cream in 40 quart cans for the week ending January 3, 1920, were as follows:

Railroad	Milk	Cream
Erie	42,644	2,710
Susquehanna	7,909	152
West Shore	10,960	1,106
Lackawanna	55,741	1,348
N. Y. Central (long haul)	117,868	1,911
Ontario	45,112	2,008
Lehigh Valley	46,641	1,039
New Haven	5,248	28
Pennsylvania	12,317	414
Other Sources	6,300	300
Totals	350,746	11,016
Same week last year	322,263	9,485

TOBACCO MARKET

The tobacco grower may well look with suspicion upon the present avowed interest of reducing the cost of living which of course is impossible without a corresponding reduction in the cost of farm products. It would be more logical if this movement had the more specific purpose of combating profiteering which is largely, if not wholly, responsible for the present muddled price situation. While tobacco valuations have [illegible] exceedingly high in some instances they have been very irregular and upon the whole not such as to justify the suggestion of extravagant. Should the price of produce, including tobacco, decline the latter will at once be near or below the cost of production and growers will at once suffer financial difficulties in establishing a fair and satisfactory income on the highly valued land so much of which is devoted to the purpose. The new year was characterized by a general resumption of activity in tobacco market circles after the usual stagnation of the holidays. Buyers were touring out of the way places in quest of unsold crops and in some places growers were delivering their product to local warehouses. So much of the 1919 product has now been sold that no special activity will be possible in most localities. A prominent exception to this is to be found in Ohio where but little of the new crop has been sold. Up to the present the 1918 product apparently has been sufficient to meet all demands and to occupy the attention of manufacturers who have suffered almost constantly from strikes and a general lack of labor. Growers in all localities are now turning attention to preparation for the growth of another crop.

THE MIDDLE WEST

Out in Iowa, Indiana and Illinois, which are extensive hog growing states, the farmers are experiencing difficulty in securing help for the farm. Men who worked on farms at $40 per month left during the war to take up work in the cities at from $5 to $8 per day.

CANNING INDUSTRY, PAST AND PRESENT

In the writer's boyhood days down on the Delmarvia Pennisula, as today, there was a tomato harvest, each one employing a few men and quite a number of women, boys and girls.

Later in the fall the cans were labeled and packed in wooden cases, and if the market was favorable they were hauled to the railway station or nearest boat landing for shipment to the cities. In the winter the men who did the capping during the packing season, were employed in making the year's supply of cans.

In the larger towns were more pretentious canning plants that canned peaches and peas, in addition to tomatoes, and one of the largest on the peninsula, packed great quantities of poultry and various kinds of fruits and vegetables.

Thirty or more years ago little attention was given to sanitation in the small country canneries. The floors were dirty. The tomato juice squirted in all directions every time the can filler pulled the lever. The peeling vats were none too clean, and quality was a matter of secondary importance.

But these days are gone and with them the old type of canning factory. The modern packing plant is sanitary. The floors are clean. The work of filling, capping and sealing the cans is done automatically by machinery. Canned goods are now clean, pure and wholesome.

The small local cannery still has its place in the industry. In fact, modern canning equipment has made it possible to operate smaller canning plants than could have been operated successfully a few years ago, especially in the South the home canner is to be found on thousands of farms where vegetables and fruit are grown, and the product of these little plants in the aggregate is measured by millions of cans.

The last decade, also, has seen the development of immense centralized canning and preserving plants handling the products of thousands of acres, and preparing in attractive forms dozens of fruit and vegetable products in many different ways. These great plants have had a marked effect on the development of the vegetable and small fruit growing industries, especially in New York State, which has come to be the center of an immense preserving industry employing thousands of workers.

These packing plants, large and small, all have a close relation to the farming industries surrounding them. They have created a market for vast quantities of fruits and vegetables, and brought prosperity to the farmers.

It is fortunate for the growers that the fruit and vegetable canning industry has never become monopolized by a few big corporations as has the meat packing business. Competition is keen, and it is claimed that the men and women who grow fruits for the canneries are more prosperous than those who produce milk for the big centralized distributors and meat animals for the packing house combine. At any rate we find prosperous towns, thrifty farmers and intensive farming in the vicinity of the canning factories.—E. E. R.

If it paid Uncle Sam to keep camp stables clean, it will pay the farmer to keep hog pens, cow-sheds and stables clean; and most farmers nowadays realize it.

Peerless Feed Mill

Double crusher roll, machine-cut plates. Grinds better quality feed with less power, grinds green ear corn, small grains and alfalfa. Also furnished with cast plates. Sizes 1½ to 20 H. P. Write for prices and catalog.

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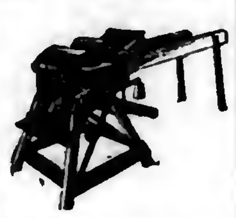

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Often in the deep snows of winter an automobile cannot get through the drifts, but the horse can travel anywhere if he can secure footing. There is just one thing will insure safe footing on any road anywhere any time, no matter how icy or slippery, and that is the

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Whatever the occasion; a hurried trip to the doctor, an important call to town, a load of produce to be delivered—your horse is ready when you are ready. The wise horse owner will go to his horse shoer early and have the safe, reliable RED TIP SHOES put on. Then he can laugh at the weather. No sleet storm, no sudden freeze will hold him back. His sharp, strong RED TIP CALKS can be adjusted in 20 minutes, and he is ready for the road. Avoid substitutes. LOOK FOR THE RED TIP

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New Brunswick, N. J.

VICK'S GARDEN & FLORAL GUIDE for 1920

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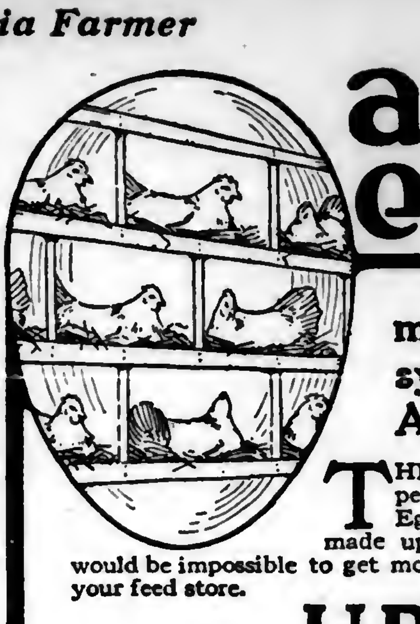

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is a cheaper mash than you could mix yourself and it is an unfailing result producer. It is wholesome; it is 90 percent digestible; the lactic acid in its dried buttermilk aids digestion and prevents disease. It contains 19 percent protein; 8 percent ash, mostly from bone phosphates, and only 6 percent fibre. No crushed rock. No alfalfa.

A splendid winter ration consists of feeding sprouted oats, all they will eat in the morning, Ubiko Buttermilk Egg Mash, before them in self-feeding hoppers all the time, and as much good scratch feed at night as they will clean up in litter. This system followed with an abundance of pure fresh water, oyster shells, charcoal, and grit, will insure a steady supply of winter eggs.

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Baltimore, Md.

KEZIAH COFFIN

By JOSEPH C. LINCOLN

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(Continued From Last Week.)

You've been attracted to her because she was pretty and educated and—sweet; and she's liked you because you were about the only young person who could understand her and—and all that. And so you've been meetin' and have come to believe—you have, anyway — that 'twas somethin' more than likin.' But you neither of you have stopped to think that a marriage between you two was as impossible as anything could be. And, besides, there's another man. A man she's known all her life and loved and respected ——"

"Stop, Mrs. Coffin! stop this wicked nonsense. I won't hear it."

"John, Grace Van Horne is goin' to marry Cap'n Nat Hammond. There! that's the livin' truth."

In his absolute confidence and faith he had again started for the door. Now he wheeled and stared at her. She nodded solemnly.

"It's the truth," she repeated. "She and Nat are promised to each other. Cap'n Eben, on his deathbed, asked Dr. Parker and me to be witnesses to the engagement. Now you see why you mustn't go nigh her again."

He did not answer. Instead, he stood siintly staring. She stepped forward and laid a hand on his shoulder.

"Set down, John," she said. "Set down and let me tell you about it. Yes, yes, you must. If I tell you, you'll understand better. There! there don't interrupt me yet and don't you look that way. Do set down."

She led him over to the rocking-chair and gently forced him into it. He obeyed, altho with no apparent realization of what he was doing. Still with her hand on his shoulder she went on speaking. She told him of her visit to the Hammond tavern, saying nothing of Mr. Pepper's call nor of her own experience in the grove. She told of Captain Eben's seizure, of what the doctor said, and of the old Come-Outer's return to consciousness. Then she described the scene in the sick room and how Nat and Grace had plighted troth. He listened, at first stunned and stolid, then with growing impatience.

"So you see," she said. "It's settled; they're engaged, and Dr. Parker will tell everybody of the engagement this very mornin'. It wa'n't any great surprise to me These two have been brought up together; 'twas the natural thing that was almost bound to happen. Eben's heart was set on it for years. And she'll have a good husband, John, that I know. And she'll do her best to make him happy. He's a good man and——"

The minister sprang to his feet.

"A good man!" he cried furiously. "A good man! One who will make use of a dying father to drive a girl into— Stand aside, Mrs. Coffin!"

"John, you mustn't speak that way of Nat Hammond. He ain't the kind to drive a girl against her will. And Grace is not one to be driven."

"Are you blind? Can't you see? Why, only yesterday, she— Do you think I shall permit such a wicked crime as that to——"

"Ss-sh!' No, it ain't wicked, it's right. Right and best for everybody, for her especial. Yesterday she might have forgot for a minute. But think, just think what would have happened if she cared for you."

"But she does! I know she does. Mrs. Coffin stand away from that door."

"No, John; if you go out of that door now, to go to her, you'll have to go by main strength. You shan't wreck yourself and that girl if I can help it. Be a man."

The pair looked at each other. Keziah was determined, but so, evidently, was he. She realized, with a sinking heart, that her words had made absolutely no impression. He did not attempt to pass, but he slowly shook his head.

"Mrs. Coffin," he said, "perhaps you believe you're doing right. I hope—yes, I'll give you credit for that relief. But I know I am right and I shall go to her. Such a—a bargain as that you have just told me of is no more to be regarded than ——"

"John, I beg you——"

"No."

"Then go. Go this minute and break her heart and ruin her life and spoil her good name in this village where she's lived since she was eight years old. Go! be selfish. I suppose that's part of a man's make-up. Go! Never mind her. Go!"

"I do 'mind' her, as you call it. I am thinking of her."

"No, you're not. It's yourself."

"If it was myself—and God knows it is the only happiness on earth for me if it was only myself, and I really thought she wished me to stay away, I'd stay, I'd stay, tho I'd pray to die before this hour was over."

"I know, I know. I've prayed to die myself afore now, but I'm here yet; and so will you be. We can't die so easy."

"But I know——"

"Do you suppose she would come to you if she knew it would be your ruin?"

He hesitated. The last time they met, ages before—no, only the previous afternoon—she had told him it was his happiness and his future only that she thought of. He choked and drew his hand across his eyes.

"Mrs. Coffin," he said, "you tell me it will be her ruin. You tell me so. You say she doesn't want me. I tell you that the only thing that will keep me from her is hearing that from her own lips. When she tells me to leave her I will, and not before."

"She'll tell you, John; she'll tell you. I kown you must despise me, pretty nigh. I cal'late you think I'm a worldly old woman, carin' nothin' for your feelin's. Maybe I've talked pretty hard in the last few minutes, but I haven't meant to be hard. To be honest, I didn't think you'd listen to me. I expected you'd insist on seein' her yourself. Well, then, go and see her, if you must, tho what will come of it can only be more trouble, for you run the risk of folks knowin' it and beginnin' to wonder. And I know Grace. She's made up her mind and won't change it. But I do ask you this; I ask you not to go now. Wait a little while, do. I left her asleep, worn out by what she's been thru and under the effects of the doctor's sleepin' medicine. He said she must rest or he was afraid her brain would give out. For her sake, then, wait a little. Then, if you don't hear from her, maybe I can arrange a meetin' place where you can see her with out any one's knowin 'it. I'll try. But do wait a little while, for her sake, won't you?"

At last he was listening and hesitating.

"Won't you?" begged Keziah.

"Yes," he answered, slowly. "I'll wait. I'll wait until noon, somehow, if I can. I'll try. But not a minute later. Not one. You don't know what you're asking, Mrs. Coffin."

"Yes, I do. I know well. And I thank you for her sake."

But he did not have to wait until noon. At six o'clock, thru the dew-soaked grass of the yard, came the Higgins boy. For the first time in his short life he had been awake all night and he moved slowly.

The housekeeper opened the door. Ike held up an envelope, clutched in a grimy hand.

"It's for you, Mrs. Keziah," he said. "Gracie, she sent it. There ain't no answer."

Keziah took the letter. "How is she? And how's Nat?" she asked.

"They're doin' pretty well, so ma says. Ma's there now and they've sent for Hannah Poundberry. Gee!" he added, yawning, "I ain't slept a wink. Been on the jump, now I tell ye. Didn't none of them Come-Outers git in, not one. I sent 'em on the home tack abilin'. You ought to hear me give old Zeke Bassett Hail Columby! Gosh! I was just ahopin' he'd come."

Mrs. Coffin closed the door and tore open the envelope. Within was another addressed, in Grace's handwriting, to Mr. Ellery. The housekeeper entered the study, handed it to him and turned away.

The minister, who had been pacing the floor, seized the note eagerly. It was written in pencil and by a hand that had trembled much. Yet there was no indecision in the written words.

"Dear John," wrote Grace. "I presume Aunt Keziah has told you of uncle's death and of my promise to Nat. It is true. I am going to marry him. I am sure this is right and for the best. Our friendship was a mistake and you must not see me again. Please don't try.

"GRACE VAN HORNE."

Beneath was another paragraph.

"Don't worry about me. I shall be happy, I am sure. And I shall hope that you may be. I shall pray for that."

• The note fell to the floor with a rustle that sounded loud in the stillness. Then Keziah heard the minister's step. She turned. He was moving slowly across the room.

"John," she cried anxiously, "you poor boy!"

He answered without looking back.

"I'm — going — up — to — my— room," he said, a pause between each word. "I want to be alone awhile, Mrs. Coffin."

Wearily Keziah set about preparing breakfast. Not that she expected the meal would be eaten, but it gave her something to do and occupied her mind. The sun had risen and the light streamed in at the parsonage windows. The breeze blew fresh and cool from the ocean. It was a magnificent morning.

She called to him that breakfast was ready, but he did not answer. She could eat nothing herself, and, when the table was cleared, prepared to do the week's washing, for Monday is always washday in Trumet. Noon came, dinner time ,but still he did not come down. At last Keziah could stand it no longer. She determined to go to him. She climbed the steep stairs and rapped on the door of his room.

"Yes?" she heard him say.

"It's me," was the reply. "Mr. Ellery, can I come in? I know you want to be alone, but I don't think you'd ought to be, too much. I'd like to talk with you a few minutes; may I?"

A moment passed before he told her to enter. He was sitting in a chair by the window, dressed just as he had been when she returned from the tavern. She looked sharply at his face as it was turned toward her. His eyes were dry and in them was an expression so hopeless and dreary that the tears started to her own.

"John," she said, "I couldn't bear to think of your facin' it alone up here. I just had to come."

He smiled, and the smile was as hopeless as the look in his eyes.

"'Face it?" he repeated. "Well, Mrs. Coffin, I must face it, I suppose. I've been facing it ever since—since I knew. And I find it no easier."

"John, what are you goin' to do?"

He shook his head. "I don't know," he said. "Go away somewhere, first of all, I guess. Go somewhere and —and try to live it down. I can,t of course, but I must try."

"Go away? Leave Trumet and your church and your congregation?"

"Did you suppose I could stay here?'"

"I hoped you would."

"And see the same people and the same places? And do the same things? See—see her! Did you"—he moved impatiently—"did you expect me to attend the wedding?"

She put out her hand. "I know it'll be hard," she said, "stayin' here. I mean. But your duty to others—"

"Don't you think we've heard enough about duty to others? How about my duty to myself?"

"I guess that's the last thing we ought to think about in the world, if we do try to be fair and square. Your church thinks a heap of you, John. They build on you. You've done more in the little while you've been here than Mr. Langley did in his last fifteen years. We've grown and we're doin' good—doin' it, not talkin' it in prayer meetin'. The parish committee likes you and the poor folks in the society love you. Old Mrs. Prince was tellin' me, only a little spell ago, that she didn't know how she'd have pulled thru this dreadful time if 'twa'n't for you. And there's lots of others. Are you goin' to leave them? And what reason will you give for leavin'?"

He shook his head. "I don't know," he answered. "I may not give any. But I shall go."

"I don't believe you will. I don't believe you're that kind. I've watched you pretty sharp since you and I have been livin' together and I have more faith in you than that comes to. You haven't acted to me like a coward and I don't think you'll run away."

"Mrs. Coffin, it is so easy for you to talk. Perhaps if I were in your place I should be giving good advice about duty and not running away and so on. But suppose you were in mine."

"Well, suppose I was."

"Suppose—Oh, but there! it's past supposing."

"I don't know's 'tis. My life hasn't been all sunshine and fair winds, by no means."

"That's true. I beg your pardon. You have had troubles and, from what I hear, you've borne them bravely. But you haven't had to face anything like this."

"Haven't I? Well, what is it you're asked to face? Disappointment? I've faced that. Sorrow and heartbreak? I've faced them."

"You've never been asked to sit quietly by and see the one you love more than all the world marry some one else."

"How do you know I ain't? How do you know I ain't doin' just that now?"

"Mrs. Coffin!"

"John Ellery, you listen to me. You think I'm a homely old woman, probably, set in my ways as an eight-day clock. I guess I look like it and act like it. But I ain't so awful old —on the edge of forty,—that's all. And when I was your age I wa'n't so awful homely, either. I had fellers aplenty hangin' round and I could have married any one of a dozen. This ain't boastin'; land knows I'm fur from that. I was brought up in this town and even when I was a girl at school there was only one boy I cared two straws about. He and I went to picnics together and to parties and everywhere. Folks used to laugh and say we was keepin' comp'ny, even then.

"Well, when I was eighteen, after father died, I went up to New Bedford to work in a store there. Wanted to earn my own way. And this young feller I'm tellin' you about went away to sea, but every time he come home from a voyage he come to see me and things went on that way till we was promised to each other. The engagement wa'n't announced, but 'twas so, just the same. We'd have been married in another year. And then we quarreled.

"'Twas a fool quarrel, same as that kind gen'rally are. As much my fault as his and as much his as mine, I cal'late. Anyhow, we was both proud, or thought we was, and neither would give in. And he says to me, 'You'll be sorry after I'm gone. You'll wish me back then.' And says I, bein' a fool, 'I guess not. There's other fish in the sea.' He sailed and I did wish him back, but I wouldn't write fust and neither would he. And then come another man."

She paused, hesitated, and then continued.

"Never mind about the other man. He was handsome then, in a way, and he had money to spend, and he liked me. He wanted me to marry him. If—if the other, the one that went away, had written I never would have hought of such a thing, but he didn't write. And, my pride bein' hurt, and all, I finally said yes to the second chap. My folks did all they could to stop it; they told me he was dissipated, they said he had a bad name, the told me 'twa'n't a fit match. And his people, havin' money, was just as set against his takin' a poor girl. Both sides said ruin would come of it. But I married him.

"Well, for the first year 'twa'n't so bad. Not happiness exactly, but not misery either. That come later. His people was well off and he'd never worked much if any. He did for a little while after we was married, but not for long. Then he begun to drink and carry on and lost his place. Pretty soon he begun to neglect me and at last went off to sea afore the mast. We was poor as poverty, but I could have stood that; I did stand it. I took in sewin' and kept up an appearance, somehow. Never told a soul. His folks come patronizin' around and offered me money, so's I needn't disgrace them. I sent 'em rightabout in a hurry. Once in a while he'd come home, get tipsy and abuse me. Still I said nothin'. Thank God, there was no children; that's the one thing I've been thankful for.

"You can't keep such things quiet always. People are bound to find out. They come to me and said, 'Why don't you leave him?' but I wouldn't. I could have divorced him easy enough, there was reasons plenty, but I wouldn't do that. Then word came that he was dead, drowned off in the East Indies somewheres. I come back here to keep house for Sol, my brother, and I kept house for him till he died and they offered me this place here at the parsonage. There! that's my story, part of it, more'n I ever told a livin' soul afore, except Sol."

She ceased speaking. The minister, who had sat silent by the window, apathetically listening or trying to listen, turned his head.

"I apologize, Mrs. Coffin," he said dully, "you have had trials, hard ones. But——"

"But they ain't as hard as yours, you think? Well, I haven't quite finished yet. After ward come of my husband's death, the other man come and wanted me to marry him. And I wanted to—oh, how I wanted to! I cared as much for him as I ever did; more, I guess. But I wouldn't—I wouldn't, tho it wrung my heart out to say no. I give him up—why? 'cause I thought I had a duty laid on me."

Ellery sighted. "I can see but one duty," he said. "That is the duty given us by God, to marry the one we love."

Keziah's agitation, which had grown as she told her story, suddenly flashed into flame.

"Is that as fur as you can see?" she asked fiercely. "It's an easy duty, then—or looks easy now. I've got a harder one; it's to stand by the promise I gave and the man I married."

He looked at her as if he thought she had lost her wits.

"The man you married?" he replied. "Why, the man you married is dead."

"No, he ain't. You remember the letter you saw me readin' that night when you come back from Come-Outers' meetin'? Well, that letter was from him. He's alive."

For the first time during the interview the minister rose to his feet, shocked out of his despair and apathy by this astounding revelation.

"Alive?" he repeated. "Your husband alive? Why, Mrs. Coffin, this is———"

She waved him to silence. "Don't stop me now," she said. "I've told so much; let me tell the rest. Yes, he's alive. Alive and knockin' round the world somewheres. Every little while he writes me for money and if I have any, I send it to him. Why? Why 'cause I'm a coward, after all, I guess, and I'm scared he'll do what he says he will and come back. Perhaps you think I'm a fool to put up with it; that's what most folks would say if they knew it. They'd tell me I ought to divorce him. Well, I can't, I can't. I walked into the mess blindfold; I married him in spite of warnin's and everything. I took him for better or for worse, and now that he's turned out worse, I must take my medicine.

(Continued Next Week.)

To try to control railroad rates by arbitrarily limiting profits is to put the manager who makes his profits by efficiency and economy on the same level as the one who tries to accomplish the same result through extortionate charges.

—*Hadley Railroad Securities Commission; Report to the President—1911.*

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The Ice Harvest

Facts and Figures for the Beginner

Each year dairymen lose thousands of dollars from returned sour milk, poor butter, and low-quality cheese. These losses are largely due to improper cooling of milk and cream on the farm. For good results milk and cream should be cooled to 50 degrees or lower and held there; and as this usually can best be done by the use of ice, dairymen should take advantage of any near-by lake or stream to obtain a supply of ice for next year.

Ice Costs Little

The ice-harvesting season fortunately comes at a time when there is the least work on the farm for men and teams, and consequently the actual money cost is usually not very great.

The quantity of ice needed depends upon the location of the farm—whether in the North or in the South, the number of cows milked, and the method of handling the product. In the Northern States it has been found that, with a moderately good ice house, one-half of a ton of ice per cow is sufficient to cool cream and hold it at a low temperature for delivery two or three times a week. One and one-half or two tons per cow should be provided where milk is to be cooled.

Capacity of Ice Houses

A cubic foot of ice weighs about 57 pounds, so in storing ice it is customary to allow from 40 to 50 cubic feet per ton for the mass of ice. At least 12 inches must be left between the ice and the wall of the building for insulation, unless the ice house has permanently insulated walls and an unusually large space for insulation beneath and above the ice. From these figures it is possible to calculate readily the quantity of ice that any given ice house will hold.

Where a lake, pond or stream of clear water is not available, some preliminary work in preparing the ice field will be required before freezing weather sets in. It is therefore advisable to make all plans for the work as soon as possible. Water for the ice supply should be entirely free from contamination or pollution. Ponds and sluggish streams usually have grass and weeds growing in them, so that the ice harvested is likely to contain decayed vegetable matter, which is always objectionable. They should therefore be thoroly cleared of such growths before the ice has formed.

In some sections it is necessary to impound the water for producing ice. This may be done either by excavating, and diverting a stream into the excavation, or by constructing dams across low areas. In localities where very low temperatures prevail for several weeks at a time, and the supply of pure water is limited, blocks of ice may be frozen in metal cans or in special fibre containers.

Size of the Ice Field

In harvesting ice it is desirable to have a field of sufficient size to fill the ice house at a single cutting, as the thickness and quality of the ice will be more nearly uniform, and the necessary preparation for cutting and harvesting need be made but once. In many instances, however, the size of the pond or stream is such that it is necessary to wait for a second crop in order to fill the ice house. The average farmer requires only a comparatively small quantity of ice, so that even a small harvesting surface will usually prove large enough, especially if ice is cut the second time. The square feet of surface required per ton when the ice is of different thicknesses is shown in the following table. Size of cake, 22 by 22 inches.

Square Feet of Ice Surfaced Required Per Ton of Ice

Thickness of Ice	Number of cakes required per ton	Cutting space required per ton
Inches		Square feet.
4	31.3	105.4
6	20.9	70.2
8	15.6	52.6
10	12.5	42.1
12	10.4	35.1
14	8.9	30.1
16	7.8	26.3
18	6.9	23.4
20	6.3	21.1
22	5.7	19.1

Few Tools Required

When a small quantity of ice is to be harvested, but few tools are required. The following list contains those actually needed for harvesting ice on a small scale: Two ice saws, one hand marker, one pulley and rope, two pairs of ice tongs, two ice hooks, one pointed bar, and one straight edge. While these tools are all that are necessary, additional ones, such as the horse plow and marker, horse scraper and marker, and a calking bar, are convenient, and will help to expedite the work of ice harvesting.

ROADS, TRUCKS AND TRANSPORTATION

Probably the announcement that the proposed expenditures in the United States for the next year for hard-surfaced highways will be $633,000,000 as compared with the $125,000,000 expenditures of the closing year for the same purpose should mean more to the farmers of this country than almost any other class.

It is a significant fact that nearly 60 percent of the trucks of the United States work in the country. Tho a large percentage of them may be housed in the city, about 20 percent of them are actually owned by farmers, which represents 10,000 more than are used by any other class of producers, the manufacturers come next in line in the use of trucks.

Thirty percent of the people for whom 60 percent of the trucks of this country work will certainly receive their share of new highways. It means that their 60 percent of the trucks will have just that many more and better road facilities for the transportation of the goods they are accustomed to transport.

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In order to reduce our herd we are offering bred sows, boars ready for service, boar and sow pigs of all ages at prices that will effect a ready sale. If you wish to increase your herd or found a herd of Berkshires, we offer you an excellent opportunity. Your inquiries or visit will amply repay you. CRESTMONT FARM, Sunbury, Pa.

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from the best blood strain as Longfellow Double and Lord Premier Successor strains, both having been grand champions. One 6 months old grandson of Longfellow Double, several serviceable boars, and both bred and open gilts of the Successor strain. Also 10 weeks old pigs, sired by a son of Rival's Baron Duke 2d that weighed over 900 lbs., dam of sire being Maybelle of W. G. Several pure bred Jersey and Ayrshire bulls, 2 to 6 months old. OLD FORGE FARM, SPRING GROVE, PA., C. R. FREED, Mgr.

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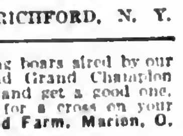
All ages, free circular. Reg. Guernsey Bull Calves from tested herd. LOCUST LAWN FARM, BIRD-IN-HAND, BOX 2, LANC. CO., PA.



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O. I. C.'s of the very best breeding, strictly big, short-nosed type. Every one guaranteed to please and registered free. C. E. CASSEL, HERSHEY, PA.

Reg. Berkshire Swine Bred gilts $50. Open gilts $60. Sow pigs $20 and up. Immediate delivery. G. NORMAN ACKER, West Chester, Pa. R. 2

REG. DUROCS Large size, heavy bone, best blood lines, prices reasonable, satisfaction guaranteed. JOHN W. COX & SON, New Wilmington, Pa.

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We guarantee satisfaction.
Robt. E. Atkinson, Wrightstown, Pa. Bell Phone.

50 REG. DUROCS AT PUBLIC SALE, MARCH 6, 1920. Herd boars, bred sows, fall gilts and boars. Get on list for catalog. SLATY RIDGE FARM, PALMYRA, PA., BOX 5.

REG. P. CHINAS, BERKSHIRES, C. WHITES. Large strains, all ages, mated, not akin; 8-wk. pigs, br. sows, service boars. Beagles and Collies. Write for circ. P. F. HAMILTON, COCHRANVILLE, PA

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Reg. O. I. C. and C. W. Pigs. Bred gilts and sows Satisfaction and safe delivery guaranteed. JOHN L. VAN HORN, TROY, PA.

O. I. C. Males 2 and 3 months old. Big, smooth kind. Rea. free. BRUBAKER BROS., Star R, Cocolamus, Pa.

Chester White Hogs, All Ages
Shorthorn Bulls R. L. MUNCE, Canonsburg, Pa.

For Sale: Registered C. W. gilts and serviceable boars and pigs. Also Jersey Bulls, all ages. J. A. BOAK, NEW CASTLE, PA. R. 4

Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Barrenness.—In August I bought three high grade Holstein cows that were shipped here from N. Y. State. One was fresh when they came, the other two soon calved. Since then they have been in heat four times. Each time they have been served to a 4-year-old bull that is a sure breeder. Our local veterinarian examined them, dilated opening leading into uterus, then a little later they were served, but this seemingly did no good. I might say the bull weighs 2200 pounds, has plenty exercise and is healthy. Can you tell me why these cows fail to get with calf? L. S., Montgomery, Pa.—Doubtless the most common cause of sterility in cows is due to contagious abortion infection, due to failure on the part of the dairyman to properly treat aborters early enough, with uterine douches. Keep in mind that sterility is not a disease, but a physical condition which may be due to any one or more of numerous causes; but from the fact that your cows come in heat regularly and are seemingly healthy they should get with calf. I might say that in my dairy practice I seldom find it necessary to dilate canal thru neck of uterus. When the cow is in heat you will find opening sufficiently dilated for her to get with calf, providing she is in a healthy condition. Flush vagina and uterus with a 1½ percent Lougal's Solution twice a week. This douche treatment should be applied by a competant veterinarian or by some person who has had instructions; besides, he needs the proper instruments to do this work. Keep on breeding the cows, every 3 weeks.

Cows Lick Each Other.—I have a cow that is inclined to lick the rest of my cattle and in doing so, swallow more or less hair. Why do cattle lick each other? H. W. S., Muncey, Pa.—Cattle kept on dry feed and not supplied with some salt are inclined to lick other stock. Perspiration has a saline taste, besides it is slightly acid. Mix equal parts salt, bicarbonate of soda and powdered wool charcoal together and give her a tablespoonful at dose in feed 2 or 3 times a day. Sponge off cattle with one part coal-tar disinfectant and 99 parts water twice a week.

Stocking; Nasal Gleat; Hemorrhagic Septicemia.—I have a horse that stocks whenever he is allowed to stand in stable, more than one day, without exercise. I also have the care of a flock of old sheep, many of them have a nasty mucus discharge from the nose. When shut up in a building they give off a disagreeable odor. E. H., Warfordsburg, Pa.—Give your horse a teaspoonful acetate of potash at dose in feed or in drinking water 2 or 3 times a day. Now, regarding your sheep, they may have catarrhal fever. Hemorrhagic Septicemia; however, this is not a very common disease in eastern sheep, but does prevail out west. Immunization is now practiced with fair success, but vaccination of your flock is work for a skilled veterinarian, provided that his diagnosis confirmed my supposition. Give your flock good care, nutritious food and mix equal parts dried powdered sulphate of iron, salt, cinchona, and gentian. Give each sheep ½ teaspoonful in feed twice daily. Dissolve a tablespoonful cooking soda in one quart of clean tepid water and wash out nostrils daily.

Canine Distemper.—I have a valuable cow-dog 3 years old, for the past 3 weeks he has lacked ambition and is getting poor, has no appetite, eyes are filled with mucus, and about all the nourishment he takes is warm milk. Do you think he has been poisoned? G. W. W., Espyville Station, Pa.—No, he does not suffer from the effect of poison. Give him 3 grains quinine, and ten drops of Fowler's Solution at dose 3 times a day. Feed him the kind of food he craves, keep him warm.

Facts in BLACK & WHITE

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Produce Most Butter

They hold all World's Records for production. Champion yearly butter record, 1,506 lbs. Champion yearly milk record, 33,425 lbs.

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Few choice bull calves—A couple fine young cows, priced very reasonable to effect ready sale. Bull calves from fine A. R. cows, or cows now on test for Advanced Registry. Excellent opportunity to found a herd of high class Ayrshires. Your inquiries and visit to the farm will repay you.
CRESTMONT FARM, SUNBURY, PA.

HOLSTEINS
that test 4% OF FAT FOR THE YEAR'S MILK PRODUCTION. Grandsons of the ONLY COW of ANY BREED—ANYWHERE—that ever made two consecutive yearly records under full age that average over 24,000 lbs. of 4% milk, 1200 lbs. of butter each year—one year strictly official. Three months bull calves $100 and up; service bulls $150 and up. GEO. E. STEVENSON & SONS, CLARKS SUMMIT, PA.

WE WILL GIVE THE USE OF A
Finely Bred Reg. Holstein Bull Calf
for three years to any responsible farmer who wishes to improve his herd. Mugget Hill Farm, Charlton, Mass.

Oakhurst Farm Ayrshires present offering 25 young cows of the choicest strains, bred to freshen this winter and spring in calf to a high class bull. GUY D. POWER & SON, Auburn, N. Y.

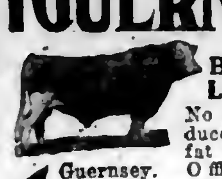
Holstein Heifer Calves By pure bred sire and high-grade big producing cows. Beautifully marked. Splendid individuals, $20 up. Browncroft Farms, McGraw, N. Y.

HIGH GRADE HOLSTEIN CALVES. Either sex. Shipped anywhere. Write for prices. Satisfaction and safe delivery guaranteed. FRANK GAMEL, PINE GROVE FARM, LOCKE, N. Y.

Holstein Bull Calves $25 each, 5 days old, unregistered. $50 each with papers. High producing reg. dams and sires. L. C. TOMKINS, ELLENTON, PA.

Reg. Holstein Heifer Calves, from officially tested dams and a 30 lb. sire. Write for prices, pictures and peds. Walter M. Cruttenden, Wilkes-Barre, Pa.

FOR SALE: 3 CHOICE REG. GUERNSEY BULL Calves, 6 months old. May Rose breeding. Dams now on test. $75 each. Riverview Farms, Swarthmore, Pa.



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BEST in High grades and Registered Holsteins. Elegant high grade calves $25 each. With ten calves will give choice registered bull free. Will accept Liberty Bonds and W. S. S. at par. Guarantee safe arrival and gladly ship C. O. D. Write your wants. C. W. ELLIS, JR., Cortland, N. Y.

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Reg. and high grade Holsteins. 55 reg. heifer calves, 2 to 10 mos. old. 25 reg. 2 year-olds. 50 reg. cows. 15 reg. bulls, all ages. 10 reg. and high grade cows. Young stock, all ages. 75 Holstein heifer calves $20 to $25 each, express paid in lots of 5. Place your order for spring delivery. J. C. Reagan, Tully, N. Y.

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OF CORTLAND, N. Y.
King Korndyke Sadie Vale Jr., No. 20391, two nearest dams averaging 36 pounds of butter in 7 days, heads my herd. Butter records from 17 pounds two-year-olds to 34 pounds at full age. Also high grade Holstein calves, either sex, $15.00 each. Write your wants. PAUL H. STEVENS, Prop.

Holstein Bulls Ready For Service
Two are coming two years old, one three years. Better see these bulls; see the size and milking ability of dams and the remarkable calves the older one is getting. They have been raised under ideal conditions and are priced right. PLUMLYN FARM Fairview Village (near Norristown), Pa.

Holstein Reg. Bull, 17 months old, from a good 30 lb. bull, dam a good producing cow. Weight 625 lbs.; sure server; dark-colored, good individual. Only $75. THE OAKS DAIRY FARM, Wyalusing, Pa

FOR SALE: Nice Guernsey bulls of May Rose and Sheet Anchor breeding, a grandson of Langwater Royal. Reasonable. Hayes C. Taylor, Embreeville, Pa

Milking Shorthorns Bull Calves sired by Glenside Royal Stamp for sale. C. M. KENNEDY & SONS, Ulster, Bradford Co., Pa.

Registered Holstein and Guernsey bulls from calves to serviceable age. 250 animals in the herd. BONNYMEADS FARMS, R. D. 1, Harrisburg, Pa

Ayrshire Bull Calves From high record A. R. Dams. ROBERT TEMPLETON & SON, ULSTER, PA.

Registered Holstein Friesian Cattle Sons of the great Finderne Sir Valdessa, a 37 lb. bull, for sale. MILLARD E. BASEHOAR, Littlestown, Pa

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Meet us at our advertising booth at the State Farm Products Show, Harrisburg, January 20th. We can offer you special bargains in registered bull calves of good breeding from pure bred Holsteins, Jerseys, Milking Shorthorns and Ayrshires. D. K. SLOAN, Secretary. Bradford County Livestock Breeders' Asso'n., Towanda, Pa.

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Chester Whites Pigs for sale. Special price on boar pigs. All stock registered. ALLAN R. MORTON, ASHVILLE, N. Y.

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Large Berkshires Registered. May farrow, also October pigs. Both sexes. Prices reasonable. C. H. TOLAND, FREEPORT, OHIO.

Prolific Berkshires with size and type. Priced to sell. JOHN C. BREAM, GETTYSBURG, PA., R. D. No. 4

Berkshire Bargain. Three year old Shenandoah "O" Delchester Prince 4th and 2 bred sows $200. All reg. L. C. TOMKINS, ELLENTON, PA.

BERKSHIRES Superior, Epochal, Rival Champion Blood. Pigs $15 and up. G. D. BARNES, R. D. 11, Grove City, Pa.

DUROCS and P. C. PIGS $30 Pair Pedigree. Not akin. S. O. WEEKS, DeGraff, Ohio.

CHESHIRES.—The high-quality home-market and home-table breed. Our stock pleases. Pigs and service boars. Marmin-ade Farm, Sylvania, Pa

For Sale—1 Reg. O. I. C. Boar, 18 mos. old. 1 Reg. O. I. C. Sow, 2 yrs. old, with pig. 1 Grade Sow 3 yrs. old, with pig. H. A. Corkran, Midlothian, Va.

Reg. Poland Chinas Choice Spring gilts and boars. Aug. and Sept. pigs shipped on approval. R. H. DALE, Cadiz, Ohio.

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Large Type Duroc Service Boars and Gilts. Aug. and Sept. pigs. Orion Cherry King Breeding. H. H. Sager, Basil, Ohio.

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Durocs, all im. Yearling and Fall yearling boar and Fall boars. Fall gilts, bred for Aug., Sept. and Oct. Spring pigs, e. sex. I. D. Jackson, R. 10, V. Wert, O

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O. I. C. [illegible] month's subscription, [illegible]

Reg. O. I. C. Pigs for sale, 3 months old, either sex. Write your wants. A. J. Marshall, Oakland Farm, Williamsport, Pa. R

DUROC JERSEY GILTS bred for spring farrow. [illegible] and fall pigs [illegible] and Orion Cherry King [illegible] Priced to sell. [illegible]

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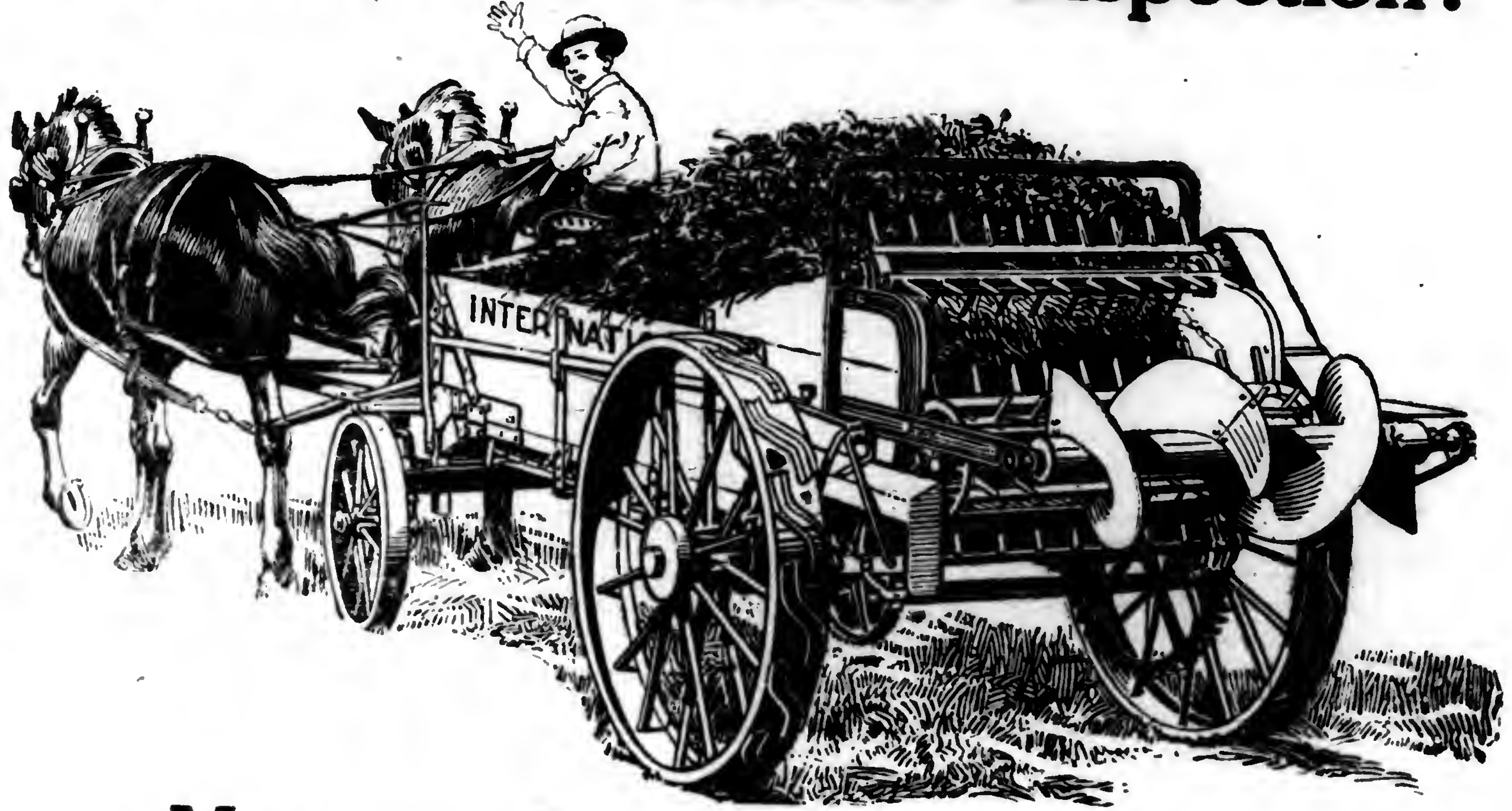

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Handles good substantial loads easily, because two all-steel beaters with chisel-pointed square teeth work from both top and bottom of the load.

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The spiral wide-spread behind the beaters gives the manure a third beating, and spreads it finely and uniformly beyond the wheels.

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An all-steel main frame—*wood box sides hold only the load.*

THE new International — made in two sizes — is unquestionably the best spreader value on the market today, and when you consider it in connection with its price, it is so far ahead of all others that it is bound to prove the big sensation of 1920. Place your order early. For further information send your name and address to—

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PENNSYLVANIA FARMER
AGRICULTURE THE KEYSTONE OF NATIONAL PROSPERITY
ESTABLISHED 1880
PUBLISHED WEEKLY

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Need for a System of Cost Accounting

Why Farmers Should Keep Books in Their Business

If the farmer is to compete with men in other lines of business it is certain that he must have a business system. He cannot go along blindly, following a haphazzard system, or no system, of keeping acount of his various lines of work. Records of the cost of production stand ready to serve the same economic purposes to the farmer that the cash register does in the city mercantile establishment, by stopping leakage.

Of all the industries, farming is the most important. We may even wonder how it became so great without a universal or even a sectional business system. Farming is the most complicated, and yet the only industry in which accounting has thus far been a secondary consideration. It is obvious that the producer who does not know what he is doing is suffering a critical leakage. At least, the commercial world has revealed many such instances when a business system was adopted. Profits became assured with the know-the-truth method.

Time, effort and vast sums of money have in the past been spent in gaining knowledge of plant and animal production ,and in putting this information out to farmers. Yet, up to the past ten or fifteen years, little thought was given to the business side of farming, and it is probable that more farmers fail financially from a want of proper business methods and records than from ignorance of the best and most practical methods of handling animals or plants, or because of poor production. The average farmer is already a naturalist and arduous laborer, yet few possess the knowledge of business principles necessary for merited success. Still fewer seem to possess the desire to adopt business methods, great as is the necessity.

Years ago, when farmers lived largely on the products of their farms, and bought and sold very little, records or accounts were not so essential. Conditions, in the past generation, however, have greatly changed. Machinery has been introduced in the factory and on the farm. Farmers began selling most of their products and purchasing the necessities. Land, which could be had almost for nothing, became high priced, the standards of living changed, so that the farmer had to become a mechanic and business man as well as naturalist and laborer. He had to develop efficiency to organize his farm as a successful business enterprise.

No fair-minded farmer will doubt the necessity of putting a practical business system into force. By these records he will be better fitted to know which branch of his farm is being operated at a profit or loss, and thus select and keep hold of the money-maker. He can then eliminate the dead issues, strengthen the money returned, and manage to meet changed conditions with knowledge and foresight.

Records of this kind are also a safe guide to the farmer in the marketing of his products, since by them he knows exactly what it costs him to produce. By studying and analyzing such statistics as will show him total production, supply, demand and market prices, he is in a better position to know when to sell. These facts should not be collected by the agricultural experiment stations or colleges for the farmer's guidance; every farmer ought to know these facts from personal experience. We do not have experiment stations to advise certain industrial plants how much they should charge for their articles. Neither should we have them for this purpose in agriculture. The function of the agricultural station and college is educational in the broader sense of ascertaining wider fields for farm endeavor and usefulness—not an arithmetic class in which the farmer waits until the final cost has been determined before he can set his price.

A Few Moments at the Desk May Be Most Profitable of the Day.

Several of the wide-awake farm bureaus have taken up the cost accounting work, but none have had the time to carry it as far as was required in the fields where the work was undertaken, since this is not the whole function of the farm bureau. It is for the farmer to adopt the principles for himself, choosing the system best adapted to his line of business, whether dairying, general, fruit, vegetable, grain, or whatsoever, and carrying the work on thruout the years that he may have something to compare his effort by.

It was interesting last fall to note the statements made by the several farmers of Chautauqua County, New York, thru a newspaper, regarding the cost of producing potatoes. The calculations ranged from low to high cost. Actual operation per acre were much the same on all farms. Difference in yield per acre made a difference in cost per bushel. But it was evident that few of these men had cost accounting records to rely upon, and were merely taking a pencil and paper (after the potatoes were in the bin), and making a rough guess at the real figures. Had these men been keeping records they could have demanded a stated price, based upon these figures, and made an intelligent presentation. As it was, they were forced to enter the open market, without fact or figures, accepting whatever was offered for their products.

Many farmers say that they are too busy under present pressure of production to bother with records. Business houses are not too busy and expenses are not too high to keep records. An average farmer can keep cost accounting records in excellent condition by devoting a few minutes each day to the work. Dairy records can be filled out in from five to eight minutes, according to number of head kept and system used. The card index system, which can be secured at any stationary store, may be indexed to include all operations. This will cost not to exceed $1.50 for file and cards, and will prove the best investment any farmer ever made.

Then a space should be alloted to the inventory, which should be taken at the end of the season, on rainy days when nothing else can well be done. Every farmer must know what his total investment amounts to, what his annual expenditures for equipment total, and what the repairs and wear and tear are, that he may make anywhere near accurate calculations. This inventory should also cover the live stock, increase, decrease and deaths. Proper sums should be calculated, as the case may be.

A simple and practical system of farm bookkeeping consists of a note-book, 10¾x8¼ inches, including 26 pages. There are two pages for each month, the left one for receipts and the right one for monthly operations (expenses.) The receipts and expenses of the year are summarized on the last two pages. There are seven columns in the monthly receipts page, one for the date, one for the designation of products sold, three for the amount received for the sale of each product, one for the summary and the last one for the addition of the various sales of the month.

The monthly expenditure page is divided into

(Continued on Page Five)

Warm shod—dry shod—
clean shod

The new "U. S." Walrus means all three

HERE at last is the overshoe that combines all the qualities you've always wanted! Look it over—it's the new U. S. Walrus.

It's an *all-rubber overshoe* that's absolutely waterproof. It's got a warm, snug-fitting fleece lining. It's convenient because you slip it right over your leather shoes—then push it off with your toe when you're through.

Best of all, the U. S. Walrus can be *instantly cleaned*. You can work for hours in the stickiest barnyard mire; then a pail of water or a rinse at the pump washes the U. S. Walrus clean—removes every trace of mud from its smooth rubber surface.

The comfort and convenience of the U. S. Walrus are backed up by real strength. A staff of experts have designed it—have made it an overshoe that is *built to last*. At every single point where the wear is hardest, the U. S. Walrus is heavily reinforced.

Your feet will *always* be warm—dry—clean shod with the U. S. Walrus. In every way, it's the farmers' ideal overshoe.

Ask your dealer today to show you the new U. S. Walrus. After you've worn a pair for a day or so, you'll realize why they're fast becoming so popular with farmers everywhere.

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Whether you prefer a boot or a bootee for the wet season, a "rubber" for general use, or a cloth-top arctic—you can find in U. S. Rubber footwear exactly what you need. Tough, heavy soles—special reinforcements at toe and heel—and *always* the highest quality rubber—these points are winning U. S. Rubber footwear thousands of new friends every year.

Look for the U. S. Seal—it means solid wear and long service for your money.

Ask for "U. S." RUBBER FOOTWEAR

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PENNSYLVANIA FARMER
AGRICULTURE THE KEYSTONE OF NATIONAL PROSPERITY
ESTABLISHED PUBLISHED WEEKLY

The Lawrence
Publishing Company
Philadelphia

The Advantages and Disadvantages of the Small Farmer

Small Farmers are Desirable, but They Must Learn to Work Together

By T. L. WALL

CLEARFIELD CO., PA.

In view of what the Government's expert investigators have had to say about the larger farm operations being the more profitable in so far as giving better returns for labor costs is concerned, it might seem as tho the small farmer would have to literally "get off the earth" in the struggle for "the survival of the fittest."

I am not disputing the figures of the experts. They are no doubt correct. However, I feel that "There's more in the man than there is in the land," and that there are certain adverse conditions with which he must now contend, that can be remedied.

The average farmer whose case they have investigated is, like any other average citizen, rather circumscribed in his lines of success, and no doubt finds it easier to succeed fairly well by extending his labor over more virgin soil, from each acre of which he can extract some profit, without thinking very much about putting fertility back for future account. This probably accounts for a part of the difference in balances.

However, there are certain disadvantages to be overcome as well as advantages to be recognized by the small farmer, as I shall try to point out later. For the moment, I would like to speak of the whole proposition from the larger viewpoint.

Is it best for the men themselves, for the women, for the children, for the whole community, to live isolated lives on big farms, where the homes are necessarily so far apart that school, church, and community centers are well nigh impossible, or at least impracticable in their best form? You may whisper "autos!" But how are the extra miles and miles of roads to be kept up for these autos, even if all the farmers have them? The specter of high taxes immediately looms up, without compensating features to balance the necessary lack of economy in their administration.

As I understand it the distinctive class of small farmers are those who either do their own work with the help of their own families, or at most farm only as much land as can be well tilled by hiring help on occasion, as in harvest, for threshing, silo filling etc. No doubt there is quite a difference in what is recognized as small farming in different localities. A farm considered large in the eastern part of the country might well be considered small in the prairie or plains states of the west, where rich, level land makes it possible for one's labor to produce large crops thru the use of varied and improved machinery.

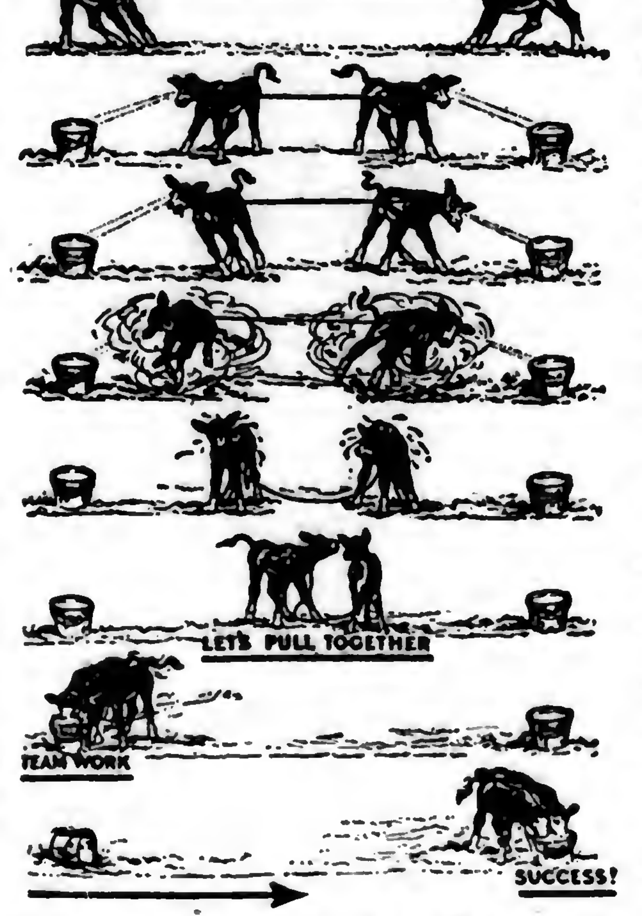
The item of first importance in the success of the small farmer should be that in personally tilling his own farm he knows it is well done. The interest of the owner in his business is greater than that of any hired helper.

The small farmer cannot, on his limited area, farm one field until its fertility is exhausted, and then go to another and so on, but must keep up the productive capacity of all his land; tho I admit that some farmers have tried to "profiteer" their land in this way.

Independence of labor conditions may often be of considerable advantage to the small farmer. His farm operations being within the power of himself and family to perform, he is not dependent upon hired help, or if in a pinch he needs help to take care of some crop or to get thru with some special piece of work, it is soon done and he is caught up again. The women folks are seldom burdened with the extra labor of cooking for hired men and the family is not for long exposed to association with men of uncertain character.

The mental stress and labor of the management of a large farm is to a great extent eliminated in the case of the small farmer, who with his family may go visiting or take a little time off for other purposes with less derangements of plans or "system" than the farmer with larger operations, carried on by hired men whose labor requires constant direction and oversight.

The poor man,—"the back-to-the-lander," or the young man just starting, may become a small farmer with little capital and small risk, and be thus enabled to start a humble home to which future improvements may be added as circumstances will permit.



These Calves Got Wise Enough to Work Together

I have known a number of small farmers who were quite often found hauling or doing other work away from home, claiming they did not have enough to keep them busy on the farm. Interviews with a number of successful small farmers, backed up by my own experience, leads me to believe that there are very few days in the year that any good farmer can afford to work away from home, except on the roads or to help out a neighbor. Even in winter there are repairs to be made, improvements to be planned, fertilizer formulas to be figured, or next summer's work to be mapped out. To me there seems more likelihood of the small farmer having too much to do rather than too little. However these are questions of management that each person must solve for himself.

There is a certain air of dignity that I have noticed among small farmers, which comes I think from the independent fearlessness of character developed by ability to support himself and family by the work of their own hands. I am sure that the development of this characteristic of self-help in our fore-fathers of pioneer days who were literally self supporting, has laid the foundation for the best that is in American character, and even tho it is not now possible, (nor am I saying it would be best, if it were possible), yet the ancient ancestor, with a family of nine, who made the remark that "try as he would the store bill would be ten dollars a year," possessed and passed on to his children a sturdy character that has been worth more to them than would have been any inheritance of dollars and cents, tho he was able at his death to give each son a farm and each daughter material help.

I have thus tried to outline some of the advantages possessed by the small farmer. Part of this array of advantages that I have mustered may not seem obvious to the man who is bent on money-making. But there are other aims quite as interesting and possibly more worth while to the mature mind than the acquisition of wealth beyond a comfort-assuring competence.

Let us now consider some of the disadvantages under which the small farmer labors and examine the question of a remedy for them.

The limited acreage of his farm makes the purchase of efficient modern machinery uneconomical because of the high cost per acre unit tilled, and on account of the loss of time in turning and maneuvering in the small fields.

It is an educational maxim that "We learn to do by doing." Therefore, the farmer whose operations are sufficiently large to require most of his working time in planning, overseeing, and directing, will develop more ability to think clearly, plan carefully, and direct with decision, thus securing better results than can the one-man farmer whose brain is often too tired to think after a day of hard physical labor.

The fact that he only needs help in the rush season often makes it impossible for the small farmer to get labor at all, whereas the man whose operations are so large that he hires men by the year always has help when he needs it, and it pays him to have tenant houses for his men, thus insuring their comfort and contentment and avoiding the necessity of caring for hired help in the home.

One of the most serious disadvantages of the small farmer from a financial point of view is his having to buy seeds, feeds, fertilizers, and other supplies in small quantities at the highest retail prices and his having to sell his small lots of products without the advantages of larger producers in matters of packing, grading, and carload shipments.

In contradistinction to the advantages of young people and others starting at small farming more safely and with less capital there is the disadvantage of a too strenuous life in such a case under hard circumstances which may undermine the health and make life not worth the living, while with the larger, less hampered operation this could be avoided.

I have spoken of the value of the independent character of our self-supporting fore-fathers who were small farmers, but is it not also true that a too great development of the "ego" has been the cause of the difficulty of getting farmers to work together in matters of mutual interest? The preservation of the sturdy independence of the small farmer, without his disposition to be antagonistic toward unity with others is the end to be desired. If this were once accomplished all the advantages of being a small farmer could be preserved and all, or nearly all, of its handicaps removed by

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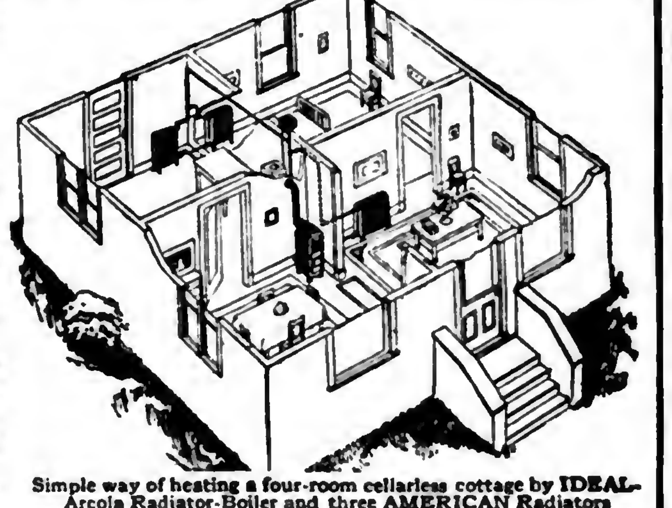

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the application of the co-operative principle.

Under a workable co-operative plan a community of small farmers might enjoy the advantages that closer living gives in the better facilities for social intercourse, consolidated schools and churches, and community centers with librarys in Grange and Lyceum Halls where even "movies" of the better class might gain their true place as an uplifting and educational force in the community; where united effort would give better facilities for electric light and power, telephones, water supplies and roads, and for the buying and use of supplies and for the production, care, grading, and sale of products,—the kinds of crops to be produced for sale being decided upon by a general council of the citizens of the community!

Do I hear a voice saying, "This is a utopian dream,—it will never come to pass!" But is it impossible?

Ask the farmers of other lands,—notably of a little country of which it was once said "what good things can thing come out of Denmark?"

The small farmers of that country have probably come nearer solving their problems than those of anywhere else in the world, and that by co-operation.

Descendents of the ancient Vikings, these people were brave and independent and when Denmark in 1866 would no longer submit to what she considered was the injustice of German aggression, like a bantam rooster braving a game-cock, she resisted. The result was what might have been expected,—she was overwhelmingly defeated and her people rendered helpless, and having nowhere else to turn, turned to the land and to each other. This they have done so successfully that Denmark may be said to have become the model agricultural state of the world.

The co-operative idea has spread wonderfully in other parts of Europe also, even during the war, and indeed it has been stated that in many places agriculture would have been impossible if farmers had not worked together in this way. My information is that co-operation is already successful in twenty-four of the countries of the world,—mostly in Europe.

In America, too, where miners, railroad men, and other consumers are getting together to buy for themselves, farmers are moving slowly in the same direction, especially those who have emigrated from European states where this movement, carried on by the simple Rochdale plan, has been so successful.

Landlordism ruined Ireland, and has kept back English agriculture, as England realized in the wartime pinch.

Great landed estates have been the bane of many countries, while a home owning class of small farmers is the best safe-guard against anarchy, extravagance, and many other of the vices of modern civilization. Can America afford to have them eliminated from the land? Will farmers drop antagonistic attitudes and join hands to sweep away their disadvantages as I have suggested, or will they allow things to happen?

The success of "Big Business" in mining, banking, steel making, oil refining, transportation, meat packing, wholesale and retail merchandising, and almost every other business under the sun, in lowering costs of production by reducing over-head expenses with an increase of efficiency in operation, elimination of waste of time and material, and by savings in buying raw material and supplies at lowest wholesale prices, and the increase in profits made possible by wholesale advertising and selling to the best possible advantage the standardized products, is a matter of everyday knowledge.

There is today untold waste in the world of small farming. Not so much intentional waste, but just as truly inefficiency caused by duplication of effort and machinery, wastes of time and energy and money caused by fruitless competition in buying and selling, besides actual losses of products and by-products from lack of facilities for their proper preparation for home use or market.

What next? Will the world's demand that it be fed more cheaply result in the establishment of great agricultural enterprises, conducted by corporations as the great packing establishments are conducted, with the small farmer eliminated and in his place "The man with the hoe?"

No, I have great faith in the American small farmer. He has never failed his country and he will not now. Before it is too late he will enlist under the "Divided Snake Flag" of our farmer fore-fathers, with the motto "Unite or Die," and peace and plenty will be the result now as then.

REPLY TO "WHAT OF THE SMALL FARMER?"

Well, if every farmer owning large or small farm would contribute a small sum of from one to five dollars to a fund to employ a Big Business Man as manager of all our interests the so-called small farmer would be transformed into a big business man. The present National Grange and Dairymen's League officials with their rubber stamp style of making demands and passing resolutions could efface themselves, and Mr. Gompers would have about as much chance of affiliating his A. F. of L. with the farmers as he would of crossing the Atlantic in a canoe. In proof of the above I quote from a leading publication the following:

"The California Citrus Growers, thru their auxiliary organization the Fruit Growers Supply Company, have purchased 41,414 acres in Lassan County, California and will manufacture their own boxes. The tract carries 689,986,000 feet of standing pine, 283,292,000 feet of standing fir. The investment including their plants will be $2,800,000 these co-operative fruit growers use about 20,000,000 citrus boxes every year, now costing 20 cents apiece. By making them themselves on their own timberland, they will get the boxes for 15 cents, a saving of five cents on 20,000,000 boxes or about a million dollars a year. The growers will collect from themselves for a period of years 2 cents on every box of packed fruit. This tax will wipe out the debt."

Now, contrasting the above we read of several up-state cheese and butter factories being bought out and closed by big business and we find the Vermont Dairymen using 88 percent of their milk supply to lower the price paid to the New Hampshire and Masachusetts farmers in competition for the Boston milk trade. Does the foregoing show that men at the head of the eastern farm organizations are of the right caliber? In other words, in so far as it would apply, the farmers of New Hampshire and Masachusetts should join with the Vermonters or get control of the cheese and butter factories of that state.—A. R. S., Tompkins Co., N. Y.

NEED FOR A SYSTEM OF COST ACCOUNTING

(Continued from Page One.)

the same number of columns, with the difference that the articles enumerated are those that the farmer is likely to purchase during the month. Each of these pages is ruled in 31 lines, one for each day of the month. The last two pages are reserved for the total receipts and expenses of the year. They are divided into 10 printed columns. The first is for the month, the second for the summary of articles purchased or sold, the other columns are for the amounts of each group of items, the receipts of expenditures and the totals. There is also a total of receipts for the year, a total of expenditures and the balance to the credit or debit.

This system of bookkeeping is very simple and includes only the general transactions, without any complications of items or of repeated amounts carried forward. However, before recommending the general adoption of this system, thirty farmers were selected to test out the utility of it, and as many books, ruled and prepared as outlined, were distributed among the same number of farmers. At the end of the year each farmer pronounced the system ideal.—Earle W. Gage, Chautauqua Co., N. Y.

ALSIKE CLOVER

Alsike clover will surely be appreciated by farmers the coming spring. There are four reasons why we prefer to sow considerable alsike in preference to other varieties. First, one bushel of good alsike seed sows from 12 to 14 acres, or more than twice as much as medium red or mammoth. The second reason is because it will stand more dry weather and also more freezing and thawing than other varieties. Alsike comes thru the winter when other varities freeze out completely. It will grow better on wet land than other clovers and is better adapted to quite poor land. Good stands result where other clovers will not catch at all.

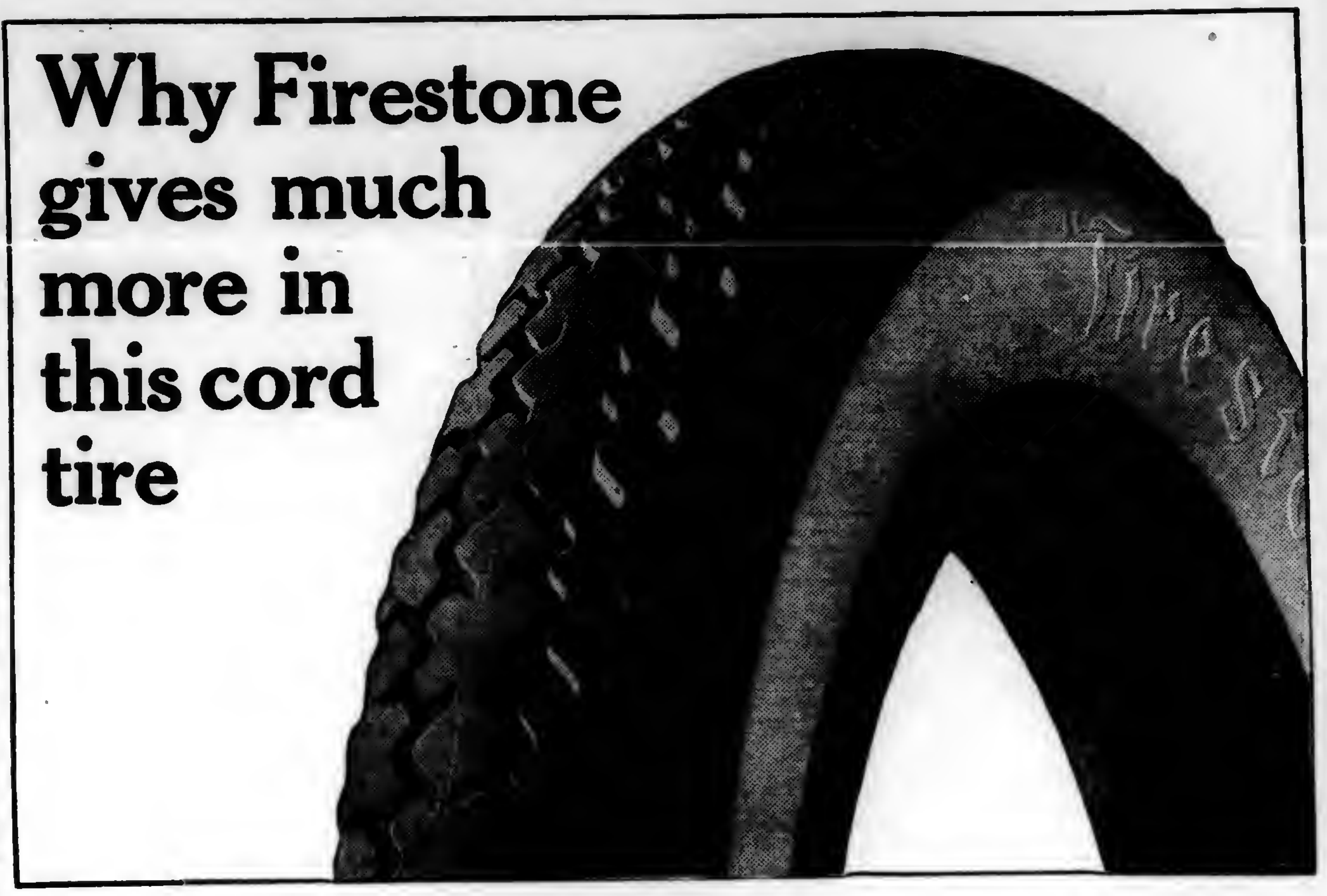
My third reason is that it makes a much better quality of hay and just as much per acre, and also grows just as tall on good soil as the medium red clover. Fourth, if it is left for pasture it will reseed itself. It will make pasture for several seasons by this method. If one cares to leave it for seed it can be cut like mammoth clover. It hulls from 2 to 6 bushels per acre. Alsike is of a slightly vining nature and thus keeps the ground moist. If sown for hay it is well to sow ⅓ as much timothy with it. This holds the clover up and makes an excellent hay. No one makes a mistake by sowing alsike.—W. E. F.

An Iowa farmer is responsible for the statement that if a newly purchased rope is so kinky that it cannot be used, the twist may be removed by tying the rope to a wagon and dragging it about on the ground.

No house should be without a porch. The south side is the best for it. Glassed in it makes a winter sun parlor.

Tile drainage, lime, clover and pure bred sires will increase your bank account.

Weigh and test each cow's milk each day. Get rid of the poor ones. Get a pure bred bull.



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And that tread is as good as it looks from the standpoint of preventing skid, slide or spinning of wheels. It has a tractive power never before equaled in a rubber tread, yet it has no inclosed hollows or suction features to be a drag on speed or a drain on power.

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ESTABLISHED 1880 PUBLISHED WEEKLY

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PHILADELPHIA, PA., JANUARY 17, 1920.
VOLUME 47 — NUMBER 3

Our job is to serve our readers. Whenever and wherever we can help you, write us.—The Editors.

SOME of the articles written in response to our request for a description of Farm Equipment and Home Improvement added will appear next week. We are delighted with the response on these subjects and we feel sure that our readers will be benefitted by reading what others are doing to make farm work easier and the homes more enjoyable. We have enough manuscripts to continue publication of the series for several weeks. Those not receiving prizes will be paid for at regular rates when published.

Auto Truck Show

ARRANGEMENTS are completed for the biggest truck show ever held in Philadelphia. The show will be held in the Commercial Museum Building, 34th Street below Spruce, from January 19th to the 24th. Already more requests for space have been received than for any previous show, and the indications are that it will be possible to learn more about trucks, accessories and other equipment than has ever been possible in this city.

The truck has become such a necessity in every line of business, including farming, and improvements have been made so fast that it is a matter of good business to attend such shows as this, and learn by comparison the merits of the different makes and to see the type and construction most likely to best serve individual needs. The advance list shows about 54 different makes of trucks which may be seen at this exhibition.

Inflated Currency

BEFORE the war the circulation of money in the United States was $34 per capita. Today it is $54, showing an increase of 54 percent. This increase in circulation does not represent increased wealth; that is, whatever increase has been made in the wealth of the country during these five years is not measured by the increased per capita circulation. This increase is the result of higher costs and of the inflation of credit. One of the big problems now before us is the deflation of credit; in other words, to get the dollar back upon its stable foundation. Steps have been taken in this direction in this country, also in France and England. France proposes to issue a great loan payable only in currency, and then retire the currency thus paid in. England has decided to prohibit further increase in the issue of treasury bills. In an effort to check the orgy of extravagance in this country the Federal Reserve Board has increased rediscount rates.

The world's trade, in fact trade in any country of the world, cannot be conducted satisfactorily nor mutually profitable until a common level in the value of money is reached. High as our dollar has climbed from its basic foundation other countries are in far worse condition. For instance our dollar, enhanced in value as it is, has a purchasing premium of 28 percent in England, 97 percent in France, 150 percent in Italy and 980 percent in Germany. Foreign countries will naturally refrain from buying any more than is absolutely necessary under these conditions. Even for Americans this is a good time to pay debts, but a poor time to assume long-standing obligations.

Clover Seed Situation

THE price at which clover seed is being sold may discourage many from buying and using clover the coming spring. We feel it would be a mistake to neglect sowing any clover. With seed selling from $32 to $35 per bushel, it is more than ever advisable to purchase the very best grade, and to choose the time and manner of sowing it, so that the best possible stand may be obtained. There is little likelihood from present indications that prices will be any lower during the coming season. In fact, the possibilities are that they will be higher.

Any great reduction in the acreage of clover sown would be a serious loss to feeders of farm animals, and a no less loss to the fertility of the soil. It is possible that the substitution of 10 to 20 percent of alsike would be an economical practice. Plans should be made also for the sowing or planting of other legumes for forage and hay crops. We shall discuss these later in the season.

Keep American Ideals

SOME very foolish and un-American things have been done and said by the over-zealous in their desire to protect and foster what they conceive to be Americanism. Certain laws have been proposed and some of them passed which do not square with the ideals set up by the founders of our government. Any laws or actions which tend to thwart or suppress the free and orderly expression of political opinion thru the press or by the ballot smacks more of autocracy than democracy and aggravates rather than cures undesirable conditions. It is not necessary to change the American ideals or to place undemocratic restrictions upon free and loyal Americans in order to safeguard ourselves and our institutions against anarchy or violent revolution. Criminals of all kinds must be dealt with speedily and effectively whether their acts are against individuals, society or the government. The constitution and our statute laws have provided for this, and while they may need strengthening and better enforcement in some respects care should be exercised that we do not stagnate the development of the democratic spirit. Let us be careful that we do not swing from the extreme of carelessness in our freedom to the opposite extreme of meddling officiousness. Congress and state legislatures should think before they act.

Prohibition to Date

UNLESS a cog slips between the time this is written and the time it is read by our readers, prohibition will be an established fact in so far as legal enactment can make it so. It may be interesting to present briefly a few of the successive steps during the past 112 years:

1.—Demand for moderation in the use of ardent spirits arose in 1808.

2.—A demand for abstinance from ardent spirits and moderation in the use of malt liquors about 1818.

3.—A sentiment for the abstinence from both arose about 1840.

4.—Agitation against the sale as well as the use arose in 1842.

5.—A demand that the legalizing of the traffic be stopped began in 1847.

6.—Birth of the Prohibition Party in Chicago in 1869.

7.—The W. C. T. U. had its origin in Ohio in 1873-4, following the Women's Crusade.

8.—The Anti-Saloon League was formed for non-partisan work in behalf of prohibition, originating in Ohio in 1893.

9.—Webb-Kenyon Law, Act of 1913.

10.—Alaska Prohibition, Act of 1917.

11.—Porto Rico prohibition, also in District of Columbia, Food Control Act, Submitting of amendment to the Constitution, all passed in 1917.

12.—War Prohibition, September 23, 1918.

13.—Prohibition enforcement act, November, 1919.

Twenty-one states had adopted prohibition by popular vote, and 12 by act of the legislature. Mississippi was the first state to ratify the amendment and Pennsylvania the 45th and last. New Jersey, Rhode Island and Connecticut voted adversely on the amendment.

The pledge of the first temperance society in 1808 read: "No member shall drink rum, gin, whisky or any distilled spirits or composition of the same or any of them, except by the advice of a physician or in case of actual disease, also at public dinners, under the penalty of twenty-five cents, provided that this article shall not infringe on any religious rite. No member shall be intoxicated under penalty of fifty cents."

Another society about this time pledged its members not to get drunk except on the Fourth of July, or on a regular appointed Military Muster Day.

Forestry

THE American people as a whole have so far not shown much interest in the subject of forestry. While a good deal has been done, it is small in comparison to the future needs, and has been accomplished by the faithful and energetic efforts of a few men. We have so far failed to realize the necessity of forests to the well-being of the human race. In America we have always, up to the present, had such an abundance of timber that its exhaustion scarcely entered the public mind. Another reason for the unpopularity of this subject is, no doubt, the fact that it requires from 60 to 100 years for a tree to grow and mature, and, in our impatience, we have not been farseeing enough to provide for the future. The present rate of forest devastation will in a few years exhaust this great source of natural wealth. The reforestation of our country should occupy the attention of every institution and organization in our land, and should be pressed home until this neglected subject becomes a popular one. The following comments are taken from the report of the Committee for the Application of Forestry:

"More than 100,000,000 acres of forest lands which ought to be growing wood have been devastated, and are now mere idle wastes. If we had conserved their vast power to produce instead of recklessly destroying it, the price of lumber would not have doubled, and the consumer would have been spared the corresponding rise in the cost of living.

"The report shows that the United States is the greatest timber consumer in the world; that we cut two and one-half times as much as we grow; that we have less than half as many trees now standing as would be required to produce timber at the rate we are using it; that our needs are increasing; that there are no forests in the world from which we can import lumber enough of suitable kinds at suitable prices to meet our demands; and that on most of our forests we practice not forestry but forest devastation. Under these conditions a timber shortage was inevitable. As the prices of paper and lumber show, it is already here, and is growing steadily worse.

"Europe, which has one quarter of its total area in permanently productive forests, uses but 150 board feet per capita each year, and yet has to import timber in considerable part from us. We use more than twice as much wood in proportion to population. We have less than half as much productive forest in proportion to area. Europe practices forestry. We practice forest devastation. How can we hope to escape the natural result?"

The report suggests a National Commission with authority to make and apply such regulations as may be necessary to prevent forest devastation on privately owned lands. Such regulations would lock up no forest resources, but would insure that young growth will take the place of the old. Uniform control, National and Nation-wide, would put the lumbermen of all the States on the same equitable basis. Protection against fire (except National Forests) would be left in the hands of the States, with generous financial assistance from the Federal Government.

HARRISBURG LETTER

Down to Basic Principles.—It is very probable that recommendations for incorporation into the State Constitution of a new system for charitable appropriations and requirement for a budget will be made by the Commission on Revision and Amendment now in session in this city which has scheduled for the coming week discussion of these two all important propositions. Members of the Commission voiced with emphasis last week what everyone conversant with state affairs has known for a long, long time and the preliminary discussion brought out nothing more than has been discoursed upon from platform and pulpit, used by the ambitious to further their own plans and by others as instances how not to do things. The significance of the discussion was that it had at last gotten to a place where the fundamental law of the state is involved. Enough data to end the system of charitable appropriations in this state and to put it on a standardized basis preparatory to reducing the biennial allowances by the legislature has been prepared and there is little doubt but what the members of the commission are favorable to some plan to end what has been regarded by many people as poor business, to use a mild term, and clung to by politicians.

What May Happen.—It should not be forgotten that the Commission can only recommend and that the legislature is the next place. There are some people who think that the work of the commission will be so well done that a convention may be called for more or less formal action on a general revision; others, that the legislature may decide to submit a series of amendments. In any event there will be much debating of the findings of the Commission in the legislature.

To go to the People.—Dr. L. L. Driver, the new chief of the recently established bureau of rural education, will take up his work this week and it is his plan to start with the people. Dr. Driver consolidated many schools in Indiana and brought about a good system in opinion of many educators. He has told people in this state that he realizes that Pennsylvania has diverse problems and that the first plan will be to go to the people and find out the conditions and then ask them to help. Pennsylvania has different rural education problems in every county. And one of the prime causes of trouble is the unequitable method of apportioning the funds from the State, which now operates to advantage of the urban community.

Big Meetings Ahead.—Secretary of Agriculture Fred Rasmussen expects the series of meetings to be held in Harrisburg next week to have important influences upon the attitude of the state, governmental and legislative, in regard to agriculture and if his hopes are realized movements for state aid and encouragement will be shunted into orderly channels in advance of the meeting of the general assembly of 1920. Much attention is to be given during the discussions to marketing, cooperation and other features, while the specialized crops will receive first hand consideration.

To Raise Restrictions.—The restrictions on shipments of hogs in Pennsylvania will be materially changed on January 15 when the quarantine will be done away with and new regulations put into effect. These regulations will keep control of shipments and require use of disinfected cars and stockyards.

Huge Contracts Let.—The State Highway Department has started off 1920 by awarding contracts for something like $2,000,000 worth of work, some of the figures being greater than expected. The awards have been held in abeyance for weeks until officials and others in the communities where roads were affected could report on sentiment. In every instance they seemed to want the roads regardless of the cost.

Range of Farm Wages.—People who have been working on wage statistics to show reasons for the high cost of living have been devoting much attention lately to farm labor wages. Male and female pay has been considered and in some counties it is found that the advances have been utterly out of proportion to those in the big industries. They are so far short as to be laughable in certain cases. Figures on these conditions have been sent to a number of business men's organizations to the clubs which have been studying reasons for the high cost of living and the hope expressed that retail merchants study them and find new excuses.

Standard Test Next.—The State Bureau of Animal Industry has announced that it would soon be ready to put into effect its new standard test for milk and cream butter fats. There have been 238 milk and cream plants listed and 46 official testers, all of whom have been licensed. The old plan of allowing each dealer to have his own system of tests has ended as far as Pennsylvania is concerned.—Hamilton, Harrisburg, January 12, 1920.

NEW JERSEY NEWS

Farmers Oppose Daylight Saving.—New Jersey farmers are registering opposition to a proposed daylight saving law to be introduced in the 1920 session of the Legislature. It is the intention of Senator William B. Mackay, representative in the Upper House from Bergen County, a farmers' and commuters section in the Northern part of the state, to introduce a measure early in the session that will make the operation of daylight saving uniform thruout the state, so that there will be no confliction in the various municipalities. Trenton has already gone on record by a vote taken thru the Chamber of Commerce in favor of a law, such as was repealed by Congress. Hunterdon County Pomona Grange, No. 3, comprising thirteen different subordinate granges in that rich rural section of New Jersey, at a meeting held in Flemington adopted resolutions opposing the daylight saving plan, while other granges in the state are preparing to send delegations to the Legislature to see that the bill by Senator Mackay is not acted upon favorably by the lawmakers.

Governor Requests Less Waste.—Granges and other organizations in New Jersey, superintendents and teachers in the rural schools, farmers and others have been requested by Governor William N. Runyon to take serious thought to lessen extravagance and waste, to abate inflation of credit, combat unrest and to build up a more stable, prosperous and truly American population. The call was extended in a proclamation for the purpose of directing attention to "Thrift Week," which will be conducted in New Jersey from January 17 to 24 under the direction of the Young Men's Christian Association supported by the Federal Treasury Department. A program of economic education has been prepared and this will be given the widest publicity.

Rural Matters in Legislature.—The 1920 session of the New Jersey Legislature, has among its members a large number of residents of rural sections of the state who are prepared to support any measure which will result in profit to the farmers of their balliwicks. It is anticipated that one of the pieces of legislation that will attract the attention of the Senators and Assemblymen from the large agricultural counties will be in relation to a far larger appropiation for the State Department of Public Instruction for the payment of much higher salaries to teachers thus attracting them to the country.

Will Hatch Chicks in School.—Plans have been prepared for the hatching of chickens by the boys and girls in the agricultural instruction classes in the Princeton High School, where incubators have been installed. Miss Annie T. Washburn, instructor in agriculture at the institution, has announced that it is to further the keeping of better stock of this kind. Johannes Vos, president of the Princeton Boys' and Girls' Poultry Club, has anounced a price list and other information concerning chickens for the members of the organization.

Jersey Rich in Farm Products.—The lands of this state in 1919 produced $71,000,000 worth of grain, hay, fruit and vegetables. This sum is aside from $40,500,000 of live stock, and a considerable part of this wealth was produced in the year just closed. There were also maintained 40,000 to 50,000 farm homes, including those of tenants. It was easy to see, therefore, the agriculturists of the state who met at the Capitol and other points in Trenton this week at "Agricultural Week," were proud of their calling and their importance to the life and prosperity of the commonwealth.

NEW YORK LETTER

State Wide Association of Breeders.—New York State has long led in the breeding and sale of purebred Holstein-Friesian Cattle, but has been losing some of its Southern and Southwestern trade because of the better organization of the breeders of several other states who have federated their breeding associations. Consequently our breeders will correct this in a two week's intensive campaign to begin on January 19. The object of the work will be to enlist interest of owners of purebred and grade cattle, and to unite the many county or local breeders units into a state federation of at least 3000 members. Some of the greatest breeding experts in the nation and state will assist in the series of lectures to be given in 25 of the leading Holstein centers. All the Holstein associations of the state are taking part in this big movement to stimulate the industry of producing high producing cattle.

To deal with Canners.—In response to a demand for an organization of farmers to deal with canners collectively, to secure fairer prices, better contracts, and to do away with the custom of holding up the farmers' pay until the finished product is sold the growers of Onondaga County held a meeting this week. Such a marketing organization already exists in three of the western counties of the state. A few tentative offers on canning crops are being put out by canners as $4 per 100 pounds of green shelled peas for 1920. The pea crop was a failure last year and farmers are slow to sign up this year. Many didn't cut their crop it was so poor—many didn't get back the cost of the crop, while very few got any fair return for the labor.

Legislature Meets.—With the formal opening of the winter session of the Legislature this week is precipitated a contest between a Democratic Governor and a strongly Republican legislature. The farmer will support measures he worked for and lost last winter, viz: Health insurance and the so-called welfare measures. Besides these issues, those of municipal ownership, water power legislation, daylight saving, tax reform, the making of the milk industry a "public utility" and other vital questions will be discussed.

The endorsing of the federal provisions to enforce prohibition will receive attention. The Governor's program faces defeat, as it did last winter, especially that there is now a Republican majority in both Senate and Assembly much larger than a year ago. State finances will require much thought. Budget requirements are expected to be $142,000,000, with resources of only $123,000,000. The session will doubtless be a severe one for length.

Dumping Ground for Poor Seed.—The Geneva Experiment Station says this state is a dumping ground for poor seed due to poor seed laws. An effort will be made this winter to correct these statutes. Of all field seed used in this state, 94 percent are imported from other states.

Poultry News.—The Oneida Poultry Association is holding one of its biggest shows this week. There are now 32 such associations in the state, which have suffered bad set backs by the war. The industry in this state needs much help from the State College as to improved methods of selection for egg production, and as to feeding and the use of artificial lighting, if the industry is to come back to normal. The college is a leader in these things, but needs much additional equipment in order to meet the demands that are coming to it. Three of its leading experts are to tell of the work in these lines done by the college at the great Madison Square Garden Show, January 20-24.

Marketing Improvement. — The Tompkins County Farm Bureau is to take up better market service for 1920, devising a system whereby variations in prices of commodities to both consumers and producers, and the pooling of products for volume and standardization will be considered.

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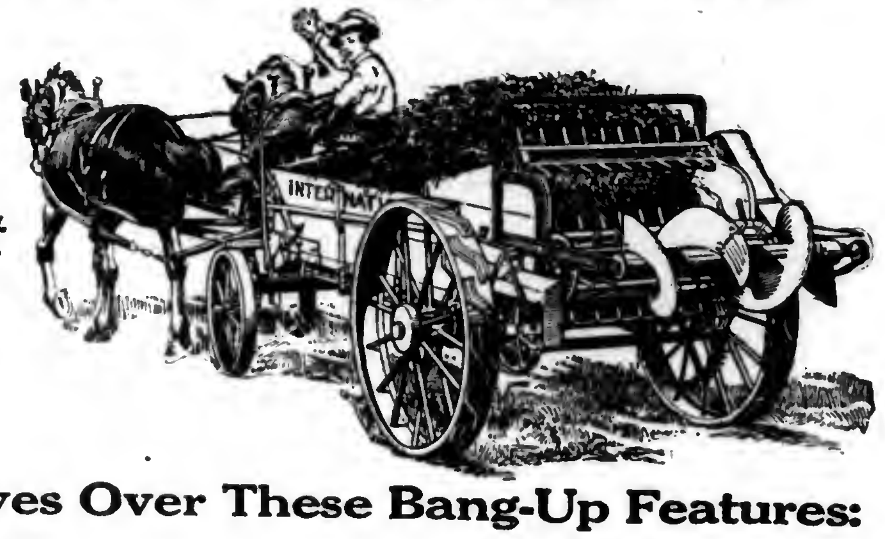

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3. Oscillating front axle, auto-type, permitting short turn. No pole whipping.

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4. Power is transmitted from both ends of the rear axle—beaters and wide-spread driven from one wheel and the manure feed from the other.

Wheels Track

5. Rear wheels track with the front wheels, lightening draft.

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6. There is no clogging, jamming apron, because the spreader has a tight bottom. Spreads anything.

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7. Handles good substantial loads easily, because two all-steel beaters with chisel-pointed square teeth work from both top and bottom of the load.

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8. The spiral wide-spread behind the beaters gives the manure a third beating, and spreads it finely and uniformly beyond the wheels.

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9. An all-steel main frame—wood box sides hold only the load.

THE NEW INTERNATIONAL—made in two sizes—is unquestionably the best spreader value on the market today, and when you consider it in connection with its price, it is so far ahead of all others that it is bound to prove the sensation of 1920. Place your order early. For further information send you name and address to

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KINGS, BUGS AND WEATHER

An old neighbor of mine prided himself upon his garden. He used to give me instructions in the art. Once I protested against the amount of seed he used in the planting of cucumbers. His reply was, "You must always plant about twice what you need, for the bugs will take some." The statement gives one of the best illustrations of the difference between the old and the new day in farming that could be found. The old planted for himself and the bugs. The new plants for himself and exterminates the bugs.

The producer has always had to pay tribute to some one or to something. In feudal days and in feudal countries today, a share of what he raises must go to the crown. In our day we are apt to think that an altogether too large amount must go to the manufacturer. And an enormous loss is incurred every year in the amount taken by bugs and pests. Many of these can be exterminated with slight cost and some attention.

In a larger scale many farmers plant for the bugs in failing to use their heads and resources to the best advantage. Not far from the writer are two farms lying side by side in the same valley. To one of the owners this will be a prosperous year. To the other it will be a lean one. In the spring when the season was wet the unfortunate one sat in the saloon and waited for it to stop raining. The other was on the land and was working. The difference is easy to explain. One was dependent upon the weather; the other had taken time by the forelock and his soil was underdrained. It cost time and money. But a few seasons will more than pay for it. He was tired of paying an enormous tribute to the fickle weather king.

Farming will never be a safe business until we learn to cut out this tribute money. As well pay it to a king as to bugs and the weather. The wise farmer decides that all his energy is going to pay him one hundred percent rather than dividing profits with some one else.

Farm efficiency is not in working long hours or in getting cheap help. It is in making everything yield its best. To work long hours when that deprives one of keeping in touch with the best of methods is poor efficiency. The farmer must take time to learn how to use what he has to the best advantage.

It has been said that a look at the farm and one can tell whether the owner reads the farm papers. Perhaps it is not always true but it is so near the truth that no one will want to deny it. A friend waiting for me one night picked up a farm paper on the veranda. He busied himself looking thru the adds. Suddenly he exclaimed, "By jove thats just what I need. I wonder if it works all right."

What he saw was a lump crusher. The picture had been in advertisement for several months but he didn't believe in paper farming. I told him of a neighbor who had one and he went to see it. He afterwards confided to me that had he used one this season that it would have been worth a hundred dollars to him in labor. He had been planting for the bugs when he might have had it all for himself.

The same principle applies to care of the stock and of tools. It is poor efficiency to over work or underfeed a team. It is feeding bugs when the tractor is fed too little oil or the bearings are not watched.—W. H. Leach, New York.

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The Fourth Annual Exhibition, January 20-23, Promises to Excel Any Previous One

The managers have secured two of the largest buildings in Harrisburg for the staging of the annual product's show, approximating 40,000 square feet of floor space. This space will be divided between exhibits of farm, dairy and orchard products from every section of the state, and the manufacturers' exhibits which will be most comprehensive.

Exhibits

The exhibits of farm products will bring together the exhibits that have been adjudged winners in the various county shows held earlier in the season. The cash prizes offered in each class also carry the distinction of highest state honors. The Boys and Girls Corn Contest, for the boys and girls of the state under 20 years of age will be one of the features. There will be exhibits and suitable cash prizes for the winners of corn, dairy products, small grain, cigar leaf tobacco, wool, fruits, eggs and apiary products.

Meetings

The meetings held during each day of the show will cover almost every phase of farm activities. These will be in the nature of sectional meetings, and no matter what phase of agricultural work may appeal to the farmer, he can readily find a gathering of men and women interested in the same subject, and these meetings will be addressed by experts, many of whom are of national reputation.

The evening meetings are worthy of particular note. On Tuesday evening, January 20, an unexcelled program has been arranged. Governor William C. Sproul will deliver the principal address of the evening, while there will be a talk of unusual importance by Highway Commissioner Lewis T. Sadler, who will outline the State's highway plans for 1920. Attorney General William I. Schaffer will tell of the proposed changes in the State constitution and Col. Edward Martin, Commissioner of Health will deliver a timely address. Secretary Rasmussen will preside at this session. This meeting will be held in the Chestnut Street Auditorium and special arrangements have been made to look after the visiting farmers.

Plan to Attend

It is hoped that the farmers will make every effort to attend this meeting, not only to greet our Governor, but to hear his message and the messages from the heads of the various Departments, all of which will be of vital interest to every citizen of the state.

The exhibits of farm implements and machinery should in itself attract thousands to the show. Manufacturers from every part of the United States have arranged for exhibits, and all the latest and approved devices for use on the farm or in the dairy will be shown.

With the advancing prices of all food commodities, housewives need more than ever to learn to buy their food supplies in terms of food value received rather than in terms of pounds, pecks or quarts.

Don't skimp on vegetables and fruits now that winter is here. They are better and cheaper than medicine.

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Superior Grain Drills deposit the seed in the bottom of the seed trench covered with an even depth of earth, insuring an even chance of germination and growth. Built with solid steel frames and axles, extra strong steel or wood wheels; staunch and long wearing, yet light of draft for team even in the heaviest soil.

Superior Tractor Drills have the same special features as the regular Superior Grain drill. In addition, they are equipped with special power lift and adjustable tractor hitch. *Can be used with any tractor.* Power lift enables operator to raise or lower discs while in motion without leaving seat of tractor.

Your Superior Dealer will be glad to show and explain to you the many exclusive special features.

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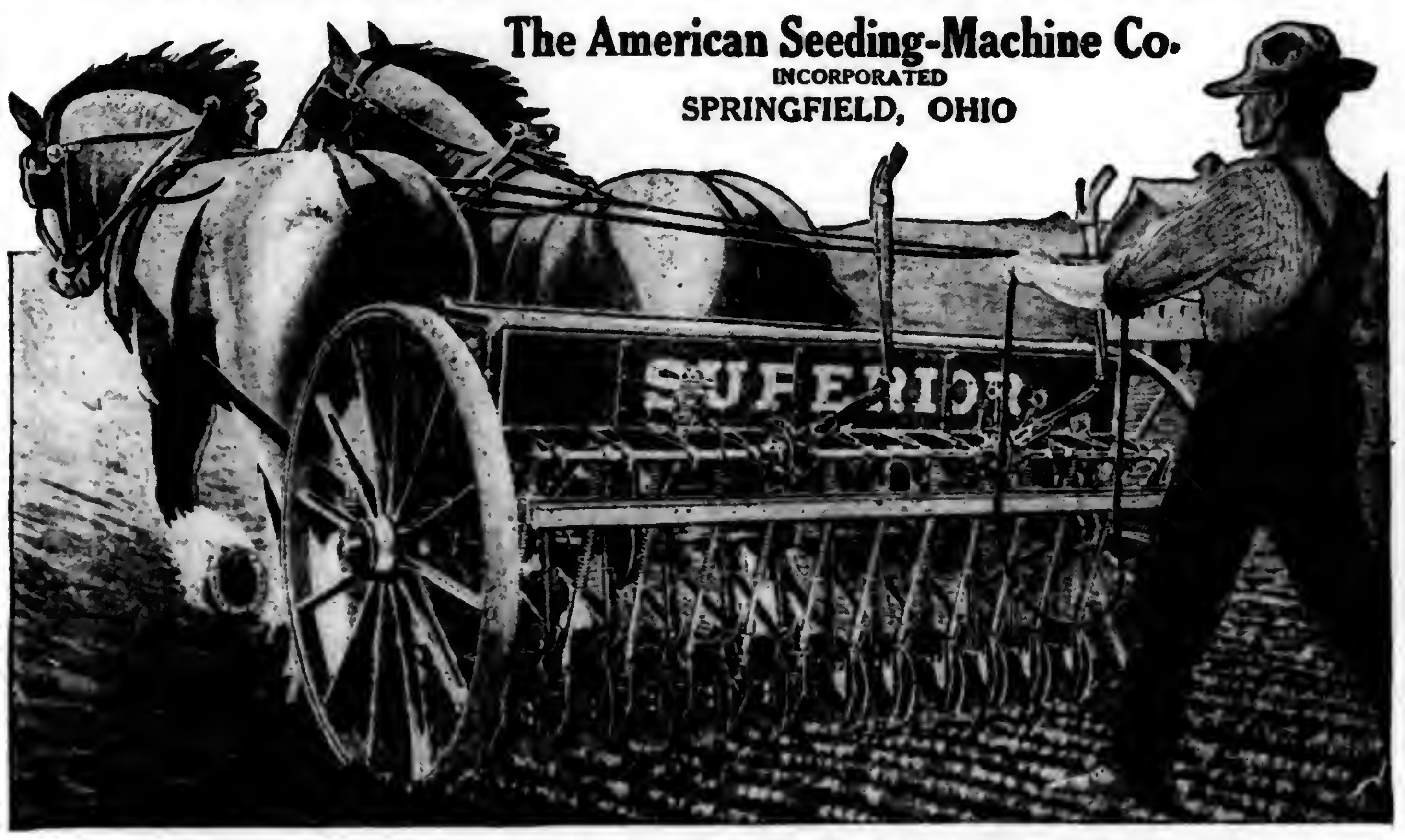

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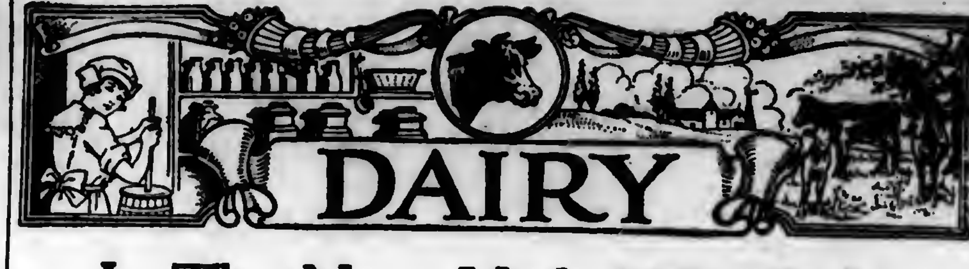
American Separator Co., Box 1062, Bainbridge, N. Y.



In The New York Milk Field

THE PRICE OF MILK

Nobody expressed much surprise or dissatisfaction when it was announced that three percent milk would bring in January $3.69 at 200 miles from New York. This is one cent more than December milk brought, and it will be remembered that there is usually a decline in January. December, however, was rather low, and January certainly is not high. It is generally agreed tho that a little money can be made on milk now, even if feeds are very high, if one is well situated and can do a lot of work. What would dairymen say if one should express the opinion that milk is bringing about as much as it should? Perhaps we better not try it, but if milk comes up to the point where business methods can make its production pay there would shortly be an overproduction.

Cows have dropped off a very little, but many observers say that they are soon to come back. That has not been my opinion, but it may be true. It is argued that only a few calves have been raised for the past two or three years and that there is shortly to be a shortage. Should this prove true it may possibly be a good thing for milk producers, especially those who have cows without buying. We have been tending towards an overproduction of milk, as I see it. At any rate I believe that any farmer who has reasonably good cows, a first class purebred bull and can find a place for calves and gives them good care might as well raise twenty or thirty percent of his calves if they are good ones when they come.

Breed Up

By a good pure bred sire, I would mean one that is a good individual, of course, but he should have good ancestry. It would be wise to go back two or three generations and see what the dams did. If three generations have kept up to ten thousand pounds production or better, it certainly looks favorable. If one hasn't got that sort of a bull it would be well to look around. They can be found without a great deal of trouble. If a man has a scrub bull, he better go mighty careful about raising heifer calves. He might get something worth while but the chances are too much against him.

Sport Cows

In looking over a herd of 125 cows today, the manager pointed out one that he seemed to think was the most profitable cow in the lot. She is not large, is broad and fleshy, rather heavy forward, in short almost a typical beef type. I was told that she has never been dry since they owned her for she cannot be dried off. She never gives an extremely large mess, but is always at it. Her yield is over ten thousand pounds a year. A good many people would say raise her calf for a cow. This I question. She is a sport or I miss my guess. I would want to raise my calves from cows of good form as well as of good production.

The Hay Market

In my section there is for the most part enough roughage to carry the stock thru. A little hay is offered for sale and it is selling locally in town and to a few farmers who think they may be short. Thus far there are no shipments. There was not much shipped last winter, however, until well towards spring, but dealers were buying. When spring came they were willing to pay twenty dollars and take it in the mow. Now, one has to deliver loose hay to get eighteen dollars for it. It is an even guess that this is as well as one is likely to do, at the same time the buyer is not doing so badly.

Ice Harvest

Ice is being harvested the most actively that I have ever known at the present stage of its formation. Dealers and the city health board are urging it strongly, and the League is adding its advice. It is a good venture to say that ice will be used to the greatest extent next season that it ever has been. Of course, it adds to the expense if furnishing milk to use ice, especially in large quantities, but we must do it, and it is one cog in getting good prices for milk in the years to come. On small ponds ice is still cut with saws in the old way, but if there is much to cut it pays to have horse power for cutting. Some of our farmers are getting it cut in this way for four cents a cake. It is a good bargain for the farmer, but it is said to be for the cutter too.

Cow Prices

While grade cows are selling at $100 to $200 and an occasional sale just outside of this each way, pure breds are selling at a much greater variation even among dairy farmers. I was offered three three-year-olds today that are soon to freshen for the second time for eight-hundred dollars. These are of good breeding and of fair size. Would judge them to weigh about a thousand pounds. I should prefer them to weigh a little more at their age, but they are good, and I am sure that they are worth $250 or more. A pure bred ought to be worth a hundred dollars more than a grade if the breeding is really good, not fancy. Two of these had heifer calves last year which sold at four months for $240. The three hundred dollars additional investment in these ought to return a hundred dollars any way.

Torn Teats

I saw a strange case today. It was a fine large cow with a well shaped udder, but with only three teats. The fourth one had been cut entirely off on a barbed wire fence. I have seen teats slit open on barbs, but I never knew one to be cut off. The treatment was cotton saturated with carbolated vaseline. Blood and milk were running out but this material was plugged in. Good treatment afterwards and the wound healed and the quarter dried. When the cow freshened again the quarter seemed to produce milk, but did not cause trouble at first. Later a little pimple formed where the duct should be found. This was opened and discharge followed for a little, but soon healed and has caused no more trouble. The cow still produces profitably.

Freak Coloring

Did you ever see a pure bred Holstein with a switch all black? I never did, but there may have been such. How about a Holstein with a black udder? Well, I have seen one. The fellow who tried to wash the udder in the dusk the first night after she was brought to the stable had a hard time washing off the black, finally he gave it up after careful examination, the whole performance adding much to the amusement of the other boys who were "on the joke" laughing in their sleeves until the fellow gave up. This cow proved to be the best one in the lot of ten selected and brought in at one time. Really, I have no great faith in color marks any way, for determining a good cow.

The Battel Report

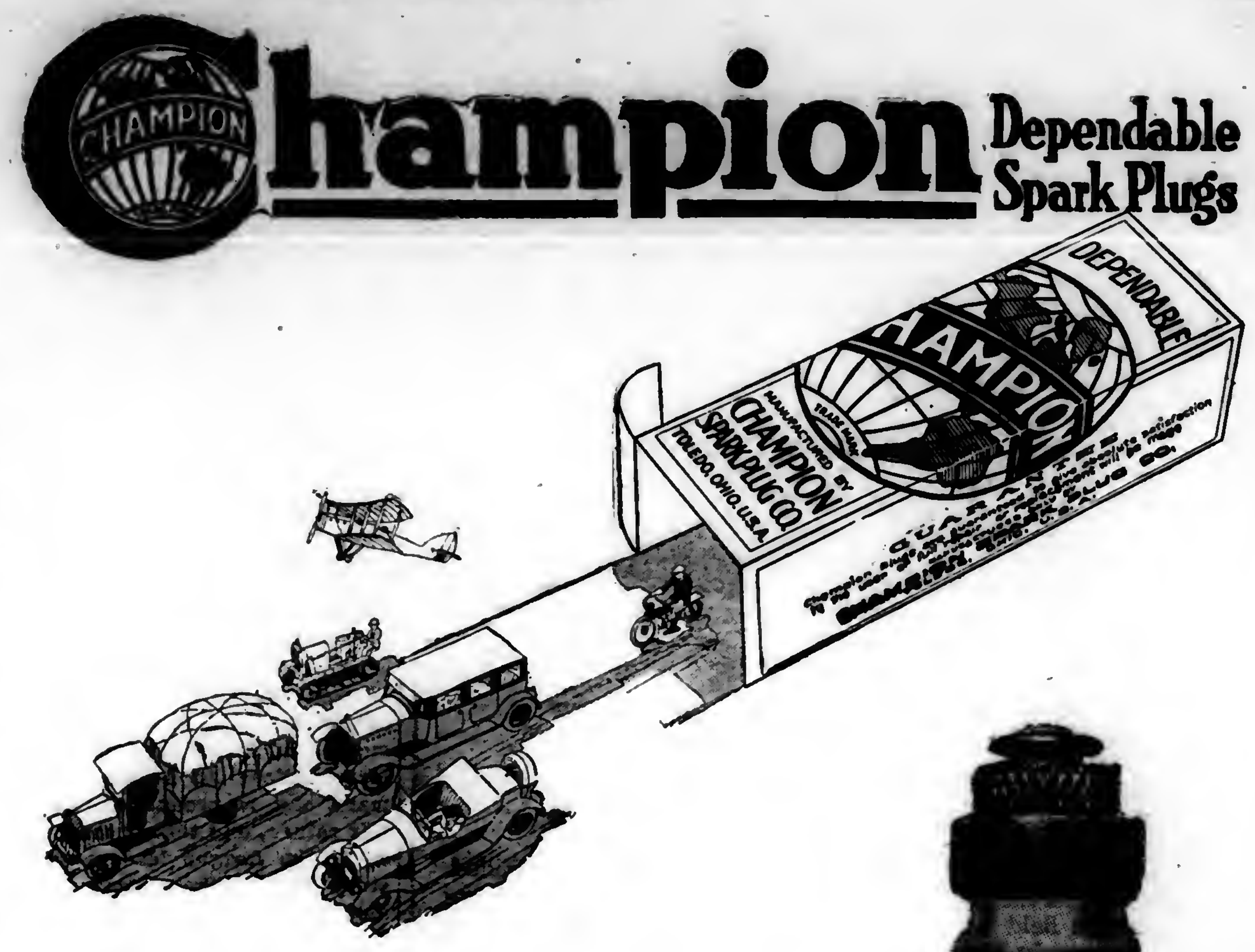
Among the things of public interest with which our farmers have to do there is little that gets more discussion than that portion of the Battel report dealing with the market milk situation. It is suggested in that report that a commission have the authority and the duty to determine prices of milk. This includes not only the price to the consumer but the price which the farmer is to receive. I have heard well informed farmers argue that this scheme is to be put thru the legislature this winter and that it is simply a political move in which not only professional politicians but the dealers are interested from selfish motives. This, it seems to me, is not good reasoning, altho I do not claim any superior knowledge. It is very proper for us to be informed and ready, but as one of the League officials said yesterday, we have too many farmer members in the legislature to permit any such foolish action. The report may be for effect anyway.

Daylight Saving

There is one line, however, against which we need to guard. The national daylight saving proposition went by at the demand of farmers. Can it be thus dealt with as a state issue? We have the state laws in New York still, and cities in several instances have put themselves on record as favoring its continuance. Farmers are determinedly opposed to turning the clock ahead again, and it looks to me, as tho they are not going to do it, law or no law, and I know of no penalty for refusing to meddle with the hands of the clock, many farmers last year simply let the clock alone, much to their advantage, but they had to get to the trains and the milk station earlier just the same. It would be much better to repeal the law and have a clear track.—H. H. Lyon.

George Washington was a good farmer. When he once needed a farm manager he described the man he wanted in a letter as "above all, Midas like, one who can convert everything he touches into manure, as the first transmutation toward gold."

One of the healthiest signs of the times is the larger number of well attended local farm meetings. The farmers' public business must be done in meetings. Even five years ago farm meetings were few and far between and poorly attended.



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Champion Spark Plug Company, Toledo, Ohio

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Light in weight. Easiest to handle. Best churning results. This all-steel churn cannot soak up moisture and is easy to clean and keep sanitary because it is made of drawn steel heavily tinned and soldered smooth. Will last a lifetime. See them at your dealer's and write for catalog No.32X.
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dirt and filth stick to the flanks and udder and fall into the milk pail. Clip the parts every three or four weeks, wipe off in a jiffy before milking and get pure, wholesome milk. A Stewart No. 1 Ball Bearing Machine will clip the parts in 5 minutes. Also good for clipping horses and mules. Lasts a lifetime. Price $12.75. Get one from your dealer's or send $2 and pay balance on arrival.
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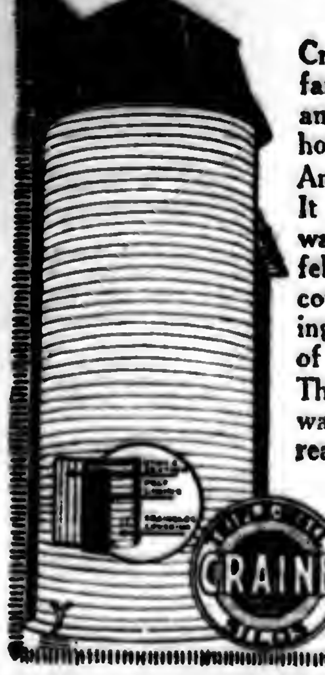

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Craine triple wall silos harmonize with the finest farm buildings. Their smooth, handsome appearance is unmarred by ugly, bothersome, loose hoops and lugs.
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A guarantee means nothing if it does not give the advantages which it sets forth. Moline Chilled Plows give the users the best possible value when they buy and afterwards save the expense of repairs due to breakage. The hard surfaces on Moline Chilled Plows resist the wear of gritty soils and the gray iron backs do not break.

The Moline Line offers a chilled plow for every plowing requirement and every plow is light in draft, easily handled and does excellent work.

See your Moline Dealer about getting a Moline Plow now or write us for full information.

Moline Plow Co., Moline, Illinois

Nearest Branches at Poughkeepsie, N.Y. [illegible], and Baltimore, Md.

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Plows (steel and chilled)
Harrows
Planters
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HOW TO GROW CRISP, SWEET VEGETABLES

No vegetables you can buy will equal the delicious freshness of those you can grow yourself, if you plant your garden with Forrest's Fertile Seeds.

Start right by sending for our catalogue. We list nothing but the best varieties—exactly the same as we sell to market gardeners. Send for one of our special 25c, 50c or $1.00 seed collections described in the catalogue, or make your own selection. In either case, you'll get seeds you can trust for vigorous growth and bountiful yield. Be sure to send for our catalog. It's free.

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The Silo Beautiful
That Lasts for Ages

Get the beauty and durability of vitrified tile in the Preston-Lansing patented block. Our method of construction gives enormous strength—block braces block in ship-lap formation. Between each tier is a thick layer of cement and twisted steel reinforcing. Only a thin line of mortar shows inside and out, giving a smooth, beautiful finish. Silage settles better—less chance for frost to penetrate. The dead-air spaces protect against extremes of temperature.

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The beautiful, even color of the blocks lasts indefinitely. The steel hip roof gives extra silage space. Steel or tile chute—continuous doorway. The first cost is the only cost. *Write for Catalogue and Prices.*

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Pays for itself many times over. One man and team opens furrow, drops seed any distance or depth, drops fertilizer (if desired), covers up, marks next row. Automatic. More accurate, dependable and quicker than hand planting. Furrow opens and seed drops in plain sight. Does not injure seed. Has long life, needs few repairs. Sizes for 1 or 2 rows. Protects you against uncertain labor and season. Investigate Now.

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MILK PRICES FOR JANUARY

The Dairymen's League price for January is a cent per 100 pounds higher than in December or $3.69 in the first zone for 3 percent milk. At Syracuse this means $4.01 due to sectional differentials. This is a total advance of but 27 cents per 100 lbs. since November 1, and this will be the high mark of the year, according to precedent. The price is based on butter and cheese prices of the previous month, which up to December 20 were $.7322 for butter and $.3199 for cheese. Near Buffalo producers sell at a flat rate of $3.84 or on butter fat test at $3.56 for 3 percent milk. This price is far below that of one year ago tho commercial dairy feeds are much higher. For instance gluten feed a year ago was about $54 a ton and is now $72. Butter is also considerably higher than a year ago. Dairymen feel that the Warren formula, based on actual cost of production, is a much fairer method of fixing the price of milk. Many believe the League should demand cost of production, as only a fair return, and that it can be secured if the League leaders will only stand firm in their demands asking also for a better system of distribution, so that consumers may be able to use milk.

GUERNSEY BULL SOLD FOR $16,400

High Point Cavalier 41924, a two-year-old Guernsey Bull, has recently been sold for $16,400, by C. D. Cleveland, Monmouth County, New Jersey, to W. H. Gratwick, Erie Co., New York. This price has been exceeded in the breed only one time in private sale, and once at a public sale.

High Point Cavalier 41924, was bred by Jules Breuchaud, New York, and dropped on January 6, 1918. When three months old he was sold to Daniel B. Sampson, and Mr. Cleveland purchased the bull from Mr. Sampson three months later.

This sire is the first calf out of the splendid cow, Cavalier's Helen 65648, a daughter of Langwater Cavalier 21012, and whose record of 734.34 pounds of butter fat gives her fourth place in the senior two-year-old class. His sire is Ultra May King 27600, a son of Don Bernardo of Linda Vista 20617 and out of Ultra Lady 38913, one of the best daughters of Ne Plus Ultra 15265.

Mr. Cleveland reluctantly decided to part with this promising young sire, and he reserved the right to retain him at Sunnybrook Farm for six months.

MAKE AN INVENTORY

One of the things that organization has done for farmers is to teach us that in order to get a fair price for our products we must know what those products cost. More and more are farmers keeping simple accounts of the different parts of their business. The keeping of accounts is also necessary to avoid trouble with the income tax report.

The basis of all accounts is the inventory, and the beginning of the year is the best time to take inventory. Your state college of agriculture or your county agent will be glad to give you simple directions for making an inventory and keeping farm accounts. Why not get this information right now and help farming to get what is coming to it by backing up just claims with real evidence of costs.

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Ask yourself, "How will my silo look after ten years?" Then learn the age of some of the thousands of sturdy, good-looking Green Mountain Silos dotted over the country. They "grow old gracefully."

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Thousands of dairymen would not be without a package of Bag Balm in the cow barn. It's a little investment for warding off serious troubles. Sold in generous 60c packages by feed dealers, druggists and general stores. Free booklet, "Dairy Wrinkles," on request.

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GOODYEAR
35x5 in. 135/635 MM

Goodyear Heavy Tourist Tubes come packed in a waterproof, oil-proof bag. More Goodyear Tubes are used than any other kind

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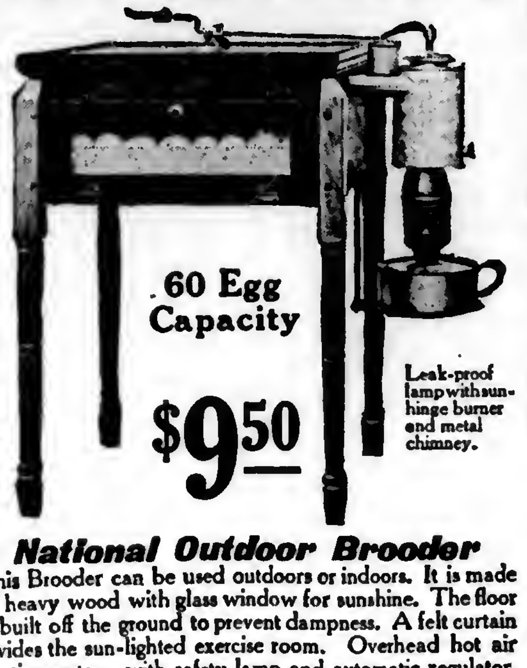
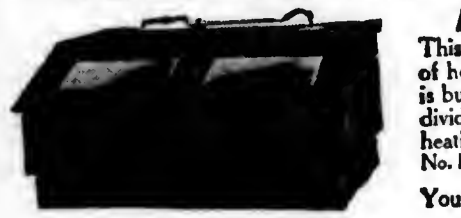
GOODYEAR

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You cannot duplicate these high-grade National Incubators and Brooders at anything like the same prices elsewhere. Yet these are not "special offers;" *all* National Farm Tools and Equipment may be had at correspondingly low prices, made possible by the great economies of our short-cut selling plan. Order your farm and poultry supplies, via the money-saving "Short-line Route from Factory to Farm."

National Junior Incubator

The National Junior is a fully guaranteed, copper tank hot water heated incubator at a startingly low price. The case is made of selected lumber, thoroughly insulated. Double glass in door. Tubular tank and boiler are made of the best cold rolled copper—will never rust out. Automatic thermostat regulator keeps the temperature even. The leak-proof lamp has sun-hinge burner and metal chimney. Capacity, 60 average-sized hen eggs. A good, practical incubator and fully guaranteed.

No. FA-17—National Junios Incubator.
Shipping weight, crated, 50 lbs. Price, $9.50.

.60 Egg Capacity

$9.50

Leak-proof lamp with sun-hinge burner and metal chimney.

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A high-grade hot-water heating system incubator with genuine copper tank. Guaranteed to hatch every fertile egg when operated according to directions. Run off a hatch at our risk.

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This Brooder can be used outdoors or indoors. It is made of heavy wood with glass window for sunshine. The floor is built off the ground to prevent dampness. A felt curtain divides the sun-lighted exercise room. Overhead hot air heating system, with safety lamp and automatic regulator. No. FA-28—150-Chick Outdoor Brooder. Shipping weight, 70 lbs. Price, $9.75. 200-Chick size, $12.00.

You will save time by ordering brooder with incubator.

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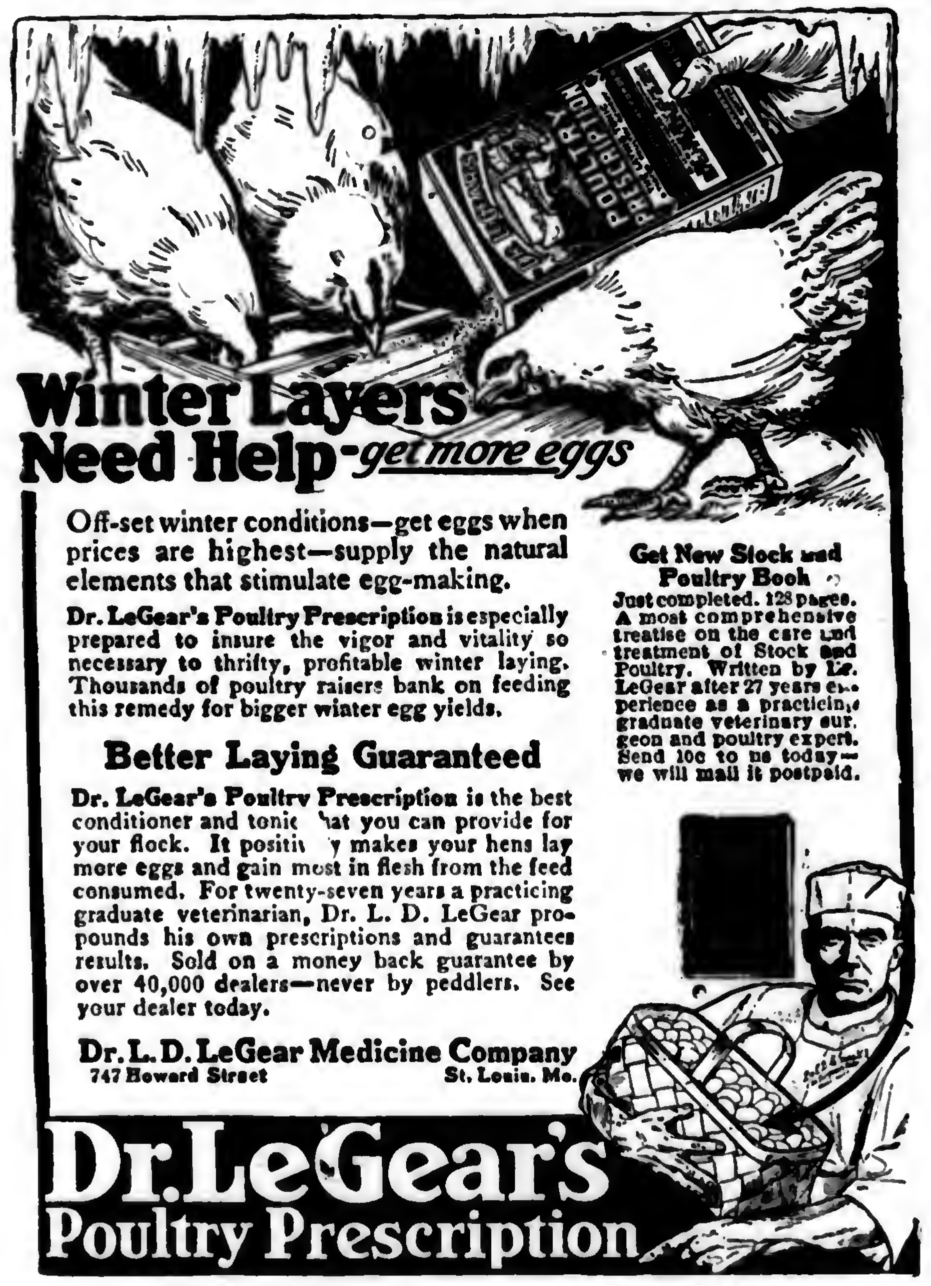

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Off-set winter conditions—get eggs when prices are highest—supply the natural elements that stimulate egg-making.

Dr. LeGear's Poultry Prescription is especially prepared to insure the vigor and vitality so necessary to thrifty, profitable winter laying. Thousands of poultry raisers bank on feeding this remedy for bigger winter egg yields.

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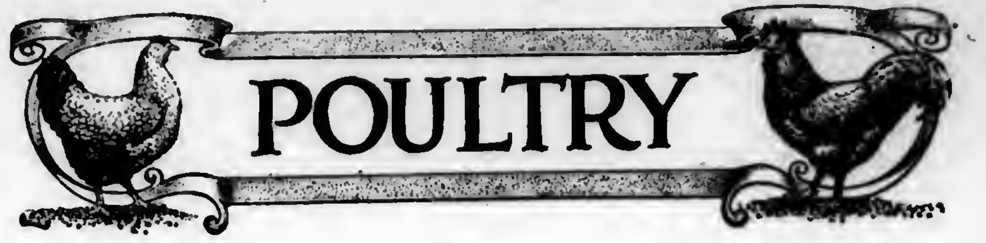

POULTRY

"WHAT DO EGGS COST?"

Commencing on July 5th. 1919, I started to buy feed from the Miller at Stockton, N. J. I had bought a flock of Leghorn chicks four to six weeks old the week previous—277 altogether. I built a shelter for them out of an old hog-pen and divided the small chicks from the larger ones with poultry wire and managed to raise them until I built a regular house for them.

The lumber and hardware for this building, 12x22 feet, cost me $128.69 and I built it myself. Out of the 277 chicks, I have about 130 pullets, and I am getting an average of 16 eggs per day now, so you can see for yourself "What Eggs Cost." Here is the list from July 5th, 1919, up to date:

1200 lbs. Dry Mash	$45.55
710 lbs. Scratch Feed, ...	34.77
875 lbs. Cracked Corn, ...	34.70
100 lbs. Beef Scrap, ...	5.20
100 lbs. Charcoal, ...	3.50
100 lbs. Oyster Shell, ...	1.10
50 lbs. Grit, ...	.75
Total	$125.57

This does not include the whole corn. I am feeling the chickens from my own corn field as I had planted two acres of it at a cost of $32.20; that is, $16 for ploughing, harrowing, seeding, etc., and $16.20 for fertilizer. Of course, my own labor and my wife's labor with those chickens is not considered at all.

Well Bred W. P. Rocks

My dear Editor, I am glad to give you all the facts you want for the purpose of bringing to the public mind the real state and conditions. We poultry farmers are striving to make an honest living. I get for my eggs 72 cents per dozen.—Albert P. Vogt, N. J.

I saw in the issue of January 3 an article on the cost of egg production during November and December. I have kept a strict account of every egg laid. Have 114 hens and pullets, (23 of the latter) and have sold during that time eggs as follows:

Nov.—3 doz. at 85 cts.	$2.55
Nov.—7 doz. at 88 cts.	6.16
Dec.—3½ doz. at 90 cts.	3.15
Dec.—1⅔ doz. at 70 cts.	1.16
	$13.02
Eggs Used, ...	$1.58
Total	$14.60

The feed which consisted of wheat feed, gluten, corn, middlings, some few oats, oyster shells, some small potatoes, table scraps, etc., has cost fully $1.20 a day, to say nothing of the gallons of skim milk consumed by them daily, or the labor involved in caring for them.

Perhaps this cost seems exhorbitant, but the cost of feed and corn is high, and the weather has been exceedingly cold and severe and a hen has to have food enough to keep fuel burning in her body—and then some.

We keep grit, lime, coal and wood ashes (the latter full of nice charcoal which they devour greedily) and oyster shells by them constantly, and feed warm mash mixed with milk for breakfast, corn on cob broken in several pieces, and let them pick it off for the afternoon exercise. I give them warm drinks, and but few times has the water frozen over. The last thing at night, just before they go to roost, a full feeding of warm shelled corn is given. Litter of chaff and hay has been thrown down daily.

Baked potatoes cut in half, fed warm, when weather is not too cold. I never could get the fowls to eat turnips, yet they will eagerly go for winter squashes after the shell is broken open, but not beets, unless cooked, and they will eat cooked turnips. I usually feed apples for the "green feed," but this year we have none. One hundred hens will clean up one half bushel of cut-in-half- apples daily, while if not cut, they would scarcely touch them.

This month the hens are commencing to lay some—from 3 to 7 eggs daily.

Last year during January, February and March, they paid their keep and about $15 beside. The other seven months, they did fine so I cleaned a neat sum, taking the year thru.—M. I. C. A.

LEGHORNS AND—TROUBLE

I am "to date" a Leghorn man, have been for six years (since I started farming). They are and have always been of the best laying strains. If I overlook the fact that it was always impossible for us to have a garden close enough to the house to be called convenient; that many of our best apple trees are gradually dying, because tree-roosting chickens kill off a limb at a time; that three acres of my best clover field made no crop because Leghorns wouldn't give it a chance; making it necessary to purchase clover hay at $40 per ton to maintain the usual number in dairy; that we have had to gather eggs in such places as the water trough at eave of barn, to brush pile several hundred feet from buildings; that my milk customers turn their noses up at my drest Leghorns and if persuasive salesmanships succeeds, seldom come back for more; forcing me to unload my surplus at a price set by the other fellow, yet, I'll say they have been profitable in spite of these facts. But it has taken six years to convince me that the white or any other Leghorn is not the ideal bird for the farm flock.

The farm flock should be composed of birds of the dual purpose type. Of the very best laying strains, then cull some, cull some more and then some, until you have about one-third as many birds as you thought you would like to keep. Then give them as much attention as you would give your dairy. I have a strong suspicion you will not be sorry.—Arthur W. Rossiter.

GOOD LAYERS

I have a flock of 185 white Leghorn hens, not full bloods, 150 pullets and 35 one-year olds. The pullets were hatched in March and April. They laid the first egg October 15th. I kept a correct record of eggs laid in December. The least number laid in one day was 48; the highest, 92. The total was 2,215. We received from 64 to 76 cents per dozen. The total amount was $124.36. I feed oats in the morning, wet mash of bran, beef scraps, and red shorts at noon, and corn in the evening. Dry bran, oyster shells, and water are before them at all times. A lantern is hung in the house between 5 and 6 o'clock in the morning and you ought to see them get off the roost. I have not kept an account of the feed but they get all they can eat.—A Subscriber.

Haulage and Farm Profits

The Magazine, "TRUCK TRANSPORTATION," mailed free on request. Write Dept. "P. F.," Selden Truck Corporation, Rochester, N. Y.

From the time of sowing the seed to the time the miller receives the harvest, the farmer using mechanical methods increases production at decreased cost.

A Selden pneumatic tired 1½ ton truck recently demonstrated this fact on a farm near Elgin, Ill. Trips to town for implements, supplies and seeds required about an hour when horses used a day.

When the binder completed its work, the Selden easily rolled over the stubble fields and soft dirt, hauling the sheaves of rye and wheat to the thresher. Then it carried sacks of the threshed grain to the mill in less than one-fourth the time required by a team.

In short, this one truck easily handled the work of four teams.

This saving of time may mean the difference between profit and loss. Why not haul your loads in comfort and still save time? This is possible with a Selden.

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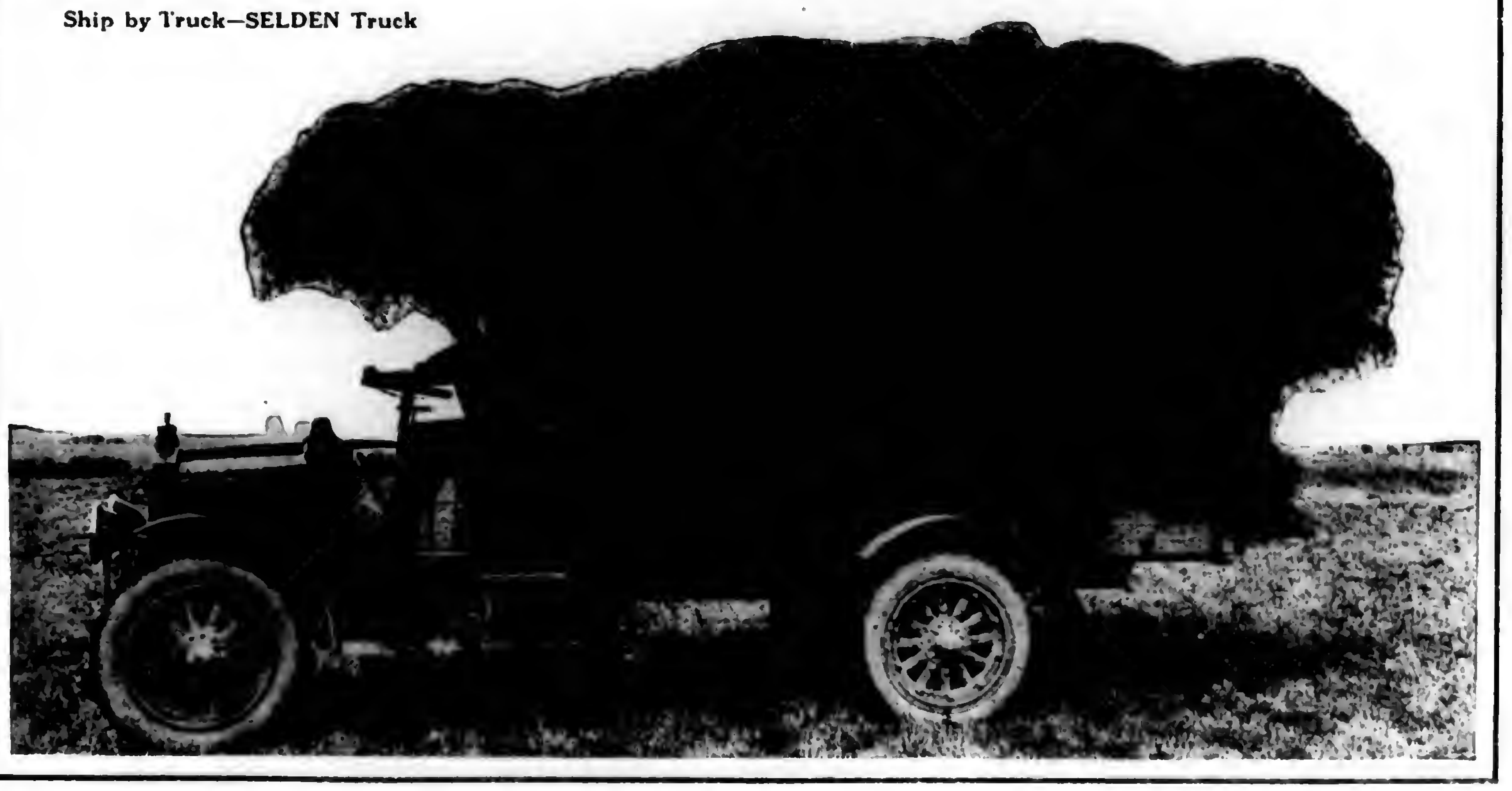

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for Orchard Vineyard Field

Niagara
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have proved of such value in practical commercial use for the control of insect pests and fungus diseases that every year many more successful fruit growers are finding the Dusting method indispensable in making summer application, not alone on account of the results accomplished but because dusting is so much faster and cleaner it has proven itself about 1-3 less expensive than spraying when both labor and materials are taken into consideration.

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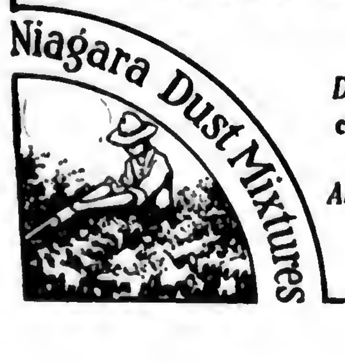

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Special Dust Mixtures.
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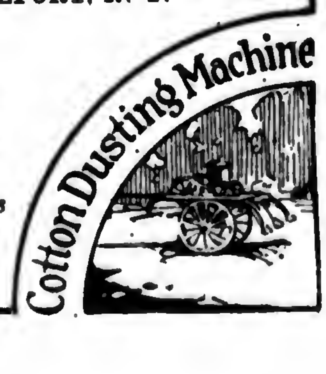

FURTHER ADVICE ON SPRAYING FOR SCAB

By J. P. STEWART

"Do you consider lime-sulphur and arsenate of lead as effective in controlling scab and worms as Bordeaux Mixture?

"Can you give me information regarding making of Bordeaux on a large scale, as we have nearly 3,000 apple trees? That is, formula of ingredients and utensils needed kindly answer these questions for me if possible."—S. S. K., Montgomery Co., Pa.

The first part of this letter shows either an oversight or a misconception on the part of its writer which may be shared by others. This is the fact that plain bordeaux mixture alone is only a fungicide and has little or no value as a protection against the so-called "worms." To be of value against the latter, some kind of arsenical must also be added to the bordeaux. The real question, therefore, is whether the lime-sulphur-arsenate combination, is equal to the bordeaux-arsenate mixture in the control of scab and "worms."

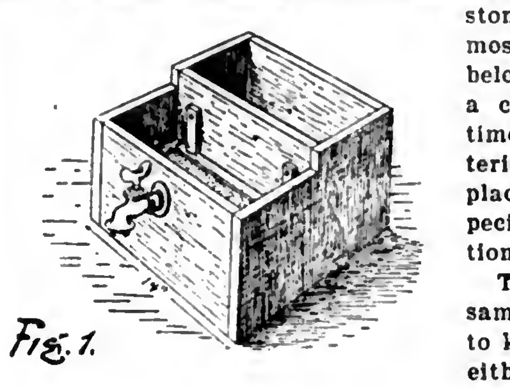
Fig. 1.

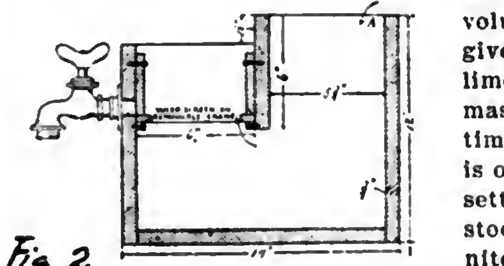
Fig. 2.

An Effective Strainer For Spray Materials

My answer to this is that the former combination is at least equal to the latter in controlling the "worms," and it is so nearly equal against the scab that the difference is seldom worth considering. The possible superiority of the bordeaux in exceptionally severe cases, moreover, may frequently be more than offset by its greater tendency to russet the fruit, especially in the sprays shortly after the petals have fallen. For the important "pink" application and also for the application about the last of July or the first of August, however, the bordeaux may sometimes be enough better against the scab to warrant its occasional use at those times, at least on varieties that are not especially subject to russetting.

Making Bordeaux Mixture

The making of bordeaux mixture in either large or small quantities is relatively simple. If large quantities are desired, the essential equipment consists of two large barrels or tanks for the stock solutions of copper sulphate and lime, and two elevated barrels or tanks to hold the diluted solutions. An ample supply of water, and appropriate piping and cutoffs to control the flow as desired is also essential. Some kind of strainer to strain the mixture just before it goes into the tank is also needed.

The type of strainer shown in the accompanying sketch, Figs. 1 and 2, has proved very satisfactory, either in the making of lime-sulphur or bordeaux. It can be readily made by a local carpenter, and if intended for both kinds of sprays, it should have two interchangeable screens,—one made with copper wire for the bordeaux, and the other with iron or brass wire (preferably the former) for the lime-sulphur. Incidentally, it should be noted that only wooden or earthen vessels should be used in making bordeaux, as vessels made of iron or similar material are seriously corroded by it. In making lime-sulphur, on the other hand, either iron or wooden vessels are satisfactory, but copper vessels are not, for the same reason.

The stock solutions should be made up beforehand, and it is best to make them so as to carry a definite amount of each ingredient to a gallon. This can be either one or two pounds of either material to the gallon of stock solution. The bluestone or copper sulphate dissolves most readily when suspended just below the surface of the water, in a cloth or burlap bag. Plenty of time should be allowed for this material to dissolve, as this action takes place rather slowly at the best, especially if the denser form of solution is being made.

The lime should be slaked at the same time, using just enough water to keep it coming right, i. e. without either caking or "drowning." After the slaking is completed, enough water should be added to bring the volume up to the point necessary to give the desired number of pounds of lime to the gallon, and the whole mass should be stirred thoroly each time a batch is taken out, as the lime is only held in suspension, and hence settles to the bottom. Both of the stock preparations will keep indefinitely without change, if properly protected from evaporation or its effects.

Hydrated lime may also be used in making bordeaux, in which case a third more is required. It is usually more convenient, but also more expensive and certain spraying tests have indicated that the resulting material is somewhat less adhesive and rather more likely to cause spray injury or russetting than bordeaux made with freshly slaked lime.

When preparing the bordeaux, enough material should be dipped out of each stock solution to make the amount of each ingredient required for the tank of spray—six or eight pounds of each ingredinet to the hundred gallons of spray, for example,—and each solution should be diluted separately if possible, to one-half the volume of the tank to be filled. They should then be stirred thoroly and allowed to run together at the same time into the strainer and from it into the spray tank. If it is impractical to fully dilute both solutions, similar results can be obtained by allowing the partially diluted solutions to run into a stream of water started at the same time, and so adjusted in flow as to fill the tank shortly after the two solutions have completed their flow.

If neither of these plans can be followed, good results may still be obtained either by pouring the diluted lime into the diluted sulphate solution, or by diluting the sulphate solution to about one-half to two-thirds the total volume in the spray tank and then straining the milk of lime into it with as much dilution and washing as practicable. In the latter case, the mixture should be

(Continued on Page 28.)

EASY TO ADJUST HOOPS
FEEDS AT DOOR LEVEL

UNADILLA Silos
Convenient and Easy to Feed From

THE UNADILLA Silo is the most convenient silo, recognized as such by experienced dairymen and stockmen.

Twice a day for 6 or 7 months you or your man climbs the silo. Twice a day for the same period silage must be **forked** out, 30 to 60 pounds per head. **Tons** of silage must be handled by **hand**.

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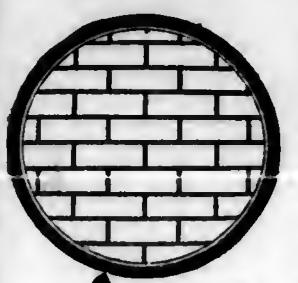

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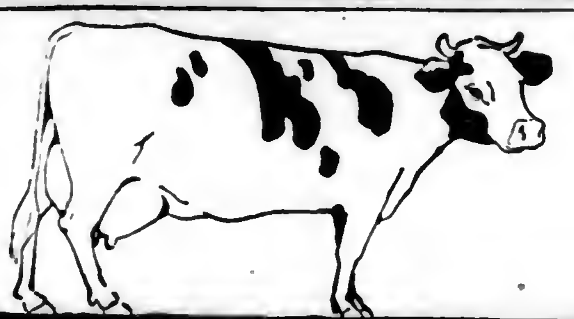

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We make up any kind of skin to suit your individual desire

Also Ladies' Coats and Furs, Auto Robes, etc.

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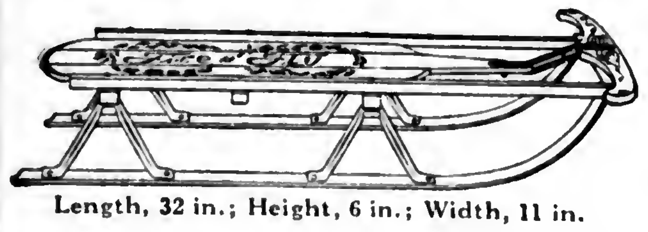

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The Fire Fly coasters have flexible spring steel runners. This enables one to guide the coaster by the steering bar, curving the runners to right or left as desired. No more wet feet from steering. Get busy at once and secure one of these sleds.

PENNSYLVANIA FARMER, 261 South Third Street, Phila., Pa.

Studies in Nutrition

By Pearl MacDonald, Penna. State College

At the present time, one of the difficult daily problems which every woman of the home has to solve is that of furnishing the right kind and amount of food for the different members of her family. In order to get the best return in food value thru more careful selection and combination of food materials, it will be helpful for every woman to know more definitely the food needs of the body and the foods that supply these needs.

As a basis for right understanding of the food needs of the body, it is important to realize that the body is a very delicate piece of machinery,—highly organized and specialized—more intricate in its construction and workings than the finest machine made by man.

If you want to build an auto, a bridge, a house, or anything else, you must have the material out of which that particular structure is made. Unlike the automobile or other machine, the physical body in childhood builds up the parts of the body and works at the same time. Thruout life, the repairing of the parts of the human machine goes on constantly as it works.

Just as the automobile cannot do its work without being carefully built, operated, regulated, and kept in repair, so the human machine cannot live and work efficiently unless it is given constant and proper care, and supplied with the materials that it needs.

For the human machine, all of the materials for construction, repair, regulation, and operation are supplied thru the food that is eaten. It will be seen at once, therefore, that it is necessary to know what the body needs in the way of food, and what foods supply these needs.

If any of the necessary materials are not supplied, or if a poor quality of material is used, there will be defects in the human machine, and it will not do as much or as good a quality of work. This will be shown in the health of the individual and the efficiency with which he works.

The body needs the following:

First.—Building and repair material for bone, muscle, nerve, and other tissues.

Second.—Fuel or energy material so that the body machinery can do its work.

Third.—Materials for regulating the body processes. This means material to keep the machinery running smoothly thru the regulation of the processes of respiration, digestion, absorption of food materials, getting rid of waste products, and the proper working of all the various parts of the body.

Fourth.—Substances that build up disease—resisting power in the adult, maintain the general well-being of the body, and, in the case of children, cause growth to proceed in a normal way.

Building and Repair Foods

The building and repair materials are: (1) Proteins. (2) Mineral matter such as lime, phosphorus, iron, potash, sulphur, and others. The proteins are used in the construction and repair of muscle and other tissues. The minerals are used in the building of bones, and also enter into the construction of the softer tissues of the body. Minerals are also used in repairing the tissues.

Foods containing proteins are milk, cheese, eggs, meat, fish, nuts, dried peas and beans, and (to some extent) the cereals.

For supplying mineral matter, these foods are relied on: Milk, eggs, fruits, vegetables, and grain products in which in the process of milling the outer grain coats have been retained.

Fuel and Energy Foods

Fuel is needed so that the body will have power to work. Fuel or energy is supplied by starches, sugars and fats.

Proteins may also be used for energy, but it is better and cheaper to have generous amounts of the food materials supplying starches, sugars, and fats, so that the protein may serve its more special purpose of furnishing building and repair material.

Starch is found largely in grain products, in dried peas and beans, in sago and tapioca, in potatoes, in banana and, in lesser amounts, in some of the other vegetables.

Sugar, is supplied in cane, malt and maple sugar, in honey, in corn syrup, in all fruits, especially dates, figs, and raisins (which have about three-fourths of their food value in the form of sugar), in some vegetables as sweet potato, carrot, parsnip, beet, etc.

Malt sugar is now being manufactured by sprouting of grains as barley, etc., and is being recommended for use where there is a shortage of cane sugar, and when the malt sugar can be obtained.

Fats are of two kinds—those from animal sources, and those from vegetable sources.

Animal fats are cream, butter, and the fat of meat, as suet, tallow, lard, etc.

Vegetable fats are olive, corn, peanut, and other vegetable oils.

Body Regulating Foods

These are water, woody fiber, acids, and mineral matter.

Water is needed in the system to keep the tissues moist and flexible, to keep the blood and other fluids of the body of the right density, to flush the system, to assist in regulating the digestion and absorption of food materials, etc. Water is mainly supplied by drinking water and other beverages, by the use of fruits and vegetables.

Fiber, or the woody part of foods of vegetable origin, (often called cellulose) gives bulk to the diet, and causes the food mass to move properly thru the digestive tract by stimulating the action of the intestine. A sufficient amount of fiber in the diet is very necessary for maintenance of good health. It is supplied mainly by the use of fruits, vegetables, and grain products, especially those retaining the outer bran coats.

Acids (spoken of as organic acids because they are built up in the plant as it grows) by combining with certain minerals help to maintain the normal conditions of the blood and other secretions of the body. They also stimulate the appetite and digestion. Acids are found in all fruits and in some vegetables such as rhubarb and tomato.

In regulating the body processes, the minerals are used in combination with acids, as just explained. They also are used to keep the blood and other secretions of the body normal, to assist in the processes of digestion, absorption, etc. The sources of mineral matter have been noted in the building and repair materials.

Body Protecting Foods

These will be fully discussed in a later article. They are mainly supplied by milk and the other products of the dairy, by eggs, somewhat generally by fruits and vegetables, but more particularly by the leafy vegetables.

In the next article, fuller discussion of the building and repair materials will be taken up.

TOO LITTLE MILK

Endangers Health

The cost of living cannot be reduced by the use of less milk without the health and welfare of the family being seriously affected. Comparison of a quart of milk with a few other common foods on the basis of the amounts of the essential food substances received for the money saved or expended shows the folly of curtailing the use of milk in order to cut down expenses.

Few housewives who wish to lower the cost of living would purchase cauliflower at 40 cents a pound if they knew that the same food values could be obtained in cabbage at 6 cents a pound. Similarly, as source of the protein, energy and lime essential to the body, few foods can compete with milk in cost for the value received. This is especially convincing when it is realized that milk contains a rich supply of those substances which promote body growth and welfare, and which are present in comparatively few foods, and that it also has a generous supply of those substances which have the power of preventing scurvy.

Families in which there are children who are receiving less than a pint of milk per each child daily are carrying those children on very dangerous ground. Every child should have at least a quart of milk per day. Help in determining how to apportion money spent for family food and how to apportion the foods in the meals is found in these bulletins sent free by the New York State College of Agriculture, Ithaca, N. Y.; H. 127, "What to Spend for Food," and H. 129, "Points in Selecting the Daily Food."

Encourage the National Inclination of Children to Eat Supper

TWO KINDS OF DIRT

If dirt is unsanitary, why do not the children up the road get sick and die instead of looking so healthy?

The explanation is that there are two kinds of dirt—clean dirt and dirty dirt. The dirty dirt is unsanitary. The clean dirt is quite as harmless as the air, provided it stays on the outside of the body. Children can make mud pies from good clean country or garden earth and learn how to use their hands skillfully, get their clothes soiled and be happy and healthy. A small boy can help his father clean a grease engine and get tryingly dirty, but have gained some healthy ideas, so that his body is better off for his getting dirty. It is not always the dirt which is most conspicuous which does the harm.

The children down the road you say are always spotlessly clean, yet they are sickly.

Maybe they are not getting enough healthy ideas and developing practice in the use of their bodies and minds while they are keeping their clothes clean, so that they are not well fortified against the germ, the dirty dirt fly carried to their glass of milk.

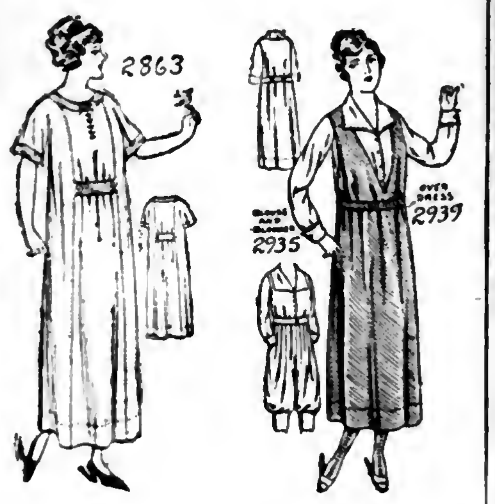
Mothers should be much more concerned about flies getting on food, and about unsanitary drinking cups and towels than about children wading in a mud puddle, providing the puddle is not made from water from a sewer.—Edith Allen.

To make pastry flour from bread flour add two tablespoonfuls of cornstarch to every cup of flour and sift thoroughly.

PENNSYLVANIA FARMER PATTERNS

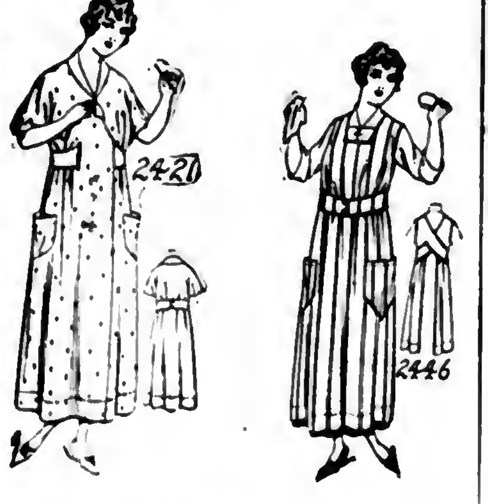
Give figures and letters of each pattern exactly as printed at beginning of each description or we will not be responsible for correct filling of orders. Give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261 S. Third Street, Philadelphia, Pa.

2863.—Comfortable Work Garment.—The fulness over back and front is held in place by belt sections. The yoke band trimming may be omitted. It will be neat and attractive in gray or blue chambray with plaid or check gingham for trimming. The pattern is cut in 4 sizes: Small, 32-34; medium, 36-38; large, 40-42; extra large, 44-46 inches bust measure. A medium size requires 5⅜ yards of 36-inch material. Width at lower edge, is about 2¼ yards. Pattern, 10 cents.



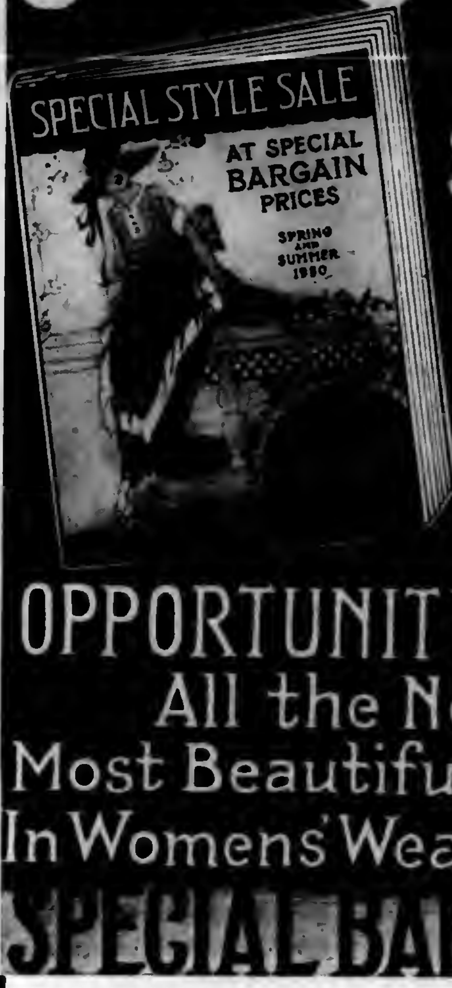
2939—2935.—Blouse and Bloomer Suit.—The blouse and bloomers combine an ideal service garment, over which the over-dress may be readily arranged. The pattern, 2935, is cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. It may be developed with or without the leggings. Size 38 will require 4¾ yards of 44-inch material with ½ yard for the leggings. The over-dress pattern, 2939, is cut in 7 iszes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires 3⅝ yards of 40-inch material. This illustration calls for two separate patterns which cost 10 cents each.

2421.—Apron or Dress.—Easily asjusted and not cumbersome. You may slip it over your best dress, and be ready for service in a moment. The closing is reversible. The belt ends hold the fulness over the sides and back, at the waistline. The pattern is cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires 6 yards of 36-inch material. Pattern, 10 cents.



2446.—The back of this apron has belt extensions which hold the fulness at the waistline and are fastened at the centre front. The pattern is cut in 4 sizes: Small, 32-34; medium, 36-38; large, 40-42, and extra large, 44-46 inches bust measure. Size medium requires 4¾ yards of 36-inch material. Pattern, 10 cents.

GREAT STYLE SALE



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THE GREATEST OPPORTUNITY OF THE DAY
All the Newest and Most Beautiful Spring Styles In Womens' Wearing Apparel at
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Be one of those to profit by this Great Money-Saving Sale of New York's Latest Spring Creations. Send a Postcard for this Great Style Book. You will find a Gorgeous Selection of Dresses, Suits, Coats, Waists, Skirts, Millinery—All Splendid in Design, Rich in Materials, and Exceptionally Well Made. The Perry-Dame Quality Shoes are Famous for the Satisfaction they give, while the Dainty Undergarments will Delight You with Their Loveliness, and Our Prices Are Sure to Please You.

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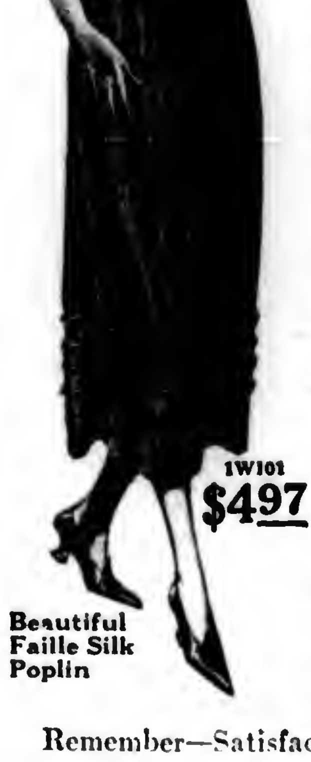

1W101
$4.97

Beautiful Faille Silk Poplin

1W101—Effective simplicity is achieved with smartness in this well made frock of lovely high-lustre Faille Silk Poplin. The model is fashioned on becoming lines and can be suitably worn by the young or older women. Contrasting color Silk Poplin has been used for trimming the fashionable short sleeves and also for the artistically embroidered vestee. Tuxedo-effect collar. The skirt has rows of cording. A wide stitched belt joins the skirt to the blouse. Color: Navy with tan. Sizes: 34 to 44 bust measure. A regular $8.50 value—Perry, Dame price only **$4.97**

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Remember—Satisfaction Guaranteed, or Your Money Back.

PERRY, DAME & CO.
156 EAST THIRTY-SECOND STREET—DEPT. R
NEW YORK CITY

What the small packers say about meat competition

During a recent hearing, a number of the smaller packers were asked for their opinions of competition in the meat industry.

The following quotations, we believe, are typical of the feeling throughout the entire meat packing industry:

Michael Ryan, President of the Cincinnati Abattoir Company, said: "I have been a competitor of the large packers for the last 40 years, and I have never found a disposition on their part to crush competition. . . . They have concealed nothing nor attempted any unfair practices."

T. Davis Hill, Vice-President Corkran, Hill & Company, Incorporated, Baltimore, asserted that: "The big packers cannot control the market for the reason that there are too many outside packers. . . . Some days the small packers make the market for the big packers. We have no fear of the big packers' competition. . . . The large packers have never tried to undersell us or drive us out of business."

G. H. Nuckolls, President of the Nuckolls Packing Company, Pueblo, Colorado, said: "So far as profits go, my company has made a larger percentage on its turnover than any of the so-called Big Five."

J. C. Dold, President of the Jacob Dold Packing Company, Buffalo, New York, testified: "I recall no instances where we were ever hampered by any packer in the control of any stock or in the purchase of our supplies at competitive market prices."

John J. Felin, President John J. Felin Company, Packers, Philadelphia, Pa.: "I have known all the packers for years and have never seen any unfair dealings on their part. I know of no methods that have been adopted by any of them that were unjust, unfair and monopolistic."

There is probably no business in America more keenly competitive than the packing industry, and none that serves the public on a smaller margin of profit.

Swift & Company's profits during the first eight months of our present fiscal year have averaged two-fifths of a cent on each pound of meat and all other products sold.

Swift & Company, U. S. A.
Founded 1868
A nation-wide organization owned by more than 30,000 shareholders

64 BREEDS Most Profitable chickens, ducks, geese and turkeys. Choice pure-bred, northern raised. Fowls, eggs, incubators at low prices. *America's greatest poultry farm.* 27th year. Valuable new 108 page book and catalog free. R. F. NEUBERT Co., Box 818, Mankato, Minn.

Tiffany's Superior Chicks That live. Silver, White, and Columbian Wyandottes, Buff, Barred, and White Rocks. R. I. Reds, White and Brown Leghorns. Pekin, Rouen, and Indian Runner Ducklings (heavy type). Aldham Poultry Farm, R. 39, Phoenixville, Pa.

Selby Service Satisfies Ship us your produce, poultry and eggs. Penna. Potatoes a specialty. Returns day goods are sold. Ask for our market letter. SELBY PRODUCE CO., PHILADELPHIA

nze, Narragansett, Bourbon Red, Black and te Holland breeding turkeys from the finest flocks America. Write for special prices to close them F. A. CLARK, Xenia, Ohio, R. 5.

S. C. White Leghorn Baby Chicks for 1920 delivery. Tom Barron rder early C. P. Shirey, Stewartstown, Pa.

Baby Chix: Pedigreed Heavy Laying Barron 300 egg strain S. C. White Leghorn Baby Chix. Heavy, deep-bodied, red-combed birds, with the lay bred into them. 22 cents each; $20 hundred, parcel post delivered. Book your order now for Spring Delivery. LEONARD STRICKLER, SHERIDAN, PA.

Chickens Sick?—Use Germozone Roup, colds, bowel troubles, sore head, limber neck, etc. At dealers or postpaid 75 cts. with 6 book Poultry Library. GEO. H. LEE CO., Dept. F-49 OMAHA, NEB.

Supreme Cockerel— Bred Barred Rocks Bred for beauty and utility. Eggs $3 per setting. A few utility pullets at reas. prices. Glen Dale Poultry Farm, Dillsburg, Pa.

S. C. Rhode Island Red and Golden Campine Cockerels. Early hatched $2.50 each. Satisfaction guaranteed. I. R. TANGER, YORK SPRINGS, PA.

Barred Rock COCKERELS good strains, $3.00 to $4.00 each. J. I. HERETER, Gettysburg, Pa., R. 4.

200,000 Chicks—for 1920. Now is the time to place your order, prices reasonable. Sat. and safe delivery guar. Cata. free. Keystone Hatchery, Richfield, Pa.

60 BEST PAYING VARIETIES Hardy Northern raised Chickens, Ducks, Geese, Turkeys, Pure-bred heavy laying strains. Fowls, Eggs & Incubators all at low prices. 24 years experience. Large new Poultry Book & Guide FREE. W. A. Weber, Box 2 Mankato, Minn.

Day Old Chicks and Hatching Eggs White Leghorns, Barred Plym. Rocks, Rhode Island Reds. Safe delivery guaranteed. Place orders now to insure prompt delivery. PARADISE POULTRY FARM, BOX C, PARADISE, PA.

Eggs $1 Setting Parcel Post paid. Purebred, Barred, White and Buff Rocks; White and Brown Leghorns; Reds, White Wyandottes, Buff Minorcas; Black Langshans; Buff Orpingtons. Philip Condon, Box 119, West Chester, O.

75,000 Chicks for 1920; S. C. White and Brown Leghorns, Barred P. Rocks and mixed chicks. Write for free booklet. THE CYCLONE HATCHERY, Millerstown, Pa.

WHITE LEGHORN LAYING PULLETS, YEARlings. Best strains, excellent stock, heavy layers FOREST FARM, ROCKAWAY, N. J.

BE SURE TO SEE THE EXHIBIT
of the J. I. Case Threshing Machine Company at the Minneapolis Tractor Show, January 31 to February 7. Tractors and Other Power Farming Equipment in Space H---2, Overland Building.

BEATING OLD H. C. L.

A minister told me a few days ago that he sat up the other night after everybody else was in bed mending a rip in his Sunday-go-to-meeting trousers, so that he could use them when he preached his sermon the next day. He is a truthful man, too. But I got a line on some of the things folks are doing in these days to beat the old High Cost of Living.

We don't think any the less of the minister, do we, on account of his efforts to keep respectable when clothes are so high priced and it is such hard work to get money enough to pay expenses? On the contrary, do we not rather admire him? His wife was tired out with her day's work, with the same thought in mind, how to economize and still have the home comfortable. He had done such work before, it must be. No man can thread a needle unless he has had more than one trial at it. And he manfully set himself about it to repair the damage to his torn trousers. I hope he made a good job of it, and I think he did. Anyway, he did his best.

Now, some farmer folks are not as handy as they might be about mending things. I know some women who just hate to darn socks. They puff and groan and actually do more kicking over that job than they would to do a big baking for the family. And yet, these things do save money. Being a man, I know holes will come in socks. It hurts me when I find that I have holes where they ought not to be; but what can a fellow do? The socks we get nowadays you can really see right thru. I don't like that as well as some of the young folks, especially the girls. I like socks that have something to them, but you have to do a lot of hunting and pay a big price if you get these that can be called really good. And it takes a lot of pressure for me to tell my wife there is a rent in my coat or trousers. I hem and haw and do every sort of a thing to let wife know something is wrong without really coming right out and saying what I want. She is, of course, always ready to do these little jobs, but still, she has so much else to do, and especially the mending for a big family of rip-roarious boys and girls.

So I have tucked away in one of the little drawers in my desk a supply of needles of various sizes, a paper of pins and several spools of cotton. I have found, however, that the old big one with the thread like a cartrope is the one that comes in play oftenest. I have to have thread that will hold and needles with big eyes, or I can't thread them at all. But I can sew a button on as well as the next man—I didn't say woman—but I can't use a thimble worth a cent. That gets me. I can go it barehanded, all right. Prick my finger sometimes till the blood runs, but that is all in the game. Thimbles are of no use to me.

I had a brother, a doctor, he is gone back home now where they don't have to worry about such things, who said he believed it was a woman's duty to look a man's clothes over every night, and fix any rips and tears she might find, so that they would be ready for the next day's work. That would save a fellow a good many annoying disasters, no doubt, and I think the suggestion is one that ought to appeal to a good many women who are, to say the least, rather thoughtless on the score of their husband's clothes. They like to see the men folks look well of

(Continued on Page 28.)

PENNSYLVANIA FARMERS' INSTITUTES

During the month of December seventy-three Farmers' Institute meetings were held. The attendance was approximated at nine thousand farmers, and about three thousand other persons. At some places the halls were not large enough to care for the people. The interest manifested by the farmers was very encouraging to the lecturers, and showed that their efforts were appreciated.

The reorganized plan of taking to the farmer the subjects that were nearest his heart, and the discussion of problems that were of the most concern to the people of the sections where the Institutes were held, has brought general commendation to this work.

The general co-operation of all the agricultural agencies, and the work of local committees, has given renewed life to this line of educational endeavor. All of the speakers were practical men, and well qualified to present their respective subjects and welcomed severe cross-examination so as to make themselves thoroly understood. Another observed feature of the Institute was farmers taking notes. The analysis of this activity shows that with the high cost of labor, seed and fertilizer, and the uncertainty of the return, that it is costly to experiment.

Well defined plans and programs carefully outlined and fully discussed is the character of the work of the Institute lecturers, and unquestionably will be productive of much value to the farming sections.

UNION COUNTY, PA., NOTES

Wheat fields are protected by snow, and they went into winter in good condition. Some ice is being stored, but many are waiting for thicker ice. Shredding corn fodder, sawing wood and hauling out manure are the farm jobs being done now in addition to killing hogs for next year's meat. Shoats and young pigs are slow sale just now, but pork sells from 18 to 20 cents a pound to dealers, but no live hogs are shipped now. Several cars of corn have been loaded lately, price $1.30 to $1.45 per bushel. Veal calves sell from 14 to 17 cents. Teachers' County Institute was held in Mifflinburg last week with every one of the 105 eachers present.

Notwithstanding the rainy weath-r of fair week, the county fair association made some money to pay n their debt. The F. C. Miller farm f 12 acres, east of Mifflinburg was old at public sale for $5000 to Mark otherman from Kansas.

A happy and prosperous year to the editors and to the readers of the Pennsylvania Farmer.—J. N. G.

WANTS TOWNSHIP BRANCHES OF FARM BUREAUS

Now that the Farm Bureaus have been organized into state and national federations, why not form township branches? We believe this would very greatly increase the membership. We have a good county agent, but we live nearly 20 miles from the county seat, so that we very seldom see him. If we had a township branch, we would be in closer touch with the work of the Bureau. —R. H. S., Tioga Co., Pa.

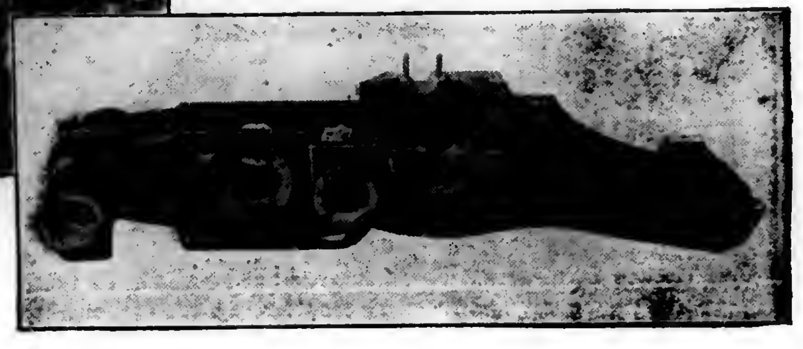
Water in the farm house will mean much to the well being of the entire family and will take away much of the drudgery of the work.

Illustration shows Case 10-18 Kerosene Tractor pulling 2-bottom Grand Detour Plow.

To avoid confusion, the J. I. CASE THRESHING MACHINE COMPANY desires to have it known that it is not now and never has been interested in, or in any way connected or affiliated with, the J. I. Case Plow Works, or the Wallis Tractor Company, or the J. I. Case Plow Works Co.

Look for the EAGLE
Our Trade Mark

Below: Showing the Main Frame of the CASE 10-18 Tractor, cast in a single piece. Holes for bearings on each side of frame are bored in one operation by a special machine of remarkable accuracy.



CASE - The Tractor with Strength that Backs its Power

One of the outstanding features of superiority of the Case 10-18 Tractor is the rugged strength of its construction.

Now, bear in mind the difference between *Strength* and *Power*.

When you think of the Tractor you have, or the Tractor you ought to have, you probably consider it in terms of power.

Right!—as far as it goes. The proper proportion of power to work is an absolute essential to economy and efficiency of Tractor operation. But tractor Strength, as embodied in the Case is the factor that stands between you and repair bills and the more serious losses due to breakage or delays.

For instance, the frame of the Case 10-18 Tractor is cast in a single piece. In this one casting are fitted the bearings for transmission, rear axle and motor. Obviously, bearings, shafting and gears cannot get out of line. Once in place, they are in correct alignment throughout the life of the tractor.

Other Features of the CASE 10-18 Kerosene Tractor

Four cylinder motor, mounted crosswise. Eliminates bevel gears, chain or worm drive.
Simple and accessible clutch, pulley mounted on crank shaft,—where it belongs. It is on the same side with the steering gears making it easy to line up with belt driven machinery.
Automatic control of motor temperature assures fuel economy.
Cut steel gears running in oil and dust-proof throughout.
Hyatt Roller Bearings.
Worm-driven fan with friction safety clutch.
Two speeds: 2¼ and 3½ miles per hour.

The Case 10-18 Tractor will most economically handle such work as operating a 2-bottom plow (as illustrated); 22 shoe grain drill; two 6 ft. binders; 8 ft. double-action disc harrow; the largest manure spreader; Case 20 x 28 thresher with feeder and wind stacker; feed mill, or any other machinery of similar power requirement. Write for booklet illustrating complete details of Case 10-18 construction. It will acquaint you with the special advantages of the Case 10-18 and enable you to judge all tractors with a new understanding. Free, on request,—a post card will bring it.

J. I. CASE THRESHING MACHINE COMPANY, Inc.
Dept. CO-1, RACINE, WIS.
Making Superior Farm Machinery since 1842

NOTE: We want the public to understand that our plows are NOT the Case plows made by the J. I. Case Plow Works Co.

CASE
TRADE MARK REG. U.S. PAT. OFF. AND IN FOREIGN COUNTRIES.
KEROSENE TRACTORS

Make Your Milkers Pay

Good Health—Good Appetite—and Good Digestion are the essentials of a good milker.

Dr. Hess Stock Tonic promotes health—makes cows hungry. Remember, it takes a healthy, hungry cow to convert a big mess into pails of milk day after day.

Dr. Hess Stock Tonic produces appetite, aids digestion, conditions a cow to stand the stuffing, cramming process necessary for heavy milking. Dr. Hess Stock Tonic contains the salts of Iron that supply rich red blood so necessary to cows in milk. It contains Laxatives and Diuretics that assist the kidneys and bowels to throw off and carry off the poisonous waste materials that so often clog up the system during heavy feeding.

Dr. Hess Stock Tonic

Ever notice a cow slack up on her milk—not quite so keen for her mess—apparently not sick? Her system is clogged. This never occurs where Dr. Hess Stock Tonic is fed. Start right—by conditioning your cows for calving with a course of Dr. Hess Stock Tonic before freshing.

There is not a day during lactation that Dr. Hess Stock Tonic cannot be fed to cows at a profit. This is especially true where heavy feeding is the practice. Dr. Hess Stock Tonic is good alike for cattle, horses, hogs and sheep. It makes the ailing animals healthy, the whole herd thrifty. It expels worms.

IMPORTANT: Always buy Dr. Hess Stock Tonic according to the size of your herd—five pounds for each cow to start with. Get it from the responsible dealer in your town. Feed as directed and note the results in the milk pail.

25-lb. Pail, $2.25; 100-lb. Drum, $7.50
Except in the far West, South and Canada.
Smaller packages in proportion.

DR. HESS & CLARK, Ashland, Ohio

Dr. Hess Dip and Disinfectant
Keeps the Dairy and Stables Healthful and Clean Smelling

Every Farm Needs a Concrete Mixer

Concrete improvements have saved money for so many farmers that their Sheldon Farm Concrete Mixer has become as important a piece of farm equipment as their corn sheller or cultivator. Do away with the old fashioned, expensive, backbreaking, unsatisfactory hand and shovel method mix your concrete the Sheldon way and get a uniform mix every time; save labor, save time and save the cost of the Sheldon on the first job.

Sheldon Concrete Mixer

...s the same high grade work as a $300 mixer yet costs only a fraction a ...uch. Solidly built to stand strain and vibration for years. Easy ... operate—easy to move—mixes two wheelbarrowfuls at a batch—a 1½ H. P. engine will run it.

Mail Coupon Today
and get our new 1920 Book on Concrete. It will tell you how you can save money on your concrete work. Shows all types of Sheldon Mixers and gives our direct-to-you low prices. It's FREE. Get your copy today.

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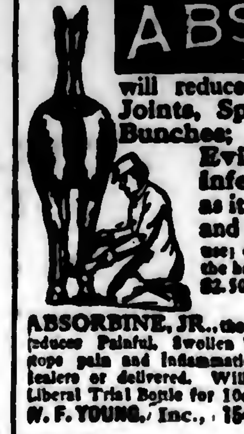
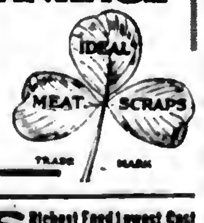


ABSORBINE
will reduce inflamed, swollen Joints, Sprains, Bruises, Soft Bunches; Heals Boils, Poll Evil, Quittor, Fistula and infected sores quickly as it is a positive antiseptic and germicide. Pleasant to use; does not blister or remove the hair, and you can work the horse. $2.50 per bottle, delivered.
Book 7 R free.
ABSORBINE, JR., the antiseptic liniment for mankind, reduces Painful, Swollen Veins, Wens, Strains, Bruises; stops pain and inflammation. Price $1.25 per bottle at dealers or delivered. Will tell you more if you write. Liberal Trial Bottle for 10c in stamps.
W. F. YOUNG, Inc., 154 Temple St., Springfield, Mass.

DIGESTER TANKAGE FOR HOGS
Write for prices, feeding directions, etc.
IDEAL RENDERING CO.
NORTH WALES, PA.



MOLASSES Richest Feed Lowest Cost Write For Special Price
Philadelphia Molasses Company, 1055 Beach St., Philadelphia, Pa.

ANOTHER VIEW OF THE DRIVING HORSE

As the prediction that the driving horse would cease to be bred in large numbers has nearly come true, at least in my locality, it is the next thing to impossible to sell a horse weighing less than 1200 pounds. The time has come when the farmer is not going to shut himself up within the radius of the best road horse in the country and let his more fortunate city friend enjoy all the pleasures of life.

In days gone by when the young man was going to see his best girl he must work on a run to help father get the chores done, hitch the driving horse to the buggy, and drag along and usually be late. The same thing is true in regard to business. If you get a hurry call, or hear of a good bargain, the car is going to beat you to it.

There are some of the older generation who will never be convinced of the worth of the car, no matter how many figures you put before them.

This is in a great measure due to lack of mechanical ability or their inability to get away from the things their great grandfathers did.

It is true that the draft horse is indespensible, regardless of all other traction power, but for the convenience of the average farmer the driving horse might as well be hung on the shelf.

I am a young farmer and have been by myself for the last two years and during that time did not get more than ten miles from home and visited my parents in town twice in a year and a half.

Last summer I purchased a small auto and have been home more and seen more country than in all the other year and a half. As to the high cost of the automobile, this depends largely on the driver and his ability to care for his own car. It takes a lot less time on the average to keep the car ready to respond to your wishes than to groom and care for a horse, which eats all the while whether working or not, while the expense for gas and oil are but little more per trip than the feed consumed by the horse for the same time.

If the time comes when the farm cannot suppport a car I am afraid that I for one would be hunting a new job.—F. E. A., Susq. Co., Pa.

YORK COUNTY COW TESTING

The York Valley Cow Testing Association completed its first month's work on December 30th. Two hundred and forty-eight cows were included in this test. Out of this number thirty-one produced over 1,000 pounds of milk during the month and two of them produced over 2,000 pounds each. Twenty-six cows produced over 40 pounds of butter fat. Of these, 6 produced over 50 pounds, two produced over 60 pounds, one over 70 pounds and one over 80 pounds of fat.

The cow producing the highest record for butter fat for the month is a registered Holstein, ten years old, owned by John L. Reisinger, York, Pa. This cow produced 82.7 pounds of fat. The cow producing the largest quantity of milk is a grade Holstein with a record of 2099 pounds for the month. This cow is also owned by Mr. Reisinger.

The following men own one or more cows which produced over 1000 pounds milk, or 40 pounds fat for the month:

J. A. Poorbaugh, York, 5; A. G. Emig & Sons, Hellam, 1; H. N. Forrey, York, 1; W. A. Gross, York, 1; Isaac J. Rishel, York, 1; Norman E. Rishel, York, 5; Elmer E. Laurer, Dover, 1; C. Allen May, Dover, 2; J. Raymond Arnold, Dover, 2; F. L. Krall, East Berlin, 2; M. J. Pentz, Dillsburg, 1; Glen M. Stough, Dillsburg, 1; C. E. Cook, Dillsburg, 2; H. J. Coover, Dillsburg, 1; John L. Reisinger, York, 4; H. E. Robertson, York, 3.

The Farm Bureau is attempting to organize a second association at the present time. This association will include dairymen in the southern part of York County and will likely be ready to begin work some time during the latter part of this month.— G. G. Weber, Secretary and County Agent.

THE GRAND CHAMPION BARROWS

The grand champion carload of barrows at the International Livestock Show was bred by Gus Meyer, of Indiana, and sold for $20.50 a hundred. This is Mr. Meyer's second time to receive grand championship, and it is a remarkable tribute to his feeding skill to know that, in spite of the great drop in pork prices this season, he received only 50 cents less per cwt., then he did for his carload a year ago. There were 51 head of barrows in Mr. Meyer's lot, purebred Hampshires but unregistered. These pigs were weaned at about 2½ months old, being fall pigs of 1918. Upon weaning they were fed salvage grain, principally wheat and barley. This was cooked until the first of May when they were put upon clover pastures, but were still fed the salvage grain twice a day. About September 1st, they were given a little corn for a two weeks period to accustom them to the corn ration, and then they were put on a full feed of corn, tankage and salvage grain, on September 1st. The weight of the carload was 15,180 pounds, an average of 297½ lbs. apiece, while at the show the weight was 20,600 lbs., approximately 400 lbs. a head. The hogs were in a four acre lot after September 1st, having access to the hog house for shelter, and their feed was given them on a cement feeding floor. Mr. Meyers feels for his own conditions, he cannot improve this method of handling his hogs and still attain the same quality and finish.

LAMBS DRESS 52.7 PERCENT

The Grand Champion Carload of fat sheep at the recent International was fed by Heart's Delight Farm, New York, and brought $37 per cwt. These were grade Southdown lambs, sired by a purebred Southdown ram from grade ewes and were bred on Heart's Delight Farm. The majority were fed from 60 to 90 days, but some of them were in the barns for only a few weeks. The average age of these lambs was 275 days and their weight at Chicago was 92 pounds each. They were fed a mixture of oats, barley, corn and a little bran, together with clover hay. However, the grain mixture was not the principal element in finishing them, as they were given all the cabbage, turnips and rape they would normally eat, with the grain and hay additional. They dressed 52.7 percent of carcass to live weight.

Milk, eggs and the leafy vegetables are the protective foods. Without a good supply of them health cannot be easily maintained.

3 BIG DAYS

JAN. 20-21-22

SIXTEENTH HOLSTEIN CONSIGNMENT SALE

SYRACUSE, N. Y.

275 HEAD From Quarter of a Hundred Leading Herds

30-lb. Cows Sons of Cows up to 36-lb.
Daughters of Cows up to 32-lb.

A SPECIAL FEATURE—Will be the large number of cows, with good A. R. O. record that are fresh, or well along in calf to great sires and soon to drop a calf that will more than pay for the original cost of the dam.

ANOTHER IMPORTANT CONSIDERATION—The Canadian consignments.

During the past two years, breeders of the States have come to appreciate the value of Canadian bred animals and this sale will afford a wonderful opportunity to secure some of Canada's best. More than ONE HUNDRED head have been consigned, many of them strong in the blood of MAY ECHO SYLVIA—some of the cows being in calf to her son and others sired by and in calf to her maternal brother.

BEAR THESE THINGS IN MIND—This will be the largest Holstein consignment sale held in the east in recent years. You are offered a selection from more than 275 head, of all ages—whether it is one or a carload you will find them and also a few right good young bulls, good enough to head any herd. FURTHERMORE—every animal over six months of age has been tuberculin tested and is sold subject to a sixty day retest guarantee.—The best protection anyone can give.

Consigned by These Leading Breeders:

JOHN HOWARD, Sherburne, N. Y.
A. D. FOSTER & SON, Bloomfield, Ont.
A. R. OWEN, Goshen, N. Y.
GEO. N. SMITH, Watertown, New York.
W. H. MACE, Cortland, New York.
S. F. DARTT, Cameron, N. Y.
STEVENS & KROG, Liverpool, N. Y.
N. V. LASHER, Fultonville, New York.
A. C. BICKFORD, Lowville, N. Y.
S. M. STRICKLAND, Carthage, N. Y.
W. C. STEVENS, Philipsville, Ont.
J. T. STEWART, Fonda, N. Y.
J. C. REAGAN, Tully, N. Y.
C. R. MARSHALL, Morrisville, N. Y.
W. W. STEVENS, Liverpool, N. Y.
E. T. JENKINS, Heuvelton, N. Y.
R. J. STEVENS, Liverpool, N. Y.
E. E. MUIRHEAD, Newmarket, Ont.
R. M. DENNIS, Jasper, N. Y.
L. E. CARPENTER, Middletown, N. Y.
E. A. VANDERVORT, Sidney, N. Y.
R. C. MELVIN, Liverpool, N. Y.
R. D. LEE, Casenovia, N. Y.

Here are Just a Few of the Great Things That Will be Sold:---

THE FEMALES

ULYSSES DOLLY VEEMAN, a 4 yr. old now in test with over 30-lb. also her young daughter by a son of a 37-lb. cow.

PROGRESSIVE QUEEN PEARL, a six-year-old in test making close to 30-lb.; her dam a 32-lb. cow.

INKA RAG APPLE, a 2-year-old daughter of a 29-lb. cow, sired by a son of a 29-lb. cow.

QUEEN PONTIAC ECHO HERMES, a beautiful 2-year-old daughter of AVON PONTIAC ECHO (son of May Echo Sylvia) from a 22-lb. dam and in calf to a son of Het-Loo Pietertje, the 30-lb. 2 yr. old.

WOODCREST PIETJE ARTIS, a 25-lb. 3 yr. old daughter of Woodcrest Sir Clyde, from a 23-lb. daughter of King Pontiac Artis Canada and safely in calf to CHAMPION SYLVIA PONTIAC (the great Hardy son of May Echo Sylvia.)

PIETERTJE GRINDETIA HENGERVELD 2d, a 20-lb. 2 yr. old that made almost 500-lb. milk and due right at sale time.

THE BULLS

A son of Lieuwkje Lynfeld Pleasant Valley Kate, with over 36-lb.; her dam with over 30-lb. and the dam of the sire with over 31-lb. This fellow is now of serviceable age and will do someone a whole lot of good.

A son of King Korndyke Sadie Keyes from Aaggie Faforit Johanna with 30.68-lb. milk from 656-lb. milk. King Korndyke Sadie Keyes is by King Korndyke Sadie Vale from the great 36-lb. cow, Lulu Keyes.

Another son of King Korndyke Sadie Keyes from a 25-lb. daughter of old Pontiac Korndyke, the next dam a 25-lb. cow also.

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IF YOU WANT FOUNDATION COWS—DON'T OVERLOOK THIS SALE
IF YOU WANT A HERD BULL—DON'T OVERLOOK THIS SALE
If you want cattle of any age, or breeding—DON'T MISS THIS GREAT OPPORTUNITY.

Send NOW for a catalg and plan to be there January 20, 21, 22.

THREE BIG HOLSTEIN DAYS

Under Management of **LIVERPOOL SALE & PEDIGREE CO.,** LIVERPOOL N. Y.

KEZIAH COFFIN

By JOSEPH C. LINCOLN

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(Continued from Last Week.)

I can't live with him—that I can't do—but while he lives I'll stay his wife and give him what money I can spare. That's the duty I told you was laid on me, and it's a hard one, but I don't run away from it."

John Ellery was silent. What could he say? Keziah went on.

"I don't run away from it," she exclaimed, "and you mustn't run away from yours. Your church depends on you, they trust you. Are you goin' to show 'em their trust was misplaced? The girl you wanted is to marry another man, that's true, and it's mighty hard. But she'll marry a good man, and, by and by, she'll be happy."

"Happy!" he said scornfully.

"Yes, happy. I know she'll be happy because I know she's doin' what'll be best for her and because I know him that's to be her husband. I've known him all my life; he's that other one that—that— and I give him up to her; yes, I give him up to her, and try to do it cheerful, because I know it's best for him. Hard for you? Great Lord A'mighty! do you think it ain't hard for me? I—I——"

She stopped short; then covering her face with her apron, she ran from the room. John Ellery heard her descending the stairs, sobbing as she went.

All that afternoon he remained in his chair by the window. It was six o'clock, supper time, when he entered the kitchen. Keziah, looking up from the ironing board, saw him. He was white and worn and grim, but he held out his hand to her.

"Mrs. Coffin," he said, "I'm not going away. You've shown me what devotion to duty really means. I shall stay here and go on with my work."

Her face lit up. "Will you?" she said. "I thought you would. I was sure you was that kind."

CHAPTER XIV.

In Which the Sea Mist Sails

They buried Captain Eben in the little Come-Outer cemetery at the rear of the chapel. A bleak, windswept spot was that cemetery, bare of trees and with only a few graves and fewer headstones, for the Come-Outers were a comparatively new sect and their graveyard was new in consequence. The grave was dug in the yellow sand beside that of Mrs. Hammond, Nat's mother, and around it gathered the fifty or sixty friends who had come to pay their last tribute to the old sailor and tavern keeper.

Keziah lingered to speak a word with Grace. The girl, looking very white and worn, leaned on the arm of Captain Nat, whose big body acted as a buffer between her and over-sympathetic Come-Outers. Mrs. Coffin silently held out both hands and Grace took them eagerly.

"Thank you for coming, Aunt Keziah," she said. "I was sure you would."

"Least I could do, deary," was the older woman's answer. "You uncle and I was good friends once; we haven't seen each other so often of late years, but that ain't changed my feelin's. Now you must go home and rest. Don't let any of these"—with a rather scornful glance at Josiah Badger and Ezekiel and the Reverend Absalom — "these Job's comforters bother you. Nat, you see that they let her alone, won't you?"

Captain Nat nodded. He, too, looked very grave and worn. "I'll tend to them," he said shortly. "Come, Grace," he added; "let's go."

But the girl hung back. "Just a minute, Nat," she said. "I—I—would you mind if I spoke to Aunt Keziah—alone? I only want to say a word."

Nat strode off to the cemetery gate, where Josiah Badger stood, brandishing a red cotton handkerchief as a not too-clean emblem of mourning. Mr. Badger eagerly sprang forward, but ran into an impossible barrier in the form of the captain's outstretched arm. Josiah protested and the captain replied. Grace leaned forward

"Auntie," she whispered, "tell me: Did a letter— Did he——"

"Yes, it came. I gave it to him."

"Did—did he tell you? Do you know?"

"Yes, I know, deary."

"Did he—is he——"

"He's well, deary. He'll be all right. I'll look out for him."

"You will, won't you? You won't let him do anything——"

"Not a thing. Don't worry. We've had a long talk and he's going to stay right here and go on with his work. And nobody else'll ever know, Gracie."

"How— O Aunt Keziah! how he must despise me."

"Despise you! For doin' what was your duty? Nonsense! He'll respect you for it and come to understand 'twas best for both of you, by and by. Don't worry about him, Gracie. I tell you I'll look out for him."

"I guess it will be better if he does despise me. And hate me, too. He can't despise and hate me more than I do myself. But it is right—what I'm doing; and the other was wrong and wicked. Auntie, you'll come and see me, won't you? I shall be so lonesome."

"Yes, yes; I'll come. Perhaps not right away. There's reasons why I'd better not come right away. But, by and by, after it's all settled and you and Nat"—she hesitated for an instant in spite of herself— "after you and Nat are married I'll come."

"Don't talk about that now. Please don't."

"All right, I won't. You be a good, brave girl and look out for Nat; that's your duty and I'm sure you'll do it. And I'll do my best for John."

"Do you call him John?"

"Yup. We had a sort of—of adoptin' ceremony the other mornin' and I— Well, you see, I've got to have somebody to call by their front name and he's about all I've got left."

"O Aunt Keziah! if I could be one half as patient and brave and sweet as you are———"

"Sssh! here comes Nat. Be kind to him. He's sufferin', too; maybe more'n you imagine. Here she is, Nat. Take her back home and be good to her."

The broad-shouldered skipper led his charge out of the gate and down the "Turn-off." Josiah Badger looked after them disgustedly. As Keziah approached, he turned to her.

"I swan to man!" he exclaimed, in offended indignation, "if I ain't losin' my respect for that Nat Hammond. He's the f-f-fuf-for'ardest critter ever I see. I was just agoin' to hail Gracie and ask her what she thought about my leadin' some of the meetin's now her uncle has been called aloft. I wanted to ask her about it fust, afore Zeke Bassett got ahead of me, but that Nat wouldn't let me. Told me she mustn't be b-b-b-bothered about little things now. Little things! Now, what do you think of that, Mrs. Coffin? And I spoke to Lot Taylor, one of our own s-s-sas-sassiety, and asked what he thought of it, and he said for me to go home set d-d-down and let my h-h-h-hah-hair grow. Of all———"

"I tell you what you do, Josiah," broke in the voice of Captain Zeb Mayo, "you go home or somewhere else and set down and have it cut. That'll take pretty nigh as long, and'll keep it from wearin' out your coat collar. Keziah, I've been waitin' for you. Get in my shay and I'll drive you back to the parsonage."

Mrs. Coffin accepted the invitation and a seat in the chaise beside Captain Zeb. The captain spoke of the dead Come-Outer and of his respect for him in spite of the difference in creed. He also spoke of the Rev. John Ellery and of the affection he had come to feel for the young man.

"I like that young feller, Keziah," he said. "Like him for a lot of reasons, same as the boy liked the hash. For one thing, his religion ain't all starch and no sugar. He's good-hearted and kind and—and human. He seems to get just as much satisfaction out of the promise of heaven as he does out of the sartainty of t'other port. He ain't all the time bangin' the bulkhead and sniffin' brimestone, like persons I have seen. Sulphur's all right for a spring medicine, maybe, but when June comes I like to remember that God made roses. Elkanah, he comes to me a while ago and he says, 'Zebedee,' he says, 'don't you think Mr. Ellery's sermons might be more orthodox?' 'Yes,' says I, 'they might be, but what a mercy 'tis they ain't.' He, he, he! I kind of like to poke Elkanah in the shirt front once in a while, just to hear it crackle. Say, Keziah, you don't think the minister and Annabel are———"

"No," was the emphatic interruption; "I know they ain't; he ain't, anyway."

"Good! Them Danielses cal'late they own the most of this town already; if they owned the minister they'd swell up so the rest of us would have to go aloft or overboard; we'd be crowded off the decks, sure."

"No one owns him. Haven't you found that out?"

"Yup, I cal'late I have and I glory in his spunk."

"I'm glad to hear you say so. Of course Cap'n Elkanah is boss of the parish committee and——"

"What? No, he ain't nuther. He's head of it, but his vote counts just one and no more. What makes you say that?"

"Oh, nuthin'. Only I thought maybe, long as Elkanah was feelin' that Mr. Ellery wa'n't orthodox enough, he might be goin' to make a change."

"He might? He might! Say, Keziah Coffin, there was Mayos in this town and in this church afore the fust Daniels ever washed ashore; and they'll be here when the last one blows up with his own importance. I'm on that parish committee—you understand?—and I've sailed ships and handled crews. I ain't so old nor feeble but what I can swing a belayin' pin. Boss! I'll have you to know that no living man bosses me."

"All right! I didn't mean to stir you up, Zebedee. But from things Cap'n Daniels has said I gathered that he was runnin' the committee. And, as I'm a friend of Mr. Ellery, it ——"

"Friend! Well, so'm I, ain't I? If you ever hear of Daniels tryin' any tricks against the minister, you send for me, that's all. I'll show him. Boss! Humph!"

The wily Keziah alighted at the parsonage gate with the feeling that she had sown seed in fertile ground. She was quite aware of Captain Zeb's jealousy of the great Daniels. And the time might come when her parson needed an influential friend on the committee and in the Regular society.

The news of the engagement between Captain Nat Hammond and Grace Van Horne, told by Dr. Parker to one or two of his patients, spread thru Trumet like measles thru a family of small children. Didama Rogers learned it, so did Lavvinia Pepper, and after that it might as well have been printed on the walls for all to read. It was talked over and gossiped about in every household from the lighthouse keeper's family to that of George Washington Cash, who lived in the one-room hovel in the weeds near the Wellmouth line, and was a person of distinction, in his way, being the sole negro in the county. And whenever it was discussed it was considered a fine thing for both parties concerned. Almost everyone said it was precisely what they expected.

Annabel Daniels and her father had not expected it. They were, however, greatly pleased. In their discussion, which lasted far into the night, Captain Elkanah expressed the opinion that the unexpected denouement was the result of his interview with Eben. He had told the old Come-Outer what would happen to his ward if she persisted in her impudent and audacious plot to entrap a Regular clergyman. She, being discovered, had yielded, perforce, and had accepted Nat as the next best catch.

Annabel was not satisfied with this explanation. Of course, she said, she did not pretend to believe Grace's statement that she had found her uncle unconscious. No doubt the pair had had an interview and all that. But she believed the minister himself had come to his senses and had dismissed the brazen creature. She did not blame Mr. Ellery so much. He was a young man, with a kind heart, and no doubt the "Van Horne person" had worked upon his sympathies and had taken advantage of his inexperience of feminine wiles.

"I think, pa," she said, "that it's our duty, yours and mine, to treat him just as we always have. He doesn't know that we know, and we will keep the secret. And, as Christians, we should forget and forgive. We'll invite him here as we always have, keep him under our good influence, and be very kind to him, poor innocent. As for Captain Hammond, I'm sorry for him, knowing the kind of wife he is going to have, but no doubt Come-Outers are not particular."

Kyan Pepper was another whom the news of the engagement surprised greatly. When Lavinia told him of it, at the dinner table, he dropped the knife he was holding and the greasy section of fish-ball balanced upon it.

"'Bishy," said Miss Pepper, "what do you s'pose has happened down to the Hammond tavern?"

"Oh, I know that," was the reply. "I heard that long ago; Cap'n Eben's dead."

"'Course he's dead; and I knew you knew it. Land sakes! don't be such a ninny. Why, I told you myself."

"Well, I didn't know but you'd forgot. Anybody's li'ble to forget who they've told things to. Why, I've forgot more things———"

"Yes, there ain't no doubt about that. I've told you a million times, if I have once, to tuck your napkin round your neck when you've got your Sunday clothes on. And there you be this minute without a sign of a napkin."

"Why, Laviny! I must have it round my neck. I know I——"

"Don't be so foolish! Think I'm blind? Can't I see you ain't got it? Now where is it?"

Kyan began a futile hunt for the missing napkin, in his lap, on the table, and finally under it.

"I don't understand," he stammered, "where that napkin can be. I'm just as sure I had it and now I'm just as sure I ain't got it. What do you s'pose I done with it?"

"Goodness knows! 'Twouldn't surprise me if you'd et it, you're that absent-minded. Here! what's that stickin' out of your breast pocket?"

Her brother put his hand to the pocket indicated and produced the missing napkin, much crumpled.

"There!" he exclaimed, in a tone of relief. "Now I remember. It must have dropped on the floor and I thought 'twas my handkerchief and picked it up and——"

"What did you think you'd be carryin' a white handkerchief for, on a week day?"

"Well, I had on my Sunday suit and———"

"Yes, and for the dear mercy sakes why have you got it on?"

Kyan saw an opportunity for self-justification.

"You told me to put it on," he declared triumphantly. "You said yourself I'd better rig out in my Sunday clothes 'cause we might go to Eben's funeral. You know you did."

"Hear the man! And then, after you've dressed up to go to his funeral, you pretend to believe I'm goin' to tell you he's dead. I never——"

"Well, what is it, then? He ain't come to life, has he?"

"Grace Van Horne's engaged to be married, that's what it is. Look out! Oh; you———"

Just here occurred the accident already described. Knife and fish ball descended upon the waistcoat belonging to the "Sunday suit." Lavinia flew for warm water, ammonia, and a cloth, and the soiled waistcoat was industriously scrubbed. The cleansing process was accompanied by a lively tongue lashing, to which Kyan paid little attention.

"Engaged?" he kept repeating. "Gracie Van Horne engaged? Engaged? En———"

"Be still, you poll parrot! Dear! dear! dear! look at them spots. Yes, yes; don't say it again; she's engaged."

"Who—who—who———"

"Now you've turned to an owl, I do believe. 'Hoo! hoo!' She's engaged to Nat Hammond, that's who. Nothin' very surprisin' about that, is there?"

Kyan made no answer. He rubbed his forehead, while his sister rubbed the grease spots. In jerky sentences she told of the engagement and how the news had reached her.

"I can't believe it," faltered Abishia. "She goin' to marry Nat! Why, I can't understand. I thought——"

"What did you think? See here! you ain't keepin' anything from me, be you?"

The answer was enthusiastically emphatic.

"No, no, no, no!" declared Kyan. "Only I didn't know they was—was

"Neither did anybody else, but what of it? Folks don't usually advertise when they're keepin' comp'ny, do they?"

"No—o. But it's gen'rally found out. I know if I was keepin' comp'ny—or you was, Laviny———"

His sister started.

"What makes you say that?" she demanded, looking quickly up from her rubbing.

"Why, nothin'. Only if I was—or you was, somebody'd see somethin' suspicious and kind of drop a hint, and——"

"Better for them if they 'tended to their own affairs," was the sharp answer. "I ain't got any patience with folks that's always talkin' about their neighbor's doin'. There! now you go out and stand alongside the cook stove till that wet place dries. Don't you move till 'tis dry, neither."

So to the kitchen went Kyan, to stand, a sort of living clotheshorse, beside the hot range. But during the drying process he rubbed his forehead many times. Remembering what he had seen in the grove he could not understand; but he also remembered, even more vividly, what Keziah Coffin had promised to do if he ever breathed a word. And he vowed again that that word should not be breathed.

The death and funeral of Captain Eben furnished Trumet with a subject of conversation for a week or more. Then, at the sewing circle and at the store and after prayer meeting, both at the Regular meeting house and the Come-Outer chapel, speculation centered on the marriage of Nat and Grace. When was it to take place? Would the couple live at the old house and "keep packet tavern" or would the captain go to sea again, taking his bride with him? Various opinions, pro and con, were expressed by the speculators, but no one could answer authoritatively, because none knew except those most interested, and the latter would not tell.

John Ellery heard the discussions at the sewing circle when, in company with some of the men of his congregation, he dropped in at these gatherings for tea after the sewing was over. He heard them at church, before and after the morning service, and when he made pastoral calls. People even asked his opinion, and when he changed the subject inferred, some of them, that he did not care about the doings of Come-Outers. Then they switched to inquiries concerning his health.

"You look awful peaked lately, Mr. Ellery," said Didama Rogers. "Ain't you feelin' well?"

The minister answered that he was as well as usual, or thought he was.

"No, no, you ain't nuther," declared Didama. "You look's if you was comin' down with a spell of somethin'. I ain't the only one that's noticed it. Why, Thankful Payne says to me only yesterday, 'Didama,' says she, the minister's got somethin' on his mind and it's wearin' of him out. You ain't got nothin' on your mind, have you, Mr. Ellery?"

(Continued Next Week.)

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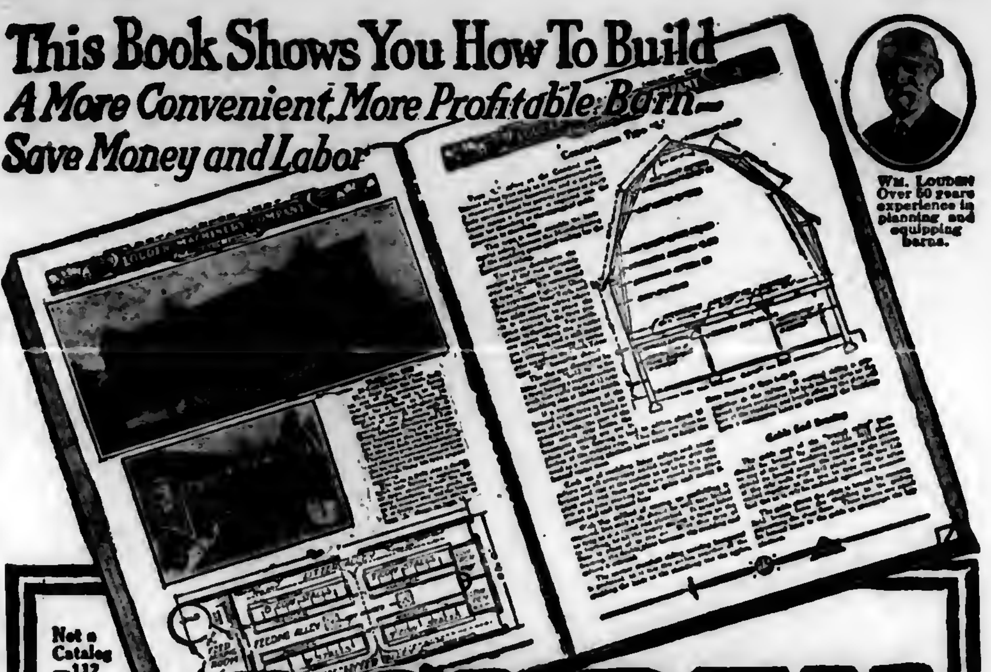

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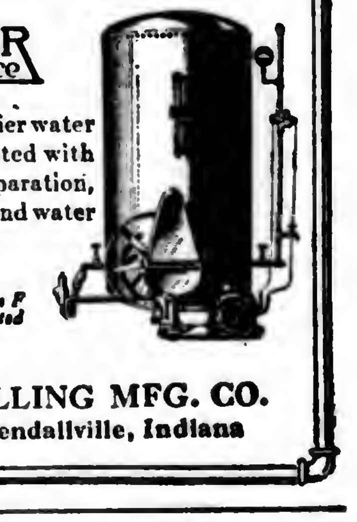

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Markets

PHILADELPHIA PRODUCE

Phila., January 12, 1920.

As we predicted in these columns last week the market on potatoes is ruling firmer and higher under the more moderate weather conditions trading has been more actave and prices have advanced sharply. At this writing the bulk of the potatoes are Pennsylvania grown stock and these are selling mostly around $4.10@4.25 per cwt. There are a few Maines here which sell mostly around $4 per cwt. Nearly all the New York State potatoes now on the market are in sacks of about 150 pounds weight and these are selling at $6.25 per sack for No. 1s with No. 2s around $4. There is little change to note in the price on sweet potatoes which are selling generally from $2@2.15 per hamper for No. 1s with No. 2s at $1@1.25. Some yams from the Eastern Shore have been arriving and selling from $4.50@5.50 per barrel.

Vegetables

Quite some improvement has taken place in the market on both green and wax beans. There is however, a wide range in the condition, and quality of the beans which make a wide range in the prices, and sales are now being made all the way from $1@4 per hamper. The old beets from Pennsylvania and New Jersey points continue firm at $3.50@4 per barrel. A few new southern beets are arriving on the market and selling from $3@3.50 per crate. Brussel Sprouts are very scarce and sell from 28@30c per quart. The season on old cabbage is beginning to draw to a close and as supplies are light high prices are prevailing and $125 per ton is being obtained for best stock. The new cabbage is gradually increasing in supply and the market is about steady at mostly $3.25 per hamper and $4.50@5 per crate. Old carrots are in light supply and the market is firm and active at the high price of $5@5.75 per barrel, while a car of carrots in bushel baskets was being sold here today at $1.75 per bushel. Cauliflower is doing much better than it did a week ago as prices are now ranging from $2.25@2.65 per crate. Celery is not so firm and prices are lower. Unwashed celery selling at this writing at $5@8 per crate, with washed and bunched celery at $1@1.50 per bunch. Egg plants are showing better quality and condition than they did a week ago and higher prices are prevailing with sales ranging generally from $1@1.25 per box. Endive and Ecarole are in light supply and practically unchanged and selling around $4.50 per barrel. Kale is not very plentiful but there is a wide range in the quality. Best kale sold here this morning at $2@2.15 per barrel but at the same time there was some poor kale here which was only realized at $1@1.50 per barrel Lettuce is quite a little higher as todays seling price of $1.75@3.25 is fifty to seventy-five cents higher than it was a week ago.

California Iceberg lettuce sold this morning at $1.25@2.50 per box which is 25@50c higher than prices were a week ago. Mushrooms continue firm at the practically unchanged price of $1.50@2.50 per 3-pound basket Yellow onions are about 25c per cwt lower with sales ranging generally from $6@6.50 per 100-lb. sacks. Spanish Valencia onions are in fairly liberal supply and sell for $1.75@2 per crate or $5 per case. Parsley is in light supply and higher with sales being made from $17@20 per barrel. Peas are little more plentiful at $7@8.50 per drum. Peppers are showing considerable improvement and are selling from $1.50@2.50 per crate which is about 50c higher than the prevailing prices a week ago. Hot house radishes are a little lower with most sales at 4@5c per bunch. Squash is in light supply and firm at $3.50 per box. Tomatoes are showing a wide range in quality and condition which accounts for the wide range in prices of $1.50@4.50 per crate. Hot House tomatoes are in light supply and firm at 40c per lb. for the No. 1s and 20@25c per pound, for the No. 2s. Pennsylvania grown parsnips are in light supply and higher the sales at $3.50@5 per barrel being fully $1 per barrel higher than a week ago. White turnips are also higher and seling at this writing at $3.25@4.25 per barrel. Rutabagas are also firm at about the same prices as the white turnips. Spinach from Norfolk sold today at $3.50@3.75 per barrel. Watercress is scarce and wanted at 3@4c per bunch.

Fruits

There is a much better demand and movement noted in the apple market and the market is firm and active on fancy apples free from frost. There are, however, many poor weak wasty and scalded apples on the market which makes a very wide range in values. Sales at this writing are being made about as follows: Baldwins, $4@8; Ben Davis, $3.50@7; York Imperials, $3.25@7.25; Starks, $4.50@6; Winesaps, $3.25@7.50; Delicious, $6@9; Stayman Winesaps, $5.50@9, a few extra fancy at $9.50 Black Twigs, $5@8; Jonathans, $7.50; Spys, $4.50@7; Russets, $5@6; Box apples are selling all the way from $1.50@3.50 per box as to conditions quality and variety.

Cranberries are meeting a very slow demand and movement and prices on average offerings are a little lower, altho there are at the same time a few extra fancy cranberries which are being sold at about the former range of values so the market may be quoted on barrels at $4@9, and crates at $1.50@3.25. A few strawberries from Florida are on the market every day and [illegible] at this writing range from 90c@$1 per quart.

Poultry

The supplies of poultry have not been [illegible] at the same time they were [illegible] to the demand and there has been [illegible] material change in the prices during the past week, which are about as follows:

Live Poultry.—Heavy fowls, 36@38c; smaller sizes, 27@34c; fancy chickens, 32@34c; inferior chickens, 28@30c; roosters, 22@23c; ducks, 38@40c; geese, 26@30c; turkeys, 38@40c.

Dressed Poultry.—Nearby turkeys, 53@60c; Western turkeys, 51@58c; [illegible] Toms, 45c; heavy fowls, 37@38c; smaller sizes, 28@32c; nearby broiling chickens, 45@48c; ducks, 37@42c.

Eggs

The advance of 2c per dozen in the egg market as reported in these columns last week has been followed by another and still greater advance of 5c per dozen. So at this writing Pennsylvania and other nearby are selling at 77c per dozen, with firsts at 79c. Some special fancy marks of selected eggs exceed these prices. Western firsts are selling at 75@77c per dozen, and Western extra firsts at 79c.

Rabbits

The season on rabbits is now closed.

LANCASTER PRODUCE MARKET

Lancaster, Pa., January 12, 1920.

Slight advances in the prices of dressed poultry were registered here today with the supply small and no live fowls offered. Other supplies were abundantly offered, but even so, egg prices were held firmly at last week's prices. Business was brisk.

Butter and Eggs.—Creamery butter, 80@85c lb.; country butter, 80@85c. Fresh eggs, 82@85c dozen; duck eggs, 90c; goose eggs, 10c each.

Dressed Poultry.—Dressed old chickens, $2@2.50 each; dressed young chickens, $1.85@2 each.

Vegetables.—Spinach, 20c ½ peck; turnips, 15@20c ½ peck; potatoes, 25@30c ½ peck; do., $1.65@1.75 bu.; sweet potatoes, 35c ½ peck; cauliflower, 10@15c head; lima beans, 20c quart; oyster plant, 10c bunch; lettuce, 15@25c head.

Fruit.—Apples, 35@50c ½ peck.

YORK PRODUCE MARKET

York, Pa., January 12, 1920.

The average attendance and normal prices prevailed at the city markets last week. There is light buying in all lines of produce at this time. Eggs are taking a decided drop—due more to agitation than to increased production.

Eggs.—75@80c per dozen.

Butter.—Country, 70@75c lb.; separator, 80@85c lb.; milk, 12c quart.

Poultry.—Hens, 24@25c lb.; dressed, 75c to $1.75 each.

Vegetables.—15@30c ½ peck; $1.75 per bushel; cabbage, 3@10c head; lettuce, 10@15c head; beets, 5c bch.; radishes, 6c bunch; onions, 5c bunch; 25c ½ peck; lima beans, 30@35c quart; soup beans, 25@30c quart; celery, 5@12c stalk; turnips, 15c ½ peck; spinach, 15c ½ peck; apple butter, 45@50c quart; sausages, 32@38c pound; pudding 30c pound; steak, 40@45c pound; bono meat, 25@32c pound; lard, 30@32c lb.; dressed, hogs, 20@21c pound.

Fruits.—Apples, Yorks, 30@50c ½ peck; other varieties, 25@50c ½ peck; Staymen and Grimes, 60@80c ½ peck; pears, 10c box; 25@30c ½ peck.

Retail Grain Market.—Wheat, $2.40; corn, $2; oats, $1; rye, $1.70; bran, $3 per cwt.; middlings, $3.50 cwt.

Wholesale Grain Market.—Wheat, $2.20; corn, $1.60; oats, 80c; rye, $1.40; bran, $50 per ton; middlings, $60@65 per ton.

BALTIMORE PRODUCE

Baltimore, Md., January 12, 1920.

Butter.—Creamery, western fancy, 70@71c; choice, 69@70c pound prints, 71@72c. Nearby rolls, 47@48c; dairy prints, 51@52c.

Eggs.—State, Pennsylvania and nearby, 72c. Eastern Shore and Virginia, 72c. Southern, 69c.

Live Poultry.—Springers, 32@33c pound; old roosters, 20@21c; old hens, 32@33c lb.; ducks young, 27@34c; do., poor, 26@28c; guinea fowls, 50c each.

Grains.—Wheat, No. 2, red winter, $2.64; wheat, new; garlicky, $2.53; corn, $1.63; oats standard white, 94½c; rye, nearby, $1.60@1.85.

Hay.—No. 1 timothy, $33 ton; do., standard, $31@32 ton; light clover, mixed, $30@30.50 ton. Clover, mixed, $28@29. Tangled rye straw, $14@16. Wheat straw, $12@12.50. Oat straw, $12.50@13.50 ton.

Mill Feeds.—City Mills Winter bran, per ton, in 100-pound sacks, $54; brown middlings, per ton, in 100-pound sacks, $54, white middlings, per ton, in 80-pound sacks, $65. Quotations on City Mills Feeds are jobbing prices.

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NEW YORK PRODUCE

New York City, January 12, 1920.

Butter.—Easier; receipts, 6,810; creamery, higher than extras, 65½@66c; creamery extras (92 score), 65c; firsts, 60@64c; packing stock, current make, No. 2, 45c.

Eggs.—Firm; receipts, 8,939; fresh-gathered extras, 85c; extra firsts, 83@84c; firsts, 81@82c; state, Pennsylvania and nearby western hennery whites, first to extras, 85@89c; state, Pennsylvania and nearby hennery browns, 86@88c; do., gathered browns and mixed colors, 84@85c.

Cheese.—Irregular; receipts, 1,375; state, whole-milk flats, current make, specials, 31½@32c; average run, 30½@31c; state, whole milk twins, current make, specials, 31½@32c; do., average run, 30@31c.

Live Poultry.—Nominal; no prices quoted. Dressed steady; fowls, 26@37c; old roosters, 21@21½c; chickens, 29@47; turkeys, 46@54c.

Vegetables.—Potatoes, Maine, $6@6.50 per 150 lbs.; State $5.50@6.25; Pennsylvania and Long Island $6@7 per 150-lb. bags. Beets, $3.50@5 per bbl. Carrots, $3.50@5.50 bbl.; celery, state, $2@7 crate; cabbage, Danish, $75@100 ton; onions, $4@6.50 per 100-lb. bag. Apples.—Twenty ounce, $4@7 bbl.; King, $4.50@9.50; Ben Davis, $4@6; Winesap, $4@7; York, $4.50@7.50; Staymen, $4.50@7; Greenings, $5@10.

PHILADELPHIA LIVE STOCK

Phila., January 12, 1920.

Receipts of live stock for week ending January 10, were as follows:

	Beef Cattle	Sheep and Lambs	Hogs
Total for Week	2,116	1,152	9,771
Previous Week	2,186	1,452	8,102

Calves.—Receipts of calves last week were 1,313 head against 849 head week previous.

Beef Cattle.—The market for steers and cows was dull and unchanged, with moderate but ample offerings. Calves of fine quality ruled steady with demand equal to the supply. Steers, good to choice, $15@16.50; do., fair to good, $13@15; common to fair, $11@13; cows, fat, per lb., good to choice, corn fed, 9½@10½c; fair to good, 7½@9½c; do., common to fair, 4½@7½c; calves, extra choice, $22@23; fair to good, $19@21; common, $12.50@16.50; heavy and rough, $8.50@12.50; Tennessee, choice, $18@19; other southern, $9@13.

Sheep and Lambs.—Sheep of fine quality ruled steady under moderate supplies and a fair demand. Lambs of fine quality ruled firm with demand absorbing the offerings. Sheared sheep, wethers, extra, $11.50@12; good to choice, $9.50@10.50; medium, $8@9; common, $4.50@6; ewes, fat, heavy, $9@10.50; spring lambs, choice, $19.25@19.50; medium, $17@18; culls and common, $12@14.

Hogs.—Offerings were light, and the market ruled firm and slightly higher with demand fair. Quotations for best western, $17@17.50; good, $15.50@15.75.

City Dressed Stock.—The market for steers, heifers and cows ruled firm, with a fair demand for fine stock. Lamb was firm and slightly higher. Hogs were also slightly higher. Other kinds were in fair request and values were generally firm. Steers, 17@26c; heifers, 15@20c; cows, 14@17c; calves, city dressed choice, 25@30c; country dressed, 24@26c; sheep, 14@20c; lambs, spring, 30@32c; hogs, 23c.

LIVESTOCK

Pittsburgh, Pa., January 12.—Cattle lower; supply, 100 loads; prime, $15@16.

Sheep.—Higher; supply, 18 double decks, prime wethers, $11.50@12.25; culls and common, $4@7; lambs, $11@19.50.

Veal Calves.—$21@21.50.

Hogs.—Higher; supply, 40 double decks; prime heavies, $15.50@15.65; mediums and yorkers, $16@16.25; pigs, $15@15.75; roughs, $12@14.

East Buffalo, N. Y., January 12.—Cattle.—Receipts, 3,800; heavy, 25@50c lower; other steady. Prime steers, $16@16.75; shipping steers, $16@16.50; butchers, $10@15.25; yearlings, $14@15.50; heifers, $6@11.50; cows, $4.50@10.75; bulls, $6.50@10.50; stockers and feeders, $6@10.25; fresh cows and springers, 65c@$1.75. Calves—Receipts, 1,600; 50c higher, $6@23.

Hogs.—Receipts, 16,500; 25@40c lower. Heavy, $15.35; mixed and yorkers, $15.35@15.50; light do. and pigs, $15.50; roughs, $13@13.25; stags, $10@11.50.

Sheep and Lambs.—Receipts, 9,000; 25@50c higher. Lambs, $11@20.50; yearlings, $10@17.50; wethers, $12@13; ewes, $4@11; mixed sheep, $11.50@12.

Lancaster, Pa., January 12.—Cattle.—Receipts, 2,220 head, against 3,032 last Monday; market quiet; prices steady; good to choice steers, $13.50@15; fair to good steers, $12@13; medium to fair steers, $11@12; common to medium steers, $10@11.25; smooth and fat bulls, $10@12; medium to good bulls, $9.25@10; common to medium bulls, $7.25@9; smooth and prime heifers, $12@13; common to medium heifers, $9.25@11.25; good to choice cows, $9@10.25; fair to good cows, $7@8.25; common to medium cows, $4.50@5.50; stock bulls, $8.50@10; good to prime calves, $20@21; medium to good calves, $18@19; common to medium calves, $14@16; good grade oxen, $11@13; common to fair oxen, $6.50@9.

Hogs.—Receipts, 887 head; market active; prices steady; good to prime, $14.50@16.75; light to medium, $13@14; stags to sows, $12.50@13.50; roughs, $12@14.

Chicago, Ill., January 12.—Hogs.—Receipts, 65,000; estimated tomorrow, 65,000; 15c to 25c lower; bulk, $14.40@14.60; top, $14.75; heavy, $14.35@14.55; medium, $14.40@14.60; light, $14.40@14.70; light light, $14@14.50; heavy packing sows, smooth, $13.75@14.15; packing sows, rough, $13.25@13.75; pigs, $13.25@14.25.

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PHILADELPHIA HAY AND GRAIN

Phila., January 12, 1920.

Baled Hay and Straw.—Receipts, 168 tons of hay. Well cleaned up and firm. We quote: Timothy hay, choice, $34; No. 1, $33; do., No. 2, $31@32; do., No. 3, $27@28; sample, $24@26; no grade, $20@23; clover mixed hay, light mixed, $31@32; do., No. 1, mixed, $28@29; straw, No. 1 straight rye, $16@16.50; do., No. 2, $14.50@15; do., No. 1 tangled rye, $14@14.50; do., No. 2, $13@13.50; do., No. 1 wheat straw, $14.50@15; do., No. 2, $13@13.50; do., No. 1 oat straw, $15@15.50; No. 2, $13@13.50.

Bran.—Quiet but steady. Car lots to arrive, including sacks: Soft winter bran, western, in 100 lbs. sacks, per ton, $50@50.50; spring bran, in 100-lb. sacks, per ton, $40@49.50.

Corn.—New as to quality, $1.59@1.68.

Oats.—No. 2, 96@97c.

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NEW YORK HAY AND GRAIN

New York City, January 12, 1920.

Feed.—The demand for mill feed was again very slow, and buyers in this district are believed to be well supplied. On the other hand, offers were fairly liberal and it was evident that holders were anxious to make sales, altho they were slow about cutting prices.

Quotations:—City feed, bran, $49; middlings, $54, in 100-pound sacks; red dog, $67, nominal in 100-pound sacks; Western spring bran, $48.50@49; standard middlings, $49@50; flour middlings, $59; red dog, $66, all in 100-pound sacks. 30-day shipment. Oat feed, $32; rye middlings, $52; white hominy feed, $68, all in 100 lb. sacks. Cottonseed oil meal, $78.75; linseed oil meal $78.50, in 100 pound sacks.

Hay and Straw.—There is a little more hay at the different harbor points and the tone is not quite so firm as yesterday, tho the situation is still very largely in sellers' favor and we see only slight change in values, the changes noted being more a movement of prices in Brooklyn toward the level of those at 33d Street. Rye straw, very firm. Oat straw very scarce, and, if here, might bring $18.

Hay.—No. 1 large bales, $36 ton; No. 2, $37@38 ton; No. 3, $36@37; shipping, $34@35 ton. Fancy light clover mixed, $37 ton. Clover, No. 1, mixed, $35.

Straw.—Per ton, No. 1 rye, $20; No. 1, oat, $19; No. 1, wheat, $16.

Wheat.—No. 2, red, $2.37½.

Corn.—No. 2 yellow, $1.68¾; No. 3, yellow, $1.65¾.

Oats.—No. 2 white, $1; No. 3 white, 99c.

Rye.—Export, $2.01.

Buckwheat, Milling, $3.25 per 100 pounds.

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PITTSBURGH HAY AND GRAIN

Pittsburgh, Pa., January 12, 1920.

Hay.—Receipts of hay continue light and not sufficient to supply the demand. This is especially true of the better grades. There is no difficulty in placing all arrivals at top figures. No. 1 Clover Hay is extremely scarce while the demand for this commodity is urgent. Practically no arrivals of this quality.

No. 1 timothy, $33@33.50; Standard, $32@32.50; No. 2, $30.50@31; No. 3, $28@29; No. 1, light clover mixed, $32@32.50; No. 1 clover mixed, $34.50@35; No. 2, $31@32.

Straw.—Receipts light and not sufficient to meet the demand. Market strong and steady.

No. 1 oat, $15@15.50; No. 2 oat, $14.50@15; No. 1 wheat, $14.50@15; No. 2 wheat, $14@14.50; No. 1 rye, $15@15.50; No. 2 rye, $14.50@15.

Ear Corn.—Receipts and demand about equal. All arrivals readily placed at quotations.

Yellow No. 2, $1.59@1.61; Yellow, No. 3, $1.53@1.57; Mixed No. 2, $1.55@1.58.

Oats.—A good demand coupled with small receipts keeps the market steady and active.

No. 1 white, 92¾@93c; No. 2 white, 92¼@92½c.

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PHILADELPHIA DAIRY MARKET

Phila., January 12, 1920.

Butter.—Receipts, 1596 tubs. There was material recovery in this market, due to the indifference of sellers, who were unwilling to sell at Friday's decline. Prices of solid-packed creamery were 2c higher, with very little pressure to sell, tho demand, as usual on Saturday, was limited. Prints were 1c higher with supplies pretty well cleaned up. Quotations: Fresh, solid-packed creamery, fancy, high-scoring goods, 67@69c, the latter for jobbing sales; extra, 66c; extra firsts, 63@65c; firsts, 59@62c; seconds, 55@58c; sweet creamery, choice and fancy, 68@70c; do., fair to good, 56@67c; ladle-packed, as to quality, 46@48c; packing stock, 44@45c; fancy brands of nearby prints jobbing at 74@76c; good to choice, 65@73c; fair, 61@63c.

Cheese.—Sold slowly and prices favored buyers. New York whole-milk flats, held, fancy, 32½@33c; held specials higher; held, fair to good, 31½@32c; fresh made best, 32@32½c; fair to good, 31@31½c; Wisconsin held, fancy, 32½@33c; held specials higher; fair to good, 31½@32c; jobbing sales of fancy held goods, 35@36c.

NEW YORK MILK MARKET

New York City, January 12, 1920.

Business continued dull last week and considerable milk was left over for manufacturers. The rate for January for 3 percent milk in 200 mile zone is $3.69 per 100 lbs.; 3.06 percent milk is $3.93 and 4 percent milk $4.09. Retail prices are unchanged; grade A bottled 20c per quart; grade B bottled 18c; grade B loose, 14c.

Receipts of milk and cream in 40-quart cans for the week ending January 10, 1920, were as follows:

Railroad	Milk	Cream
Erie	42,330	3,130
Susquehanna	7,748	187
West Shore	11,114	1,124
Lackawanna	55,922	1,316
N. Y. Central (long haul)	107,352	1,986
Ontario	46,473	2,060
Lehigh Valley	48,093	1,168
New Haven	6,022	39
Pennsylvania	12,466	473
Other Sources	6,300	275
Totals	343,820	11,758
Same Week Last Year	277,096	7,622

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GRASS SEED

Toledo, Ohio, January 12.—Cloverseed.—Prime, cash, $33.35; January, $33.35; February, $33.40; March, $33.30; April, $33.15.

Alsike.—Prime, cash and January, $33.50; March, $33.50.

Timothy.—Prime, cash, 1917, $6.05; cash, 1918, $6.05; cash, 1919, $6.17½; January $6.17½; March, $6.27½; April and May, $6.30.

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TOBACCO MARKET

With far the larger part of the 1919 product contracted the buying movement was necessarily limited. The unsold crops are now so few and far between that the unfavorable weather made riding decidedly unpleasant. Prices, too, are so firmly held that the discreet purchaser cannot afford to assume the chance of purchase without the most thoro examination. The situation is just the opposite to that of times heretofore when contracts were often written by lantern light and sometimes without examination. The stormy season has been well employed by growers in stripping and preparing their tobacco for delivery. It has been found that the product is unusually sound and practically free from damage by mould. A few deliveries have been made, mostly that which was sold unsorted thus facilitating stripping. Also, a few small sorted crops have passed to buyers. Practically all of the receiving warehouses are now open with buyers urging expedition and from now on there will be a gradual increase in deliveries. As these proceed, growers will receive comfortable recompense which in turn will contribute to the continued prosperity of the "garden spot." It has been noted that the residue of previous tobacco crops was never more nearly out of the way and on that account the consumption of the new product will begin as soon as it is ready. This it would seem, is a favorable indication with reference to future demand and quite an incentive to a full acreage the present year.

The Fish go into the bag

NOT INTO THE NAME, IN

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Farmers who want fish in their fertilizer can be sure of getting it by insisting on Royster's, the original Fish Fertilizer. We have been successful in securing ample supplies of fish and will be able to fully meet the demands of the trade for this popular ammoniate. Ask for ROYSTER'S

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ROYSTER'S F.S.R. FERTILIZER

Help the Hens to Lay Winter Eggs

Losing the old quills and growing new feathers taxes the hen's strength—cuts down the supply of eggs. After moulting, hens need a tonic that will build good red blood and tone up the egg producing organs. Every morning they should be fed

RUST'S EGG PRODUCER

You simply mix one tablespoonful to a quart of meal or bran for every dozen fowls. Add just enough water to make it of a crumbly consistency.

Soon they cackle and cluck. Combs become a healthy red. They lay with increasing regularity. **Rust's Egg Producer** means healthy industrious, scratching hens throughout the winter. It produces eggs when eggs are worth the most.

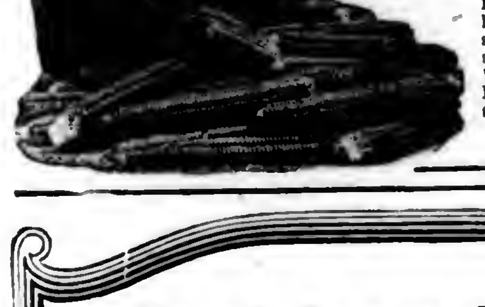
Ask your dealer for **Rust's Egg Producer,** one of the famous Rust's Poultry Preparations used by expert poultrymen for thirty years. If your dealer cannot supply you, we will ship direct by express. 1-lb. package, **30c.;** 2½-lb. package, **60c.;** 10-lb. package, **$1.75;** 25-lb. package, **$3.75.**

T. W. WOOD & SONS
RICHMOND, VA.
Successors to Wm. Rust & Son.

BEWARE OF ROUP

Now is the time when Roup makes its appearance—a deadly contagious disease. Symptoms are watery discharge from eyes and nostrils, sniffling and wheezing. Immediately separate diseased fowls, spray the premises with **Rust's Lice Liquid and Disinfectant** and treat with **Rust's Roup Powder.** Splendid for roup, colds, catarrh. Simply put in drinking water. Fowls take their own medicine. 3-ounce box, **36 cents,** postpaid.

RUST'S ROUP PILLS



Harris' Seeds From the Grower

We are large growers of vegetable, farm and flower seeds and sell direct to gardeners and farmers at wholesale prices. We do not sell to other dealers.

The percent that the seed germinates is marked on the label. The purchaser can therefore tell at once how thick to sow.

HARRIS SEED are bred as carefully as thoroughbred live stock and produce very much better results than seed commonly sold. We raise some very choice flower seeds and plants.

Write for catalog and if you raise vegetables for market, ask for Market Gardener's Wholesale Price List also.

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BOX 24, COLDWATER, N. Y.

Maloney's FRUIT and ORNAMENTAL TREES

Maloney Fruit and Ornamental Trees, Shrubs, Vines, Roses, etc., are guaranteed true to name and free from disease by the largest growers in New York State. We recognize our responsibility to the fruit growers and we have this year issued a novel wholesale Descriptive Catalog, that tells the things you ought to know about our business. Write for your copy today—it's free. No order is too big or none too small for us to handle personally. There is going to be a shortage of fruit trees this year, because most of the fruit tree seedlings come from France, and owing to the war the number sent to the United States for three or four years was way below the usual shipment. Be sure and get your order in early so as not to be disappointed.

BEARING AGE COLLECTION:—3 Bearing Age 8-10 feet trees for $3.48.
1 Bartlett Pear; 1 Montmorency Sour Cherry; 1 York State Prune.
We prepay transportation charges on all orders for over $7.50

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We are responsible: look up our rating — *Dansville's Pioneer Wholesale Nurseries*

Feed for a Bigger Herd

The size of your herd is not limited by the number of acres on your farm but largely by the amount of feed that those acres produce. You can carry more live stock by growing more feed to the acre. The right fertilizers produce more feed, which increases the manure supply to be returned to the land and increase its crop-producing power.

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They are specialized fertilizers that help to produce maximum yields. They are made to suit your crops and farm conditions; special fertilizers for top-dressing grass, special fertilizers for Corn, Oats and other grain, special fertilizers for use with manure or without.

Our Agricultural Service Bureau can help you to select the fertilizers best suited to your crops and your own farm conditions. This Bureau has made fertilizer tests in many states. It is under the personal charge of Dr. H. J. Wheeler, formerly Director of the Rhode Island Agricultural Experiment Station. Write for information. The service is free.

Ask our nearest office for our book, *"How to Make Money with Fertilizers."* It is full of practical fertilizer information and contains 46 illustrations.

If we have no agent in your town, we want one.

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AA

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Save Money

You can save more money and make more money if you plant Isbell seeds. It means sure crops, big crops of the kind that bring the most cash. Isbell's Seeds have that reputation among more than 200,000 users. Whatever your demands may be, Isbell seeds will meet your needs,—the best seeds you can buy. That's a proved fact because they are

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Michigan is acknowledged the best seed growing state in the Union and Isbell's grow their own seeds. You buy direct and are thus assured of quality, hardy, early maturing, pure, rugged seeds of the best that 41 years of experimenting, developing and study can produce. This makes sure crops,—big sure yields and satisfaction.

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Gentlemen:-
Please send me these samples and 1920 Catalog.
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Galloway's 1920 Model

All Galloway 1920 Engines Equipped with Webster Magneto

Masterpiece Quality, Wholesale Price

The 1920 Galloway Engines are a bigger, better money value than ever. The features that have made Galloway Engines famous are there and new features are added that make the Galloway the ideal Farm Engine. Quality is our slogan for building engines in 1920 — more quality than ever before.

You'll like the Galloway Engine because it is built right. The prices will interest you because you get a wholesale manufacturers' price. We manufacture these Engines in great quantities and sell them DIRECT. The saving goes into your own pocket. And we guarantee to please you. If a Galloway Engine doesn't give complete satisfaction we'll refund your money and pay the freight both ways.

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Long stroke, heavy weight, large diameter heavy fly wheels, fuel saving governor, adjustable valve push rod, valves in the head, large water pot, heated lubricator tube, large capacity fuel tank, removable sub-base, crank shield, magneto ignition — all these features on an engine that actually delivers more than its rated horse power.

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THE WM. GALLOWAY CO.
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Horse or Cow hide, Calf or other skins with hair or fur on, and make them into coats (for men and women), robes, rugs or gloves when so ordered. **Your fur goods will cost you less** than to buy them and be worth more.

Our illustrated catalog gives a lot of information. It tells how to take off and care for hides; how and when we pay the freight both ways; about **our safe dyeing process** on cow and horse hide, calf and other skins; about the fur goods and game trophies we sell, taxidermy, etc.

Then we have recently got out another we call **our Fashion book**, wholly devoted to fashion plates of muffs, neckwear and other fine fur garments, with prices; also **fur garments remodeled and repaired.**

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Clean Cut Business Farmers and Stockmen wanted as general and local agents, in counties and townships where we are not now represented. Write or call at once.

(*The Tix Ton Line for Conserving Animal Life.*)
PARSONS CHEMICAL WORKS, *Leona Park Experiment Station, Grand Ledge, Michigan.*

Miscellaneous

PENNS VALLEY STOCK FARM
Percherons Berkshires Holsteins
eady for service, High Class Boars. 12 sows and gilts bred for March and April farrow
W. F. RISHEL, CENTRE HALL, PA.

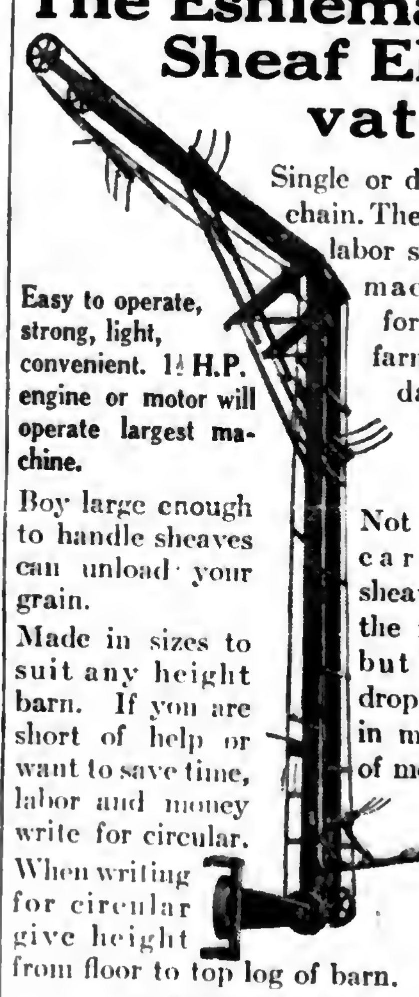
For Sale 1 Pair REG. PERCHERON MARES weight 3400 lbs.; 1 Reg. [illegible] Black Stallion 2 yrs. old, weight 1450
W. H & W. S Callahan. Clearfield, Pa

FOR SALE OR EXCHANGE for ponies Black Percheron stallion colt, two Red polled heifers bred, Jersey heifer, extra good. All registered and priced right. F. B. STEWART, ESPYVILLE, PA.

REG. P. CHINAS, BERKSHIRES, C. WHITES, large strains all ages, mated not akin; 8 wk pigs, br sows, service boars. Beagles and Collies. Write for circ. P. F. HAMILTON, COCHRANVILLE, PA

NEAR-BY STOCK FARM offers Reg. Ayrshire cattle, Reg. Berkshire [illegible] a few bred sows. Best of breeding. White Wyandottes.
J. A. McMAHAN, POTTSGROVE, PA.

For Sale 1 Shropshire and 1 Yearling Rambouillet [illegible] large ram lambs both breeds [illegible] sows, April and May farrow. Stock reg. H. [illegible] Beardsley, Montour Falls, N.Y.



The Eshleman Sheaf Elevator

Single or double chain. The great labor saving machine for the farm today.

Easy to operate, strong, light, convenient. 1½ H.P. engine or motor will operate largest machine.

Boy large enough to handle sheaves can unload your grain.

Made in sizes to suit any height barn. If you are short of help or want to save time, labor and money write for circular.

Not only carries sheaves to the mow, but will drop them in middle of mow.

When writing for circular give height from floor to top log of barn.

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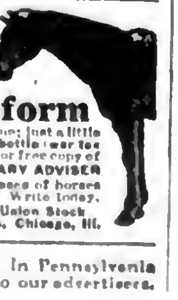

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Fleming Bros., Chemists 251 Union Stock Yards, Chicago, Ill.

SAY you saw the advertisement in Pennsylvania Farmer when you are writing to our advertisers.

BEATING OLD H. C. L.

(Continued from Page 20.)

course, but sometimes it is easier to say, "Put on your other suit of clothes. That's what you got it for," than it is to sit down and spend a whole evening repairing the breaches that have come with the day's work.

And yet, there is no better way to get even with old H. C. L. than to make the clothes last as long as possible. If we all would do that, it would not be long before the price of clothes would come down. So everywhere. Let's make up our minds to fix up the old things and stem the tide till dealers in all sorts of things take the hint and "come down" in their prices. It is no disgrace to wear a neat patch. Some wives have an ambition to do this kind of work just the best they can. If I were a young man looking for a wife these times I would inquire into it pretty closely whether or not she were expert at mending, and further, whether her disposition would lead her to do it with a smile.—E. L. Vincent.

MR. PINCHOT'S ANSWER

I desire to commend and thank you for the publication of the answer of Gifford Pinchot to the question, "What Do the Farmers Want." The answers of Mr. Pinchot are so clear and practical and, if carried out in detail, would not only benefit the largest and best producing class of this country, but result in the general improvement of the Republic. Every demand would be readily adopted if these answers could be placed before the whole American people. The inherent sense of fairness, the intelligence of the masses of the American people, can be relied on if you can get the question before them. The Farm Bureaus and the Grange are handicapped in their influence by want of publicity.

If the organized farmers would make a drive for several millions of dollars to keep constantly before the city dweller the actual cost of producing food and the amount actually paid to the producer, it would explain the high cost of living, and enlighten those like the cloak and garment workers of New York who work 44 hours a week and get a pay envelope on Saturday containing from $54 to $75 a week. Yet they are on almost monthly strike for higher pay, and are insistant in their demands that the government shall fix lower prices for milk, bread and meat, regardless of the producers of these articles who toil from 12 to 14 hours per day and do not even get $2.50 a day for their labor, in addition to the large amount of investment in their lands and implements which produce no interest on the investment.

I am a close reader of eight agricultural papers. I get more helpful information on practical matters from the pages of the Pennsylvania Farmer than from any of the rest. Your market reports and market letters are worth much more than your subscription price. We get columns and pages in the daily press on stocks and bonds and, about fifty lines on prices of farm products, and those exceedingly unreliable. I know the farmer who will read your paper and study your market report will be profited in many dollars. I wish the Pinchot answers could be kept circulating by posters, newspapers or any and all means to keep them before the people.—J. H. Shepherd, Prince George Co., Md.

DRINK MORE MILK

Milk is the most essential food for maintaining general physical well-being and insuring normal growth of children, according to a bulletin on food value of milk and other dairy products just published by Miss Pearl MacDonald, head of the home economics extension service of the Pennsylvania State College. The proteins in milk are the most completely absorbed of all proteins found in the foods we use. They are better adapted for building and renewing body tissues than those contained in meat. Eggs rank next to milk in this respect.

The minerals lime, phosphorus and iron are more likely to be deficient in the diet than other necessary minerals unless care is taken to select foods known to contain them in abundance. Milk is the richest in lime of all the common foods. It also furnishes phosphorus in sufficient amount. Since it is designed by nature as the food for the first few months of life, it provides all the material needed by the growing animal. It does not have much iron in its composition, but what it does contain is in such a form that the body makes the best possible use of it. Egg yolk, spinach and other leafy vegetables, string beans, peas, apples, oranges and prunes are rich in iron and should be used in the diet to supplement milk.

Sugars, starches and fats are needed in the body to furnish energy. Milk does not contain any starch, but it is rich in milk sugar, which is less likely to cause fermentation in the stomach and intestines than cane sugar and therefore has a distinct value in the feeding of children. The fat of milk, butterfat, is in a form most readily absorbed by the digestive tract. Cream and butter are two of our best sources of fat. Fat in egg yolk is similar to that of cream.

Milk also contains certain "regulating" and "protective" substances. The latter play an important part in maintaining health by giving the body power to resist disease and in causing children to grow normally.

FURTHER ADVICE ON SPRAYING FOR SCAB

(Continued from Page 16.)

stirred thoroly and enough water added to bring it up to the volume desired. In no case should the two solutions be poured together without diluting at least one of them to one-half or more of the final volume of spray, and it is always preferable to dilute both. The suspension qualities are especially injured by the former course.

The arsenical should then be added and the mixture should be used at once, as it deteriorates on standing, and the freshly made bordeaux is always the most efficient. If any lot has to stand more than one or two hours before using, it is best to apply it in some section of the orchard where a fungicide is less likely to be needed, if such a course is possible. With first-class agitation, however, a reasonable delay in the application may not be attended with special risk.

In one Western state they say that the average annual output of eggs is 86 for each hen. Judicious culling of poor layers would increase the figure.

There is no mean work save that which is sordidly selfish.

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Used Here

There's a Satisfied User Near You

Do you realize what this means?

No matter where you live—in Maine or California—Oregon or Florida—Somewhere among your neighbors and friends you will find Delco-Light.

And where you find Delco-Light you invariably find "A Satisfied User."

And these satisfied users—over 80,000 of them altogether, are the concrete evidence of Delco-Light leadership in the Farm light and power field.

Look up a Delco-Light user in your neighborhood—

Ask him what Delco-Light is doing for him—

Note the smile of satisfaction that comes over his face as he tells you of the never-failing, day-after-day service that Delco-Light is giving him—

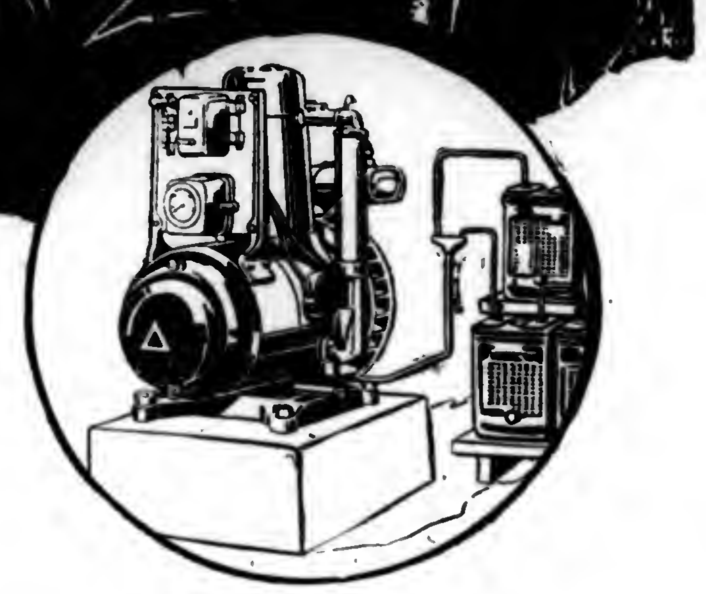
Of the abundant electric light that it is furnishing for his house and barn—

Of the electric power that it is providing to pump the water, operate the washing machine, the churn, the cream separator and the milking machine—the vacuum cleaner, electric iron and other similar conveniences—

Of the contentment and happiness that it has brought into his home on account of the improved living conditions.

And of the actual saving in time and labor that make it the best paying investment he has on the farm—It is little wonder that Delco-Light users are Satisfied Users.

DELCO-LIGHT COMPANY, Dayton, Ohio
J. J. POCOCK, 824 N. Broad St., Philadelphia, Pa.



A complete electric light and power plant for farms and country homes, self-cranking—air cooled—ball bearings—no belts—only one place to oil—thick plates—long-lived battery.

Valve-in-Head Motor
—Runs on Kerosene

DELCO-LIGHT
There's a Satisfied User near you

Facts in BLACK & WHITE

Holstein-Friesian Calves

Large and Strong at Birth
Healthy—Vigorous—Thrifty

Grow quickly into large, profitable, producing cows and prepotent sires. Raise good Calves for future herds.

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THE HOLSTEIN-FRIESIAN ASSOCIATION
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Reg. and high grade Holsteins. 55 reg. heifer calves, 3 to 10 mos. old. 25 reg. 2 year-olds. 50 reg. cows. 15 reg. bulls, all ages. 100 reg. and high grade cows. Young stock, all ages. ¾ Holstein heifer calves $20 to $25 each, express paid in lots of 5. Place your order for spring delivery. J. C. Reagan, Tully, N. Y.

HOLSTEINS

that test 4% OF FAT FOR THE YEAR'S MILK PRODUCTION. Grandsons of the ONLY COW of ANY BREED—ANYWHERE—that ever made two consecutive yearly records under full age that average over 24,000 lbs. of 4% milk, 1200 lbs. of butter each year—one year strictly official. Three months bull calves $100 and up; service bulls $150 and up. GEO. E. STEVENSON & SONS, CLARKS SUMMIT, PA.

WE WILL GIVE THE USE OF A
Finely Bred Reg. Holstein Bull Calf
for three years to any responsible farmer who wishes to improve his herd. Mugget Hill Farm, Charlton, Mass.

Holstein Heifer Calves By pure bred sire and high-grade big producing cows. Beautifully marked. Splendid individuals. $20 up. Browncroft Farms, McGraw, N. Y.

HIGH GRADE HOLSTEIN CALVES. Either sex. Shipped anywhere. Write for prices. Satisfaction and safe delivery guaranteed. FRANK GAMEL, PINE GROVE FARM, LOCKE, N. Y.

Registered Holstein and Guernsey bulls from calves to serviceable age. 250 animals in the herd. BONNYMEADS FARMS, R. D. 1, Harrisburg, Pa.

Registered Holstein Friesian Cattle Sons of the great Finderne Sir Valdessa, a 37 lb. bull, for sale. MILLARD E. BASEHOAR, Littlestown, Pa.

Reg. Holstein Heifer Calves, from officially tested dams and a 30 lb. sire. Write for prices, pictures and peds. Walter M. Cruttenden, Wilkes-Barre, Pa.

FOR SALE: 3 CHOICE REG. GUERNSEY BULL Calves, 6 months old, May Rose breeding. Dams now on test. $75 each. Riverview Farms, Swarthmore, Pa.

GUERNSEYS

First Prizes and Gold Medals were awarded to Guernsey milk and Guernsey cream at the 1919 National Dairy Show. Guernsey products are consistent winners at local as well as national contests. Write for our free booklets.
THE AMERICAN GUERNSEY CATTLE CLUB
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QUALITY ECONOMY QUANTITY

Special Sale of Ayrshires

Few choice bull calves—A couple fine young cows, priced very reasonable to effect ready sale. Bull calves from fine A. R. cows, or cows now on test for Advanced Registry. Excellent opportunity to found a herd of high class Ayrshires. Your inquiries and visit to the farm will repay you.
CRESTMONT FARM, SUNBURY, PA.

MAPLE LAWN HOLSTEINS

BEST in High grades and Registered Holsteins. Elegant high grade calves $25 each. With ten calves will give choice registered bull free. Will accept Liberty Bonds and W. S. S. at par. Guarantee safe arrival and gladly ship C. O. D. Write your wants. C. W. ELLIS, JR., Cortland, N. Y.

STEVENS' HOLSTEIN FARM
OF CORTLAND, N. Y.

King Korndyke Sadie Vale Jr., No. 20391, two nearest dams averaging 35 pounds of butter in 7 days, heads my herd. Butter records from 17 pounds two-year-olds to 34 pounds at full age. Also high grade Holstein calves, either sex, $15.00 each. Write your wants. PAUL H. STEVENS, Prop.

Holstein Bulls Ready For Service
Two are coming two years old, one three years. Better see these bulls; see the size and milking ability of dams and the remarkable calves the older one is getting. They have been raised under ideal conditions and are priced right. PLUMLYN FARM, Fairview Village (near Norristown), Pa.

Hengerveld Pontiac Prescott No. 277464, 90% white, 7 mos. old, from a 29-lb. sire and a good producing dam. A good individual, thrifty, weight 350 lbs. Price $75. The Oaks Dairy Farm, Wyalusing, Pa.

For Sale: Reg. Guernsey Bulls out of good dams, good individuals. A grandson of Langwater Royal. Reasonable. HAYES C. TAYLOR, Embreeville, Pa.

Milking Shorthorns Bull Calves sired by Glenside Royal Stamp for sale. C. M. KENNEDY & SONS, Ulster, Bradford Co., Pa.

Ayrshire Bull Calves From high record A. R. Dams ROBERT TEMPLETON & SON, ULSTER, PA.

Holstein Bull Calves $25 each, 5 days old, unregistered. $30 each with papers. High producing reg. dams and sires. L. C. TOMKINS, ELLENTON, PA.

PURE BRED Brown Swiss Bulls, also one pair young Jennetts. Come and see the goods. C. Eugene Bown, Forksville, Pa.

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Meet us at our advertising booth at the State Farm Products Show, Harrisburg, January 20th. We can offer you special bargains in registered bull calves of good breeding from pure bred Holsteins, Jerseys, Milking Shorthorns and Ayrshires. D. K. SLOAN, Secretary.
Bradford County Livestock Breeders' Asso'n., Towanda, Pa.

Swine

O. I. C. Males 2 and 3 months old. Big, smooth kind. Reg. free. BRUBAKER BROS., Star R, Cocolamus, Pa.

Chester Whites. Spring boars, bred gilts, and trios from some of the best blood lines. Immuned. Also good fall pigs. C. J. Stough & Sons, R 1, Findlay, O.

BERKSHIRES AND CHESTER WHITES All ages, for sale; write your wants; we can please you. TWIN BROOK FARM, NEWVILLE, PA.

Prolific Berkshires with size and type. Priced to sell. JOHN C. BREAM, GETTYSBURG, PA., R. D. No. 4

BERKSHIRES Superior, Epocal, Rival Champion Blood. Pigs $15 and up. G. D. BARNES, R. D. 11, Grove City, Pa.

For Sale—1 Reg. O. I. C. Boar, 18 mos. old. 1 Reg. O. I. C. Sow, 2 yrs. old, with pig. 1 Grade Sow, 3 yrs. old, with pig. B. A. Corkran, Midlothian, Va.

REG. O. I. C.'S ALL AGES. Booking orders for September, October and November Pigs. BLACK DIAMOND MINORCA FARM, MT. BETHEL, PA.

Big Type O. I. C.'s Serviceable boars. Gilts of all ages. Fall pigs. O. P. ANDREWS, DANSVILLE, MICH.

Chester Whites Boar and Sow Pigs. Bred Sows. Collie dogs. ARCADIA FARM, BOX D, BALLY, PA.

BIG TYPE POLAND CHINA PIGS 3 months old. Sired by Longfellow 103751. W. C. KEYSOR, GREENWICH, OHIO.

O. I. C. and CHESTER WHITE Fall Pigs and Bred Sows. Good individuals. Popular breeding. Reg. free. SPRING VALLEY FARM, MEMPHIS, N. Y.

Reg. O. I. C. Pigs for sale, 3 months old, either sex. Write your wants. A. J. Marshall, Oakland Farm, Williamsport, Pa. R. 1

Large Berkshire Swine Registered High Grade. Prices reasonable. Write HOME FARM, CENTER VALLEY, PA.

Chester Whites Pigs for sale. Special price on boar pigs. All stock registered. ALLAN R. MORTON, ASHVILLE, N. Y.

Large Berkshires Registered. May farrow, also October pigs. Both sexes. Prices reasonable. C. H. TOLAND, FREEPORT, OHIO.

Berkshire Bargain. Three year old Shenandoah "O" Delchester Prince 4th and 2 bred sows $200. All reg. L. C. TOMKINS, ELLENTON, PA.

CHESHIRES.—The high-quality home-market and home-table breed. Our type pleases. Pigs and service boars. Morningside Farm, Sylvania, Pa.

Reg. Poland Chinas Choice Spring gilts and boars. Aug. and Sept. pigs shipped on approval. R. H. LYLE, Cadiz, Ohio.

Large Type Duroc Service Boars and Gilts. Aug. and Sept. pigs. Orian Cherry King Breeding. B. H. Sager, Basil, Ohio.

Durocs, all im. Yearling and Fall yearling boar and Fall boars. Fall gilts, bred for Aug., Sept. and Oct. Spring pigs, a. sex. I. D. Jackson, R. 18, V. Wert, O.

Reg. Big Type SPOTTED POLAND-CHINA pigs, bred from a son of O. K.'s Pride No. 30. H. C. KYMER, R. 4, Shippensburg, Penn'a.

CHESHIRES The best white hog on earth, 8 mo. sows and boars at $20. Bred sows at fair prices. R. D. Button, Canastota, N. Y.

O. I. C. Swine Breeders' Guide, Box H, Montpelier, Indiana. Learn more about the breed. Four month's subscription, trial 10 cents.

DUROC JERSEY GILTS bred for spring farrow. July and fall pigs, Col. and Orion Cherry King breeding. Priced to sell. Geo. W. Crim, Uhrichsville, Ohio.

Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Itchy Hind Legs.—The hind legs of my 8-year-old mare itch she is inclined to rub them together, also bite them making wounds. F. L. M., New Berlin, O.—Dissolve ½ lb. acetate of lead in one gallon of water and wet sore and itchy parts 3 times a day; occasionally dust on subnitrate of bismuth to relieve the itching. Give her ½ ounce Fowler's Solution at dose twice daily. Keep her legs clean and dry.

Corns.—Have good mare that is troubled with corns, causing considerable lameness. W. A. C., Smithburg, Md.—The application of bar shoes and relieving the tender part of heel of pressure, or perhaps a ¾ shoe will afford relief. Don't cut out too much of sole of foot. Are you sure that the corns are causing all the lameness?

Weakness.—My 7-year-old mare has no ambition, legs stock, but she is in fine flesh. J. S. C., Troy, Pa.—Give her 1 dram fluid extract nux vomica, 2 drams Fowler's Solution at dose in feed 3 times a day. Also give her 2 drams acetate of potash in drinking water once daily until legs cease to stock.

Fistulous Tumor.—Last spring I bought a horse from one of the army camps. He had bunch on shoulder which soon opened, wound healed, other parts swelled and opened, now five opening discharge bloody pus and the sores refuse to heal. There is very little swelling. E. M. B., Bridgeton, N. J.—Every one of the pus cavities should be given drainage, then he will soon get well. No particular danger in cutting, unless the cavity is deep, if so employ a veterinarian. Apply one part iodoform and 9 parts boric acid to wounds twice daily. Doubtless this ailment is result of bruise.

Thoroughpin Bog Spavin.—We have a horse that has thoroughpin also bog spavin. Have applied blister which made him less lame. Can bunch be removed? O. B. Greene, N. Y. Apply one part powdered cantharides and four parts lard every two weeks. You will suceed in reducing bunch, but how much I am unable to state.

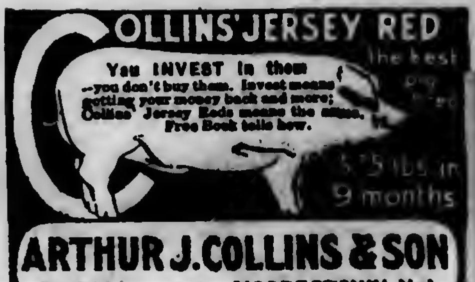
Sprain.—We have a cow that is lame in one hind leg, but are at a loss to say how she injured herself, or what is causing her lameness. H. L. L., Whitehouse Station, N. J.—After locating lameness, apply equal parts turpentine, aqua ammonia and raw linseed oil to tender part once daily. Closely examine her foot.

Contagious Abortion.—Shy Breeder.—My 7-year-old cow fails to get with calf. Some 2½ years ago she had twins, since then she got with calf, but lost it at end of 6 months period, since then she fails to get with calf. She is giving only 6 quarts milk daily, but formerly gave twenty. J. S., Alto, N. J.—All things considered you had better fatten her, she will perhaps get with calf, but prove unprofitable for dairy purposes, and as you keep, but one cow she should be a sure breeder.

Growth On End of Teat.—Our 3-year-old cow has growth on end of teat which obstructs milk flow. C. B. L., Covington, Pa.—Surgical removal of bunch is proper treatment. If you apply caustic it should be done with caution.

Obstructed Teat.—Have cow with lump or spider in teat, would like to dry her and have teat cured. E. J. L., Meadville, Pa.—Call a competent veterinarian and have him remove bunch in a surgical manner, this is the only remedy.

Nervousness.—Every 2 or 3 weeks my 3-year-old cow has nervous spell and noise seems to frighten her very much. So far as I can tell she is healthy. M. P., Paintersville, Pa.—If she is kept in a noisy place, pack some clean wool in ears, soon as you observe nervous spell approaching. Remember her dicposition cannot be changed, but the cause can be subdued.



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from the best blood strain as Longfellow Double and Lord Premier Successor strains, both having been grand champions. One 6 months old grandson of Longfellow Double, several serviceable boars, and both bred and open gilts of the Successor strain. Also 10 weeks old pigs, sired by a son of Rival's Baron Duke 2d that weighed over 900 lbs., dam of sire being Maybelle of W. G. Several pure bred Jersey and Ayrshire bulls, 2 to 6 months old. OLD FORGE FARM, SPRING GROVE, PA., C. R. FREED, Mgr.

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All ages. Strong and vigorous stock. When you buy you want the best, don't you? Then write us. Inspection invited. ROSS B. WITMER, LAMPETER, PA. Member Lanc. Hampshire Breeders' Co-operative Association.

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All ages, free circular. Reg. Guernsey Bull Calves from tested herd. LOCUST LAWN FARM, BIRD-IN-HAND, BOX 2, LANC. CO., PA.

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50 REG. DUROCS AT PUBLIC SALE, MARCH 6, 1920. Herd boars, bred sows, fall gilts and boars. Get on list for catalog. SLATY RIDGE FARM, PALMYRA, PA., BOX 5.

Reg. O. I. C. and C. W. Pigs. Bred gilts and sows Satisfaction and safe delivery guaranteed. JOHN L. VAN HORN, TROY, PA.

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FOR SALE—O. I. C. PIGS. ALSO RABBITS, Pigeons, Owls, and Bluerocks. Write for prices. FRANCIS SCHEIB, GRATZ, PA.

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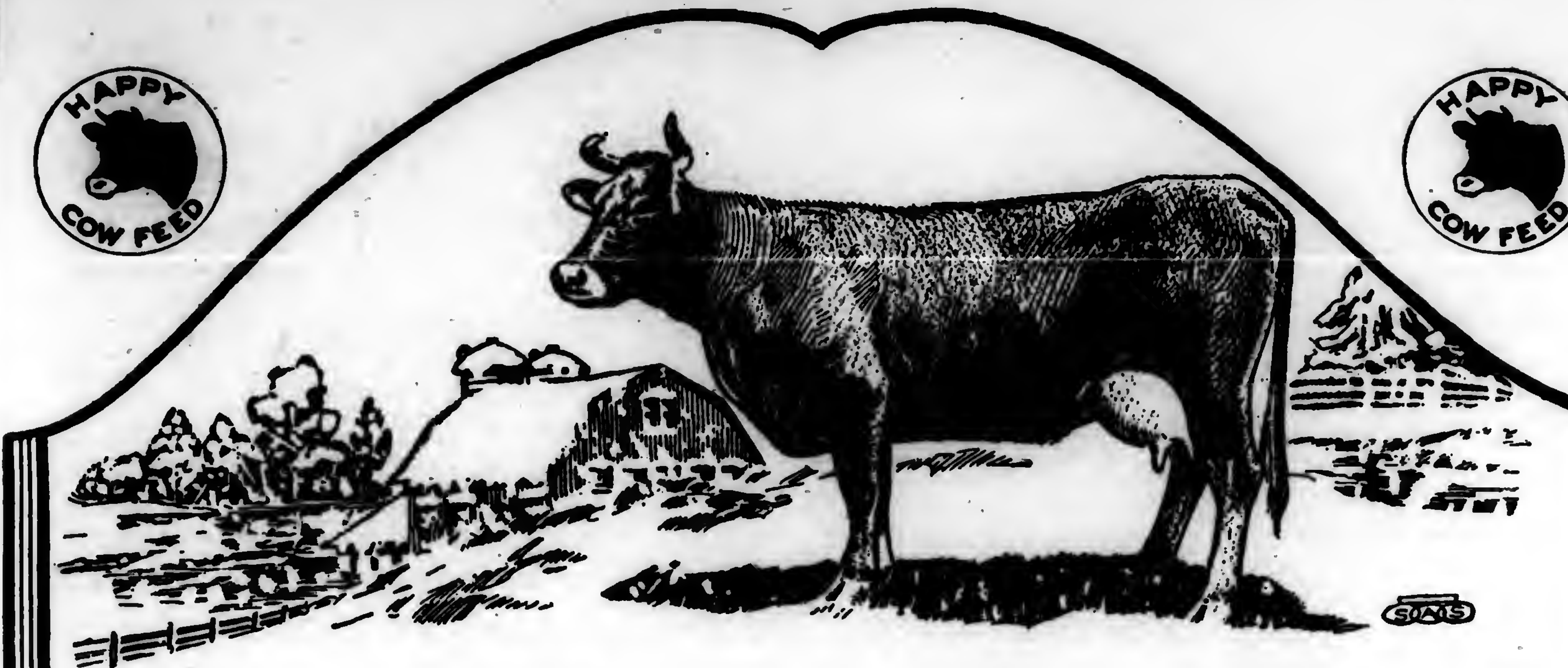
Shorthorn Bulls. R. L. MUNCE, Canonsburg, Pa.

For Sale: Registered C. W. gilts and serviceable boars and pigs. Also Jersey Bulls, all ages. J. A. BOAK NEW CASTLE, PA. R. 4.



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Never before has the cost of producing milk and butter been as high as it is now. The muck-rakers who are condemning the producer for high prices don't know what they are talking about.

You are entitled to a fair profit on your production, but even at present high prices many dairymen are but little more than breaking even. The big problem is feed. Make sure of your profit by feeding—

A Digestible—24 per cent Protein Feed

Happy Cow Feed is the best complete dairy ration you can buy at any price. It is a balanced ration of high digestibility and it contains 24 per cent protein. It will increase your profits.

This company has been making quality feeds for fifteen years. All our energies are devoted to making feeds and perfecting feeding methods. We do not manufacture any other products.

The average farmer does not realize that scientific methods must be used in order to insure a uniform ration. No farmer can afford to employ these methods.

All feeding materials are more or less variable in analysis. There is a variation of protein and carbohydrates of 5 to 10 per cent, and sometimes more. Therefore, we cannot depend upon a quantity basis for uniformity.

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Happy Cow Feed is composed of wheat bran, cotton seed meal, cocoanut meal, velvet bean feed, unhulled peanut oil feed, rice bran and alfalfa meal. It is the best, complete ration for your cows.

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Edgar-Morgan Co. DEPT 153 **Memphis, Tenn.**

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LADISH

Back Up the Dairy Cow

She may have been bred and selected for high milk yield. But in addition to pedigree, she must be backed up with the exact *ration* that will produce the greatest quantity of milk at lowest net cost. *Then, and not till then, will she be doing her best at the milk pail.*

The dairy feed that is economically balanced must be a *maintenance ration* plus the best *milk-producing ration.* Bodily vigor, bone, muscle, fat and tissue must be supplied, as well as keeping the milk flow at the highest point through the entire milking period.

True Value
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is the perfectly balanced ration for milk production and bodily maintenance. It gives a good cow *the right backing.* It is carefully combined and mixed by special process from correct proportions of pure, clean grain products: cotton seed meal, linseed meal, corn gluten feed, ground oats, wheat bran and cocoanut meal. It analyzes: protein, 24%; fat, 5%; fibre, 10%; carbohydrates, 52%—immediately digestible and available.

Your neighbors have increased their dairy profits by using the TRUE VALUE ration.

Order TRUE VALUE DAIRY FEED from your dealer. If he hasn't it, write for information about how to get this and other TRUE VALUE Feeds.

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PENNSYLVANIA FARMER
AGRICULTURE THE KEYSTONE OF NATIONAL PROSPERITY
ESTABLISHED 1880
PUBLISHED WEEKLY

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47—No. 4 PHILADELPHIA, PA., SATURDAY, JANUARY 24, 1920 75 Cents per Year

Comfortable and Convenient Homes

How Some of our Readers Improved and Beautified Their Farm Homes

Note.—We present herewith what we have ded should be named the first, second and rd prize articles in the contest on making the me more comfortable, convenient and beauti-

We received such a large number of con- butions and many of them so good that it was oss-up almost to make a selection. Others al- st equally or quite as good will be published in ceeding issues and paid for.—Editor.

First, Second and Third Prize Articles

INSTALLS WATER AND LIGHT SYSTEMS

In writing on what we have added to our me for comfort and convenience I will say the t we have added is a complete up- date hot and cold water system. ing somewhat unfortunate in not ving running water we had to re- t to the deep well system for our pply.

This system comprises a drilled ll 122 feet deep. To this well we tached a heavy, force pump and a od pump-jack which is operated by 1½ horsepower gasoline engine. The ater is pumped direct into a pneu- atic 9-barrel tank. The air is mped at the same time by an air linder connected to the pump, rectly underneath.

From the tank the water is piped all places in the house where we quire water. Also, to the barn for se of stock, etc. We have all the p-to-date fixtures which are in- alled in the modern city home. This mprises a complete bath room and ilet, with hot and cold water where quired. The hot water is supplied y a hot-water tank heated by the itchen range.

In the kitchen is a wash basin with hot and ld water. Also, a large, white, enameled sink th hot and cold water. In the wash room ad- ng the kitchen we have two stationary alber- stone wash tubs with hot and cold water in tub which empties direct into the sewer pipe. This system certainly adds comfort and con- nce to our home, and also saves time and for the women folk. No one can realize the tance of a water system until they have it lled in their home. I could write several pages on this system, and its importance to household, but time and space will not permit is time.

Electric Lights

The next improvement for comfort and con- nce we have added to our home is an elec- light system. While I do not consider this m as important as the water system it sure comfort and convenience to our home. This m consists of a generator and engine combin one unit, and connected directly together. en large size storage batteries are used with plant.

The engine is started by simply pressing the er lever. It then becomes automatic by shut- off the electric current when the [illegible] are fully charged. We have in all, 33 lights. This, of course, takes in both house and barn; also, work shop and a large 100 c. p. light between the house and barn. This light is controlled by a switch ae the house. We have a light wherever needed, from cellar to garret and from basement to lift in the barn. We also have an attachment that is used with the electric flat iron for ironing evenings, if so desired.

The first cost of this system at the time I bought it in 1917 was about $525.00, including all fixtures and wiring in house and barn. It would probably cost considerable more now.

Drape the Porch With a Curtain of Vines

The operating expense for the two years just past has been as follows: For the year ending, October 1, 1918, $1 per month; for the year ending October 1, 1919, about $1.20 per month. This is due to the advance in price of kerosene, on which the engine operates.

This system has been a source of comfort and convenience in our home. F. G. Payne, Athens, Pa.

SATISFACTORY HEATING PLANT

Of all classes of people, the farmer and his family should enjoy the comforts and conveniences of up-to-date methods and devices, because this is the class that moves the world from both a business and financial standpoint. Some farmers are not financially situated to have convenient things installed in their homes, and others do not because they think more of the dollar than of comforts and enjoyments. Some decide hastily and install things not applicable or suitable to their respective homes.

Here in Clearfield County, Pa., where the winters [illegible] and severe, the subject of having the home comfortably heated is worthy of the farmer's attention. Not so much from a financial standpoint as from the point of comfort and satisfaction.

Some thru this section have installed the pipeless furnace and are enjoying its comfortable heat. Some object to this source of heat on account of dirt being carried thru the house by the circulation of hot air. The older the plant the more noticeable this feature.

Some have installed the steam plant, which seems very satisfactory in many instances. However, the objection to this form of heat is that the water in the boiler must be brought to a boiling point before any heat is effected, which takes time and is especially noticed on a zero morning. Likewise, when the fire goes down, the heat goes down rapidly.

The writer, this season, found it necessary to make a choice of buying heating stoves or installing a heating plant. After considering price of heating stoves, the work of keeping up the fires, cleaning ashes, and rooms after removing ashes and the irregular heat conditions, dangers of fire both to building and children, decided to install a heating plant in the basement.

After investigating the various kind or systems of heating and gathering all the information obtainable from users of the various kinds mentioned and considering the life of the plant and the apparent success of each, we decided to install a hot water plant. This seemed preferable on account of location of house, as to weather conditions, shape of building and exposure to storms from all directions.

I am glad to say that we made no mistake in selecting the hot water system. Outside the wind is whistling, the thermometer is slowly going toward the zero mark tonight, yet in silence the hot water is circulating thru all parts of the house and all apartments are as cozy and warm as in summer time. The furnace is equipped with an automatic regulator which takes care of the fire and gives the same temperature without the assistance of a fireman. The work of the fireman is to supply fuel, and remove ashes at certain periods. There is much satisfaction in a plant of that kind in any farm home and anyone knowing how convenient and comfortable it is surely would make an effort to secure such an equipment.

The children can hie away to their respective rooms and there, without disturbance, prepare their school lessons to their own satisfaction. The house wife can go about her daily duties without a thought of ashes, dust, or over heated or [illegible] stoves. In the morning instead of getting up and shivering around until the house gets warm, we can get out and go any where we please in the house without a shiver or a chill.

([illegible] Page 6[illegible])

Indiana Silo

THERE is no need to go without the silo you need next fall because skilled help is scarce and it's hard to get anyone to erect it for you. Buy an Indiana and put it up yourself. Any farmer can follow the simple directions we give for putting up the Indiana. You can have your silo up and ready when you want it.

INDIANA SILO

Seventy-five thousand American farmers have bought the Indiana Silo—and hundreds of them have bought again and again, until some now own as many as 15. They find that the Indiana is the best and most practical silo, more than pays for itself, every year. It makes better silage, allows less waste, stays in better condition and lasts longer.

Long experience, large purchasing power, and a business conducted on a large scale enable us to give a bigger value for every dollar than you can get in any other silo. Ask Indiana owners.

And our terms are so liberal the silo will almost pay for itself before the buyer has to pay for it. Write for catalogue, easy payment plan and early buyer's proposition.

We are the largest manufacturers of silos in the World. Agents wanted in every county.

The Tractor You Can Use Every Day

INDIANA ALL-ROUND TRACTOR
"The World's Tractor"

THIS one-man, single-unit tractor works not 25 or 30 days a year but as many days as you now use your horses for field work. Plows as much as two good horse teams, cultivates, pulls harrows, discs, drills, rollers, mowers, binders, potato diggers and orchard tools.

There is no riding implement that it does not hitch to. Numerous users have eliminated horses entirely in farm work. Excepting for the plow it uses the horse tools you already have without expensive hitches. One man does the work, riding on the implement. The Indiana tractor weighs no more than a farm team. There is no excess weight to drag around and no waste of fuel. The Indiana does a year's work of four horses at a gasoline and oil cost, that is less than half the cost of feeding and keeping the teams for a year.

Farmers who have big four-wheeled tractors are now buying the Indiana to work their row crops and prepare the seed bed when the ground is too wet for a heavy tractor to work on it.

Write us now for book of pictures made from photographs showing the Indiana Tractor actually doing all the work that horses and mules do on a farm. Biggest dealer proposition ever offered on a tractor.

THE INDIANA SILO & TRACTOR COMPANY
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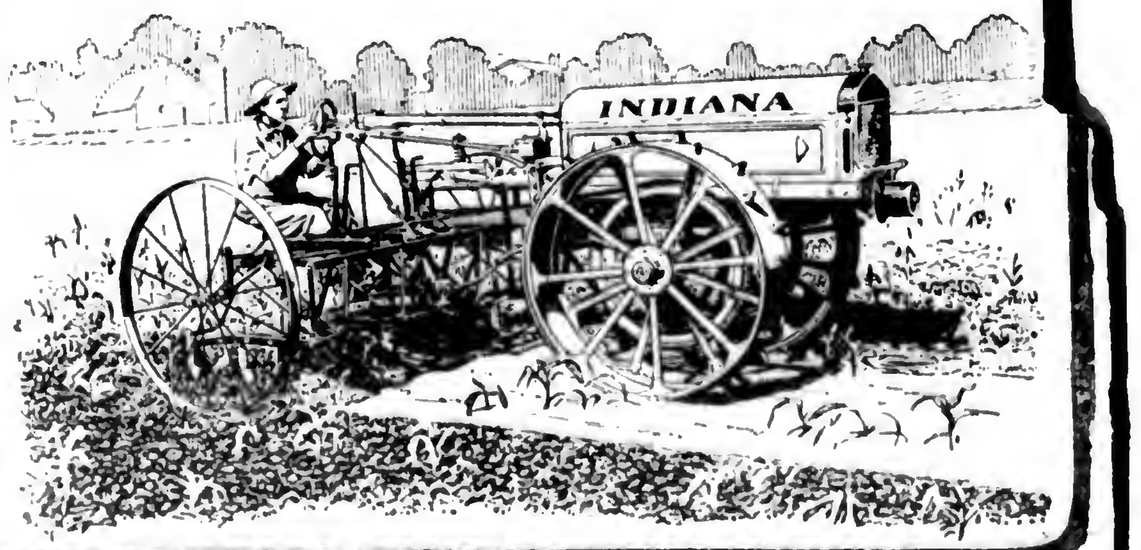

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ESTABLISHED 1880 — PUBLISHED WEEKLY

The Lawrence
Publishing Company
Philadelphia

Advanced Reg. Testing in Pennsylvani

A Discussion of the Benefits, Methods and Costs of Advanced Registration

PROF. C. M. CUMMINGS
S.ATE COLLEGE, PA.

Pennsylvania breeders of purebred dairy animals are becoming more and more appreciative of the true value of Advanced Registry records. Statements, from breeders who have taken an active interest in having their cows officially tested, furnish unequivocal testimony as to the money value of official records (which is a very good profit on the cost of supervision) as well as proof of a sentimental value which comes from the satisfaction of having produced creditable records. An authority places the value of an official record at $25 and up, depending chiefly on how large the record attained. To be worth only $25.00 the record would have to be mediocre indeed while, at the other extreme, a single record may increase the value of an ancestor, or an offspring, many times. Moreover, the breeder who makes a start in having his herd officially tested will study more carefully the problems of selection, breeding and feeding, as related to high yield of milk and butter fat, and so render his business progressive.

In consideration of the present campaign for better dairy animals and the persistent demand for dairy animals having Advanced Registry backing it would seem that the owner of a pure-bred herd, of reasonably good individual merit and backing, who does not have his cows officially tested, is making a very serious mistake.

In the number of its dairy cows and the value of its dairy products Pennsylvania ranks well with the State of New York, while in the extent of official testing Pennsylvania is greatly surpassed. This is a condition which will likely be greatly changed in the near future. The increasing interest in Advanced Registry testing, this year, is auspicious. An index of the increasing interest is the growing demands for supervisors to conduct Advanced Registry tests. Many inexperienced breeders are having their cows tested, realizing that, altho the financial gain at first may not be great, they will at least acquire confidence and experience which ultimately will result in success.

Until the year 1917-1918 the number of supervisors required to meet the demand averaged less than twelve. Since that time there has been a steady and rapid increase. Altho the equivalent number of yearly, semi-official, records remained practically constant, from 1917 to 1919, the number of Holstein official, 7-day tests, increased from 32 in 1917-1918 to 662 in 1918-1919. From May 1, 1917 to May 1, 1918 807 cows located on 57 farms were tested semi-officially, the tests requiring 984 days, while during this same year the number of cows tested officially was 392 requiring 2074 days. From June 1, 1918 to June 1, 1919 820 cows, on 65 farms, were tested semi-officially, requiring 1074 days, as against 693 cows tested officially, on 102 different farms, and requiring 2671 days. In the yearly, semi-official, tests all dairy breeds are represented while in the official, or 7-day division, only the Holstein has been tested. Up to this time the number of Holstein cows on yearly test has been quite small. The indications are, however, that this number will be greatly increased this year. At the present time 32 supervisors, working full-time, are employed to conduct Advanced Registry tests and it is believed that this number will not be sufficient to meet the demand for the entire year. Under these conditions it is very important that the breeders make application for inspectors early in order that proper arrangements can be made for a larger testing force.

Imported Guernsey, "Prospects Rose de Havards." 89003

Many Pennsylvania cows have made very remarkable records. When we compare the yearly average for production of all the cows in the state, which is about 4500 pounds of milk containing approximately 170 pounds of butter fat, with some of the leading Advanced Registry records we realize the tremendous possibilities in careful selection, breeding and feeding for higher production and profit. Some of the outstanding records will be mentioned:

In the 7-day Holstein division Kayewood Joyce Korndyke, owned by Bell Farm, holds first place with a production of 31.453 pounds of butter-fat, equivalent of 39.316 pounds of butter. By this record she displaced the former state champion, Orchard Grove Rose Segis, whose 7-day record is 30.918 pounds of butter-fat, equivalent to 38.648 pounds of butter. The leading Holstein cow in the yearly division is Keystone Bea Plum Johanna who, as a four-year-old, produ 25,787.5 pounds of milk containing 1035.77 of butter-fat. By this record she leads all ot Holstein cows in the senior four-year-old cla

The Guernsey cow, Brookmead's Doro owned by F. G. Thompson, won first place in junior two-year-old class, but has been displa by Langwater Phyllis, owned by F. L. Ames, No Easton, Mass., and more recently by Minneha Papoose, owned by Glencairne Farm, Va. yearly record of Brookmead's Dorothy is 14,1 pounds of milk and 742.08 pounds of butter May Rilma, bred and owned, at time of birth A. J. Cassatt, holds second place in the ma class of Guernseys a record of 19,673.0 of milk and 1,073.41 of butter-fat. The Gu sey cow Nellie Jay owned by T. W. & I. Roberts, as a two-y old, made a record 14,772.7 pounds of containing 726.32 of butterfat; as a ma cow her best yearly ord was 20,709.9 po of milk and 1019.25 of butterfat. By the f er record she holds fo place in the junior year-old class, and by latter record, third in the full-aged cla

Lucky Farce, a J cow, owned by I. C Demonstration Far produced in one year 260 lbs. of milk 635.7 lbs. of butte This is the world's ord for a Jersey freshening under years of age. Ve Figgis, owned by P val Roberts, Jr., h record of 10,763.6 lbs milk and 582.60 lbs. of butter-fat as a junior year-old; she is state champion of her Agatha's Elista, owned by T. J. Foster, h record to her credit of 10147.0 pounds of and 588.89 lbs. of butter-fat. By this recor leads all Pennsylvania cows in the senior year-old class. Sans Aloi's Lady Eurybia Ma owned by Greystone Jersey Farm, Inc., hold state record in the senior three-year-old with a year's production of 9274.5 pounds of and 527.30 pounds of butter-fat. Meridale O Lily, owned by L. B. Carter, leads in the j four-year-old class with a yearly record of 12 lbs. of milk and 715.28 pounds of butter fat Gossip is the state champion in the senior year-old class with a yearly record of 10, lbs. of milk containing 654.30 pounds of bu fat. In the full-aged class Passport leads w year's production of 19694.8 lbs. of milk 839.27 lbs. of butter-fat.

Several Ayrshire cows, owned by Pen vania breeders have won distinction in the spective classes. In the mature class Garcl May Mischief, owned by Penshurst Farm,

(Continued on Page 9)

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PHILADELPHIA, PA., JANUARY 24, 1920.
VOLUME 47 NUMBER 4

Our job is to serve our readers. Whenever and wherever we can help you, write us.—The Editors

Information Wanted

VE HAVE received numerous queries as to the practicability and economy of motor trucks l tractors for farmers. We do not feel able give the first-hand information which would most helpful to our readers, so we turn the estion over to our readers who have had actual erience with these machines. To stimulate erest and also make it worth while we offer h prizes as follows:

For the first, second and third best article either of the two following questions we offer), $7.50 and $5 respectively. Any other ar- es retained and used will be paid for at regu- rates. Articles should not exceed 1,000 words, l should be in our hands not later than Feb- ry 16.

Why the motor truck has been an economical estment for me.

Why the tractor has been an economical in- tment for me.

Address, Editor Pennsylvania Farmer, 261 th Third Street, Philadelphia.

Car Shortage Continues

LTHO the war is over and military necessity is not causing lack of transportation ilities, other factors have arisen which make pping by rail quite as tedious and uncertain as was one and two years ago. The tremendous aand for coal after the resumption of mining, moving of immense quantities of grain, build- material and road making supplies, etc., make lemand for freight cars that is beyond the acity of the available supply. Added to this isual demand is the fact that car construction l repair work which was reduced to a minimum ing the war has not been fully resumed, hence tonnage has not had a normal development.

For these reasons farmers should take warn- and place their orders for supplies requiring ght shipment as early as possible. The old- e practice of deferring orders until a few days ore needing the goods is sure to result in de- s and loss.

John Barleycorn

OHN BARLEYCORN is legally dead. When the clocks struck the final stroke of twelve at inight January 16 the legalized manufacture l traffic of alcoholic drinks came to an end, and agencies of the United States government e transformed from a position of a partner l defender of the business into that of prosecu- All the money, ingenuity and legal talent defenders of the business could marshall in defense were unable to stop or modify the enactment and execution of a sentiment which has been gathering strength and adherents for more than a century. A Philadelphia daily paper, not noted for giving the prohibition movement any encouragement during the long campaign, says editorially:

" * * * Of course, it will take time and patience to bring about a readjustment so radical as that demanded by nation-wide prohibition. There will be those who will feel the deprivation as a genuine hardship. There will be many more who will go to desperate extremes to evade or to defy the prohibitions of the law. But the great mass of the people already recognize that the change must ultimately be for the better. It is in line and in complete harmony with a revolution which was already in progress in the business and industrial world. A great and impassable bar to progress had already been erected against the habitual tippler, and those engaged in the traffic in intoxicants have had such ample warning of what impended for them that the frantic cries of "injustice" and "confiscation" will fall on deaf ears, and rightly so.

"John Barleycorn may be a long time a-dying," but never was hope so vain as that which looks for a repeal of the Amendment or a restoration of the liquor traffic. That, except as a clandestine and outlawed crime, is dead already, and the voice of commerce and industry and business is unmistakably against any resurrection of it. Even under the wartime prohibition the effects in reducing crime, in relieving the pressure upon the workhouses and asylums, in creating better and happier and more efficient workmen have already been beyond the possibility of dispute. There may still be many mourners at the bier of "John Barleycorn," but the vastly greater number of those who are today rejoicing as at a liberation from a great menace and curse make it certain that the wake will not be unduly prolonged."

Our Washington Letter

There are three combinations of farm organizations that maintain headquarters in Washington: The National Grange, National Board of Farm Organizations, and the Farmers' National Council. Each one is a clearing house for the collection and dissemination of information in which the farmers are supposed to be interested. Each claims to represent large bodies of farmers, and to be in a position to reflect the sentiment of the farmers upon great public questions, as well as upon those matters that relate more especially to the farmers' welfare. Each headquarters has as its representatives in charge able, experienced men who are evidently doing their utmost to promote legislation which they profess to believe the farmers want. There is no question as to their qualifications for representatives from the standpoint of education, training and ability to make their influence felt in Congress and at the many hearings before the various committees in the Senate and House. They have facilities for keeping in close touch with farm thought and sentiment thru frequent referendums, constant communication with farmers in all parts of the nation, conferences of farm leaders, and many other sources of information.

Who are the men who are spending their time in the National Capital in the employ of the farm organizations? These are questions folks back on the farms are asking, and I shall try to answer their queries in a fair and impartial way.

* * *

The National Grange is the pioneer farm organization. It has had more or less influence in Washington ever since it was established a half century ago. Some of the time it has been agressive and powerful; at other periods its influence has been negligible, and overshadowed by other, for the time being, more powerful organizations. But the Grange has lived while the Alliance, the Wheel and several other influential organizations of farmers have died of too much partisan politics and are now only a memory. The Grange has the credit for promoting most of the acts of Congress that have benefitted the farmers. The older members of the financial rings that were prominent years ago, even now have an attack of nightmare whenever they see any reference to the Granger legislation of those early days. Some of this legislation was crude and wouldn't work in actual practice; but it set the farmers to thinking and gave them a better understanding of their needs and their power when organized. The Inter-State Commerce Commission, Rural Free Delivery and the Parcels Post are all children of the Grange.

The Grange has a membership of upwards of 700,000, mostly farm folks, but not all, and centered largely in New England, New York, Ohio, Michigan and other Eastern States, altho it has organizations in thirty-three states. It is undoubtedly the most truly representative farm organization east of the Mississippi and north of the Ohio River.

Professor Thomas C. Atkeson, the present Washington representative of the National Grange, is probably the most influential farm lobbyist that the country has produced. He has discussed farm problems with every president since the days of Grover Cleveland, and many senators and congressmen are his personal friends, and confer with him when they want the farmer's viewpoint on public questions. Being a farmer himself and spending much of his life time in contact with real farmers, he has the farmer's point of view, an essential qualification in a farmer's representative.

* * *

The National Board of Farm Organizations maintains offices in a fine old residence near the White House. Charles A. Lyman, its secretary, who is in charge of its Washington activities, was reared on a farm and until called to his present position was a dairy farmer in Wisconsin. He has had a large experience as a farm organization representative.

The National Board of Farm Organizations is a federation of fourteen farm societies. Among its managing directors are Charles S. Barrett, of Georgia, president of the Farmers' National Union; Milo D. Campbell, of Michigan, president of the National Milk Producers' Association; N. P. Hull, of Michigan, president and Wm. T. Creasy of Pennsylvania, secretary of the National Dairy Union; R. D. Cooper, of New York, president and J. D. Miller of Pennsylvania, vice president of the Dairymen's League; J. A. McSparran, master Pennsylvania State Grange; Henry C. Wallace, Iowa, secretary of the Corn Belt Meat Producers' Association; Gifford Pinchot, president Pennsylvania Rural Progress Association, and other well known farm organization leaders.

This organization was formed in 1917 by a number of prominent farm leaders who saw the need of unity of action among the various groups of farmers for the purpose of securing for agriculture the recognition from the government that it rightly deserves.

* * *

The Farmers' National Council occupies rooms in a building facing the Capitol, and its managing directors are George P. Hampton and Benjamin C. Marsh. Affiliated with the council are the American Society of Equity, the Ancient Order of Gleaners, several Western Granges, and a dozen or more organizations whose names I had never heard until I called at the Council's headquarters.

Mr. Hampton is a resident of New York state and a member of the Grange. In 1906 and 7, according to his statement, he represented the National Grange in Washington, and later led a revolt in the Grange ranks, which it is evident landed the revolters outside the breastworks. He is an able man, a well trained lobbyist, and a born propagandist. His views upon public questions are somewhat radical, but he prefers to be called a progressive. He is opposed to nearly everything that the two other headquarters favor and he is vigorously advocating things that the other organizations are persistently opposing. And as the director of a regiment of farm organizations, and so called farm organizations he claims to represent the farmers.

So we have the spectacle of two organizations claiming to represent the farmers whose directors are appearing before legislative committees, buttonholing Congress and pulling all the wires at their command to carry their point; yet diametrically opposing each other on about every question that comes before the House and Senate for action.

In my next letter I shall refer to some of the things these different farm representatives have done and are now doing, and leave it to the farmers themselves to judge as to who are their real representatives in Washington.—Elmer E. Reynolds, Washington, D. C., January 19.

HARRISBURG LETTER

Rural Problems.—Dr. Thomas E. Finegan, state superintendent of public instruction, has taken occasion to announce on the opening of annual meetings of agricultural and allied bodies plans of his department to handle the rural problems. Ever since the educational conference here in November conditions in the country districts have been under consideration, the statements made at the meetings in that series being so pointed that they brought home matters which had not been to the front. Indeed, it may be said it was plain speaking upon that occasion which led to a change in state policy which Dr. Finegan because of his familiarty with the New York rural educational system was eager to take up. The plans of the educational department call for immediate taking up of the problems and Dr. L. L. Driver, who arrived from Indiana, to assume the duties of chief of rural education, will have the active support of the whole state administration. The policy is to get "a new school, better in buildings, equipment, sanitation, playgrounds and apparatus, under better trained teachers who believe in the country and with a course of study that must meet the needs of rural life," according to Dr. Finegan. It is held that this condition can be better brought about by union of smaller units or consolidation and this will be undertaken and the new bureau will ask cooperation of all organizations interested in the rural problem Dr. Finegan said in regard to this policy "The attitude will be one of helpfulness and in no case will any attempt be made to force the movement upon any community." In other words it is to be an effort to get public sentiment favorable to consolidation, better pay for teachers and improved buildings by working among the people of a community. Various districts will be visited and meetings held at which the general plan will be laid before the people most vitally interested.

Teachers Get Busy.—The teachers of the state have started to get their end of the educational problem into better shape than at the start of the last legislature and they intend to have their salary increase taken up promptly and not held until the end of the session of the general assembly to be disposed of. It is likely that the next legislature will contain more teachers or persons in sympathy with them than for years and that they will not be disposed to allow Philadelphia or any other city politics or liquor or any other propaganda stuff get in the road. The teachers were not as united as they might have been on legislation last session and did not force action promptly. From all that is being heard they have learned their lesson and will be on hand when the legislature starts and not inclined to be meek, altho inheritance generally comes in the end to the soft spoken.

Will Enforce the Dog Code.—Secretary of Agriculture Frederik Rasmussen has given notice that he will enforce the dog code. The time for new licenses arrived on the fifteenth and this week the farmers and others will be notified that the Department of Agriculture means business. Inspectors will start out about February 1 and county authorities called upon to enforce the law, if they are shown to be lax. As a matter of fact this is the only way to make the law of value and the state policy may be to make examples of some officials who show neglect or refusal.

New Milk Test.—Secretary Rasmussen has also let it be known that enforcement of the new milk testing law on the basis of a state standard is to be uniform. The old system of allowing a man to select his own method has passed in Pennsylvania, he says. More attention is being given to dairying this year than ever before in the department and the dairy show this week is probably one of the most extensive known in years.

Medical Inspection Work.—Medical inspection of the schools of the State is being rapidly completed and there are less than ten districts where an officer is not now on the job. These ten will be cared for in a few days. Studies of results are being made at the Capitol and some typical examples will be forwarded to school officials for information.

Arrest Retail Men.—Arrests of merchants on charges of failing to properly label cold storage food are being reported on the State authorities from almost every city. Some of the reports show flagrant violations, certain of them representating cold storage food as fresh from the farm. Heavy fines have been inflicted in a number of instances.

More Toll Roads Free.—The State Highway Department has freed four sections of toll road in the York and Adams district in a fortnight. The interested counties boro half the expense. Further movements along the same line are under way in Lancaster County.—Hamilton, Harrisburg, January 19.

NEW JERSEY NEWS

Farmers Alive to Their Interests. —Fully imbued with the belief that now is the time for them to fight as never before for their own protection farmers of New Jersey in convention assembled in this city assumed attitudes on various matters that will be for their better interests. One of the features of the biggest convention ever held by the agriculturists here was the adoption of a resolution in which it was stated, that the farmers of New Jersey look with dismay upon the ever-increasing cost of necessities and utilities of life, and believing that the main cause is lack of production, decided that the State convention pledge itself to renewed efforts for an increased food supply and called upon labor and capital for such cooperation in the production of other necessities as would result in reducing the cost of living and "add to the happiness and content of the people." The convention also went on record as being opposed to action by some organizations in the state in trying to obtain legislation upon the theory of a single tax upon land. It was declared in a resolution adopted on this matter that such a system would be an unjust burden upon all land owners and on farmers especially, and that the convention did not favor any scheme to saddle all taxation upon land alone. It was also resolved by the convention that there should be universal recognition on the part of all food consumers of the fact that the labor wage on farms has risen on account of the increase in wages in industry, and that the cost of fertilizer, seeds and farm equipment has doubled within the last two years; that this is a situation beyond the farmers' control, and that it will be impossible to meet the demand for food if prices are not placed upon such a commercial basis that these greatly increased costs can be met. It was agreed by the convention that the increase in cost of living is a vital matter to everybody and that the cost of food is a big factor in living expenses. Another resolution favorably acted upon at the convention was to the effect, that an effort is being made to brand the American farmer as a profiteer, and place on him a share of the responsibility of unjustifiable high living costs; that the absence of offical figures showing the actual costs of production makes it more difficult to combat this propoganda, and that the convention favors the collection and dissemination of accurate data showing the cost of production of the more important animal and crop products of New Jersey, while it was urged that all farmers of the state cooperate with State and National agencies engaged in this work. It was also resolved by the convention that this was not an opportune time to make experiments in government ownership of public utilities, and the convention urged most insistently that the services now rendered by public utilities should be under such wise legislation of the government that the people may have the benefit of private initiative and enterprise in such service. It was resolved by the convention that the daylight saving law proved to work hardships on the farmers and added to the difficulty of maintaining production and thereby increasing the cost of food, and that the convention opposed enactment of so-called day-light saving statutes and called upon the representatives of the farmers, National and State, to resist bills tending to such laws when introduced.—Kelly, Trenton, January 19.

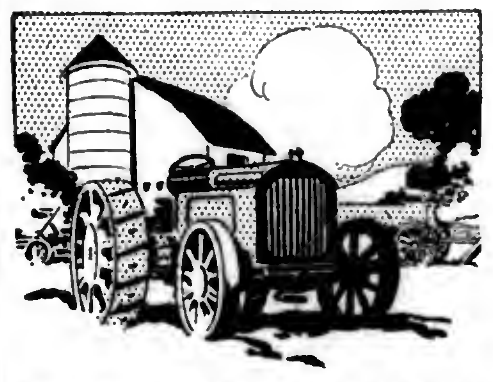
A wheel tray is a step saver. Winter is a good time to get one made.

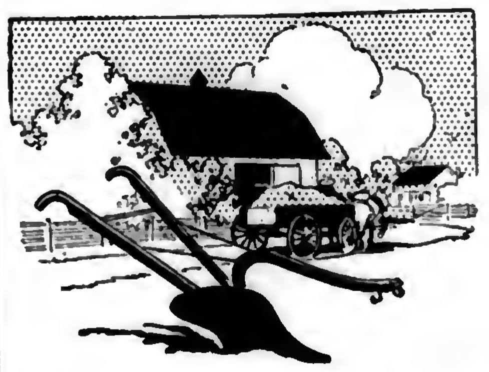
Any Kind of Painting Pays Around the Farm

For the Home
Beautify and add to its years of service

For the Barn and all Outbuildings

Silo Painting Pays


Protect and Add to Service of Farm Machinery
New parts are expensive


Every Tool and Conveyance Around the Farm Can be Painted—thereby assuring better service and reducing repair bills

No other individual should think more about painting than the farmer. For painting means adding years of life to already high priced equipment, and the farmer today has more expensive farm equipment than ever before.

The silo, the barn and outbuildings represent big upkeep costs if neglected. The tractor, the grain drill, plows, etc., run into big money today for parts.

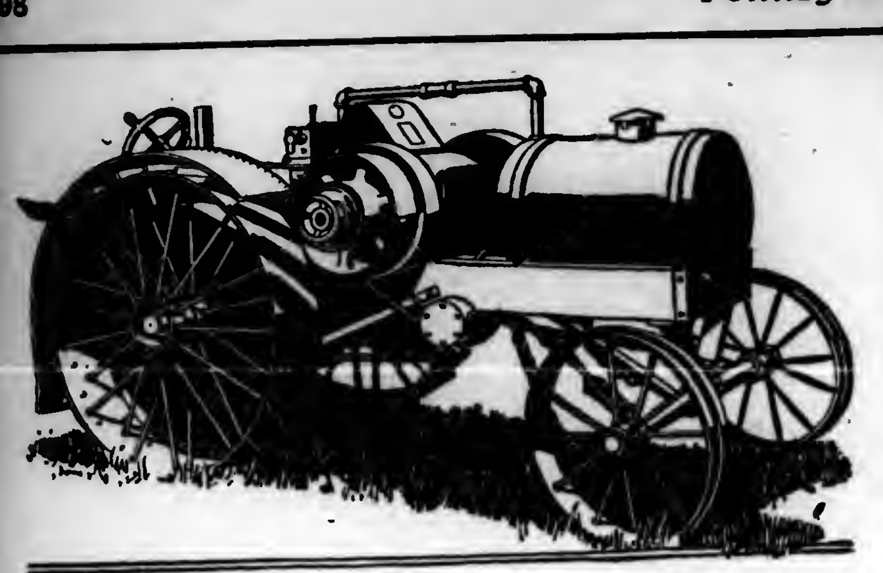
Yet a coat of paint now and then will save many a dollar because of its giving added years of service to parts applied.

It will likewise pay to see that good paint is used.

NICE

Paints and Varnishes are good. They have stood the test for 40 years. Our increasing business among farmers year after year attests to their honest and hard wearing qualities. You'll never regret using any Nice paint or varnish product. At your dealer's or write us direct.

EUGENE E. NICE - Philadelphia



This *Low Speed* Engine Makes Play of Your Wood Cutting

Cutting big, tough pieces of wood into stove-sized chunks requires that sturdy, steady belt power you always get from the Reliable Tractor's low speed engine. It gives a strong belt power which keeps your saw cutting at an even speed and just buzzes thru those long, hard pieces.

You don't have to jack up the Reliable or put on any attachments to do belt work. Its 18-inch permanently-fastened clutch pulley runs on the power shaft and has plenty of belt clearance over the front wheel—making it easy to back the tractor into place for belt work. Merely put the belt on the pulley—pull the clutch—and you have power for any belt work.

The Reliable's simple design makes it easy for you to understand and to operate. Its rugged structure gives it the strength for long life. These factors make it a sound farm investment for you.

Send for our catalog and tractor farm survey before you decide.

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ENGINES 2 TO 30 H-P's
Simplest in Construction
Easiest to Operate

Lowest priced High-Tension Ignition Engine ever sold at Factory-to-User Prices. High Tension is the only successful ignition for kerosene. All WITTE Engines are regularly equipped with H. T. battery, or Standard BOSCH Magneto on order. Write for latest prices. Quick delivery.
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ARN PAINT $1.22 PER GALLON
factory prices on all paints. We guarantee ality. We pay the freight.
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Wanted: Single man to take charge of, and work in orchard. Give reference and state wages expected. PINEY CREEK FARM, NORTH EAST, MARYLAND

Better Seed Beds —Bigger Yields

Make the most of high-priced seed and fertilizers. Put them into perfect seed beds made as smooth as a flower bed with an
"Acme"
Pulverizing Harrow

"The Coulters Do the Work." They slice their way through sod and trash. They fill air spaces and compact the furrow slices. They pulverize and level the surface soil.

The "Acme" Harrow is light in draft—easy on the team, and *you* ride. Sizes: 1-horse to 4-horse; the larger sizes are just right for the tractor.
Ask your dealer to show you the "Acme." Write us today for prices and new catalog. Be sure also to ask about our new "Acme" *Disc* Harrow.

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The Acme Way to Crops That Pay

"Acme" Standard No. 23—Two-horse Harrow
This model has 12 coulters and cuts 6½ ft.
No. 26 has 15 coulters and cuts 8½ ft.

COMFORTABLE AND CONVENIENT HOMES

(Continued From Page 1.)

The one great feature of a hot water plant is the cleanliness of it. No dust, no smoke from the furnace. The evenness of temperature is also worthy of consideration. It takes money to install anything in these days of high prices, but when convenience and satisfaction are considered, it is money well spent.

Every farmer anticipating a change in his heating system should carefully look into the hot water system as I think it is the system of systems, all things considered.

I am sure any farm home properly equipped with a hot water plant would not have it removed for double its purchase price and go back to the old stove method. But many make a mistake in the installation by not installing enough radiation. Better have a little too much radiation than not enough. When not enough radiation, it means excessive firing and unsatisfactory heat in zero weather.

The farmers who keep the ball of prosperity rolling are the people who during the long winter evenings should have the privilege of enjoying all the modern conveniences possible for them and their families to obtain, and the one above all others is the heating system, adding comfort to the entire family.—E. H. Harman, Clearfield Co., Pa.

CONCRETE WALKS

It is just two years since we moved to our new home, which is a farm located at the west side of a small town. This farm has good buildings, but we soon saw room for improvements, especially around the house. This was in March and very muddy and of course the first thing for us to do was to make good walks, around, and in front of the house. These were made of concrete, and as there are good pavements across the road, makes it very convenient for us to get to the trolley car or to town.

Electric Lights

Then the next thing was to have the electric lights put in the house. We had them put in all the rooms, in the cellar, and on both front, and back porches, and in the wash house which makes it very convenient when I get up early to wash, or if we want to butcher real early. After the lights were in we decided to paper.

New Paper

There had never been any paper on the upstairs walls, and the downstairs was very dirty and falling off. I went to our general merchandise store and for eight cents a roll I got very neat bedroom papers; also for the kitchen and dining room.

Then, for the living room I ordered a grey oatmeal paper with a narrow binder; well in fact I had the narrow binders put on all my rooms as they make the ceilings look much higher.

Painting

When the paper hanger was thru with the papering, I had him paint the parlor and dining room in white, and the kitchen a coat of grey. Then I bought a silk shade for my oil lamp and had it fixed up for an electric lamp for my living room.

I also had my old parlor suite done over in brown leather, and I purchased a few new wicker chairs, which I got very reasonable and with all these improvements made my room look very cozy.

Handy Devices

Then we got the telephone; that we had put on "Daddy's" desk. Last Christmas my youngest son gave me an electric iron as a gift, and this is a great comfort to me in hot weather; and in fact all the time, for I can do all my ironing on a high stool or chair without getting up until I have finished.

Water System

Next was to get the water inside which we did with very little cost. We had a sink put in the kitchen and on which I wash all my dishes and empty all my waste water. That goes down thru the cellar and into the sewer.

Then the toilet which stood in the far corner of the garden and was almost falling down was put at the end of the back porch, and was put on the sewer also, by digging around the house and across the road.

The flower beds were all enclosed with old boards, which we replaced with new brick we also tore the old paling fence down and started a hedge fence.

Then we painted the house on the outside. So, our buildings are all white and green. All these things which I have mentioned surely have added to the comfort, beauty and convenience of our home, and I think every one should try to beautify their home or homes just as much as their means will allow.—M. E. S., Cumberland Co., Pa.

RENEWING THE OLD CAR

The power plant of a good car will continue to function well years after the top and the finish on the body have become very shabby. In fact, many cars are "traded in" just when the power plant is at its best. All mechanics know a new piece of machinery doesn't operate smoothly and at full efficiency until it has been run sometime. Meanwhile, the paint, varnish, lacquers, etc., put on to make it look attractive in the show room have lost their pristine newness.

It's all very well to get a new car every year if one can afford it, but many do it who cannot afford it, and it really isn't necessary in most cases. An examination will generally show that the power plant is in good shape, and the surface shabbiness will readily yield to the skilled ministrations of an auto painter and top maker. And a new top and new coat of paint costs a lot less than a new car.

This is not an argument in favor of keeping a car in service for several years. After the power plant begins to deteriorate repair bills mount up; annoying break-downs on the road become too frequent and it then becomes economical to replace the old car with a new one, but such replacement is by no means necessary as often as many car owners seem to believe. The painter and trimmer can work wonders with a car showing signs only of surface wear.

It's very true in the auto industry that "willful waste" causes woeful want" and it is waste to discard a perfectly good auto power plant just because the outer shell doesn't look as spick and span as it might. That defect is too easily remedied.

A careless farmer may ruin even a rich farm; a careful farmer can make a rundown farm behave itself and grow fat.

ADVANCED REGISTRY TESTING IN PENNSYLVANIA

(Continued from Page 3.)

leader, for milk production, with a yearly record of 25329.0 lbs., while Auchenbrain Brown Kate 4th, owned by the same farm, holds second place, for milk production, with a record of 23,022.0 lbs. in one year. In the production of butter-fat these cows stand second and third in their class. In the senior four-year-old class Bloomer's Queen, owned by Penshurst Farm, is world's champion with a yearly record of 21,820.0 lbs. of milk containing 856.41 lbs. of butter-fat. Netherton Ella, owned by Penshurst Farm, has a record of 17,061.0 lbs. of milk and 723.92 lbs. of butter-fat and holds fourth place in the junior four-year-old class. Highland Polly, owned by J. R. Valentine, has a yearly record of 15,715.0 lbs. of milk and 635.63 lbs. of butter-fat as a senior three-year-old. Rena Ross 3rd, also owned by J. R. Valentine has a record of 13,710.0 lbs. of milk and 551.89 lbs. of butter-fat, as a junior three-year-old; she stands fourth in her class.

A very remarkable record for the breed was made by the Brown Swiss cow, Mary Dysart, owned by Pennsylvania State College. Her record as a four-year-old was over 14,000 lbs. of milk and approximately 616 lbs. of butter-fat. By this record she holds second place in the four-year-old class.

Inexperienced breeders are always confronted with the question as to how to get started in Advanced Registry test work. To assist these men, who are desirous of placing cows on test, and to encourage the raising and breeding of pure-bred dairy cattle of high individual merit in the production of milk and butterfat, the Dairy Husbandry Department of Pennsylvania State College will furnish supervisors to conduct Advanced Registry tests of dairy cows for Pennsylvania breeders, whenever possible, under the conditions given below:

Starting the Tests

(1) Before starting an Advanced Registry test every breeder of pure-bred dairy cattle should apply to the secretary of his particular breed association for a copy of the rules governing the Advanced Registry testing for his breed.

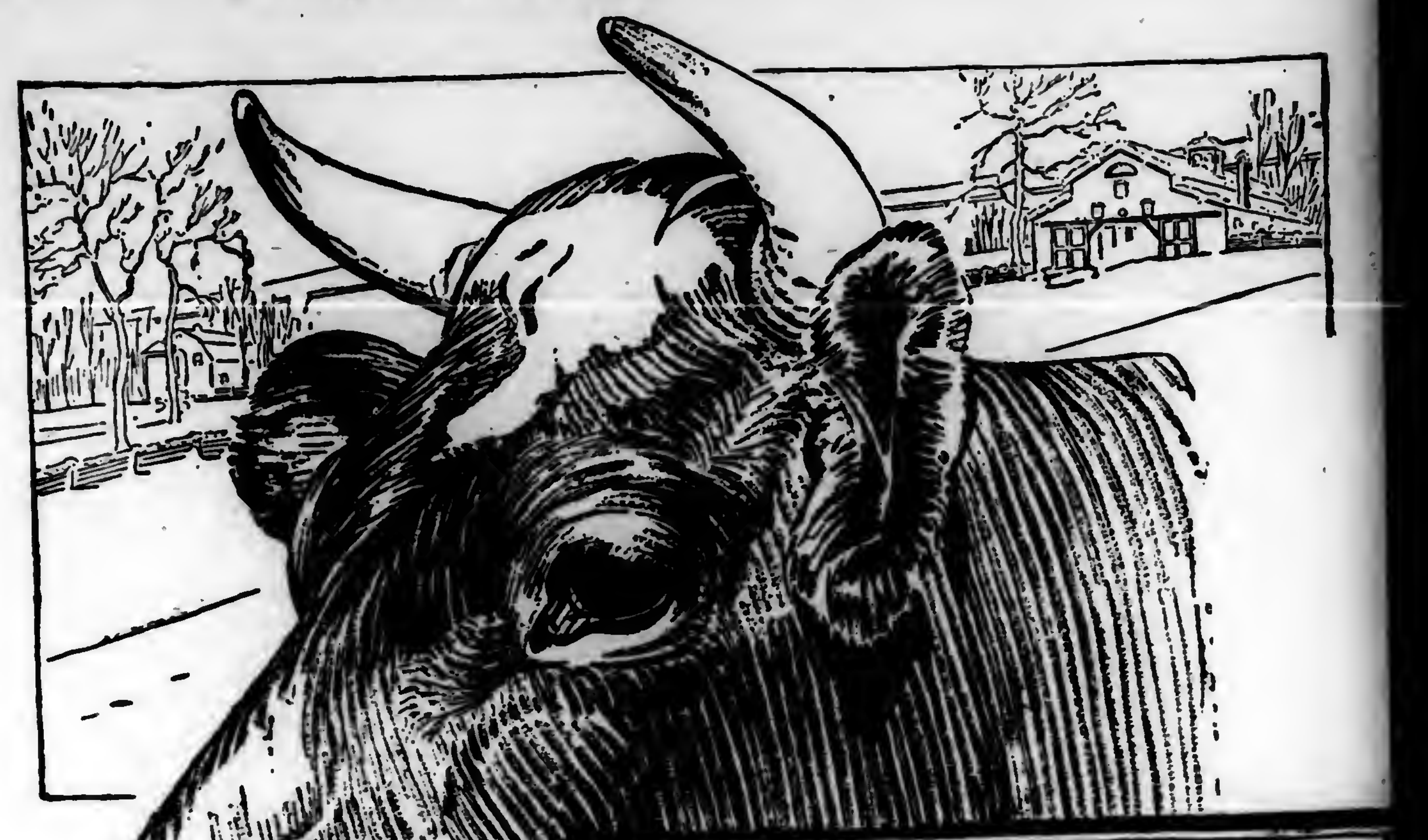
(2) The breeder should have at hand the Certificate of Registry for each cow tested, and should, upon request deliver the Certificate to the Supervisor for examination.

(3) Before any test is started the breeder should give ample notice to the secretary of his breed association, stating the full name and registry number of each cow to be tested and making application for the necessary blank forms for his own use during the test.

(4) In order that the Dairy Husbandry Department may make the proper arrangements to provide Supervisors, the breeder should notify the Department three or four weeks in advance as to the tests contemplated, stating how many cows are to be tested and the probable dates of calving.

(5) A Holstein breeder who wishes to start one or more "short-time" or "seven-day" official tests must give the Dairy Husbandry Department a second or final notice by letter or by telegraph, at least one week in advance, stating the exact date on which he wishes to start the test. The Department will endeavor

(Continued on Page 20.)



18,458 lbs. Milk
in a year is the record of this fine Guernsey. Records are worth trying for; but health is an absolute essential.

So Easy to Put Your Dairy On a Good-Health Basis

To be satisfied with anything less than top-notch health in your cows is a foolish waste of milk income. Most cow sickness is preventable—or curable. With the aid of KOW-KURE, the great cow medicine, such troubles as Abortion, Retained Afterbirth, Barrenness, Scouring, Bunches and Milk Fever can be eliminated from your herd. KOW-KURE acts on the digestive and genital organs—where nearly all cow diseases originate, and aids nature in inducing normal, healthy action. No dairyman who has used KOW-KURE will be without it.
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Write for our big free book,
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It is full of facts every dairyman ought to know, and tells just how to treat cow diseases of all kinds.

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Investigate the reliable Green Mountain. for circulars describing long-life, construction, new Anchorage System, Creamery Package Mfg. Co., 345 West St.,
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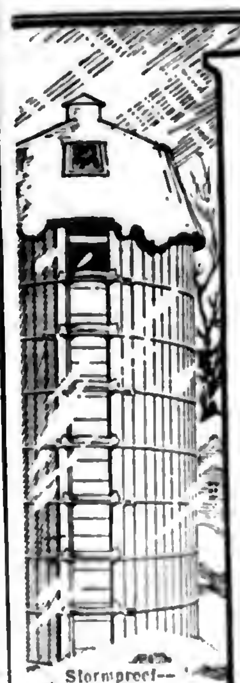
Stormproof—anchored solid as an oak.

"Cows are like humans"
Says Silas Low

"Feed them wrong and you don't get much out of them. Feed them right and they do their best. With cows that means green feed and green feed in winter time means a

HARDER SILO

"I tell you folks, that's the best Silo made. It's sound, sturdy, air-tight and the continuous doorway makes feeding almost fun.

"By all means have a HARDER. Have several of them. They'll keep good fodder from going to waste in the fall. HARDER SILOS mean A-1 milk for you all winter."

Write for booklet on the HARDER, the Silo that Uncle Sam uses—also the story of Silas Low. BOTH FREE.

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More milk and better milk all winter — and smaller feed bills.

FARMERS
MUST LOOK
AT THE
CAR SUPPLY

THEY have faced the Labor Situation. They have studied their Production Costs. NOW they must also beware of a Railroad Car Shortage which will affect deliveries on orders for things needed this Spring.

"First Aid" in this condition is to Order Early, Buy Standard Goods, and Patronize Reliable Dealers and Manufacturers with Best Shipping Facilities.

For Agricultural and General Uses on Farms, Warner's "Limoid" is a standard lime, and dealers handling it are backed by Warner Service and a Large Production having close railroad connections.

Warner's "LIMOID" is pure Hydrated Lime manufactured from the famous "Cedar Hollow" limestone. Can be stored in any dry place without loss.

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Vines, Berries, Shrubs, Roses

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Maloney Quality has become a recognized standard by which all nursery stock is judged because we have given our personal attention to every step in the production of our stock from budding to shipping, and know just what we are sending you and that our varieties bear and bloom true to name.

Fruit Trees are scarce this spring owing to the fact that France has not been able to supply any seedlings for the past four years. However we have a fine assortment and can give you what you want. Send today for our FREE WHOLESALE CATALOG, and place your order early.

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y Bros. & Wells Co., 70 East Street, Dansville, N. Y.
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HORTICULTURE

ORCHARD PROBLEMS

By J. P. STEWART

This is the season of the year to get your plans in shape for spring, and to see that everything is in readiness for an early start. It is also a good time to thrash out any unsettled questions that may be lurking around in one's mind, as there is no time for such business after the spring rush begins, and it does not pay to try any extensive experiments on the trees on the strength of mere surmises. It is much better to present your ideas to some one who has been in the business of experimenting, if possible, and at least get his opinion before taking any plunges. In the absence of such a counselor, some one with a lot of experience should be consulted, or else the uncertain action should be avoided as a rule.

Some of our good people are evidently following this general plan, as shown by the following inquiries, some of which may also be of interest to others. The first of these inquiries illustrates the ever widening interest that is being shown in the development of orchards.

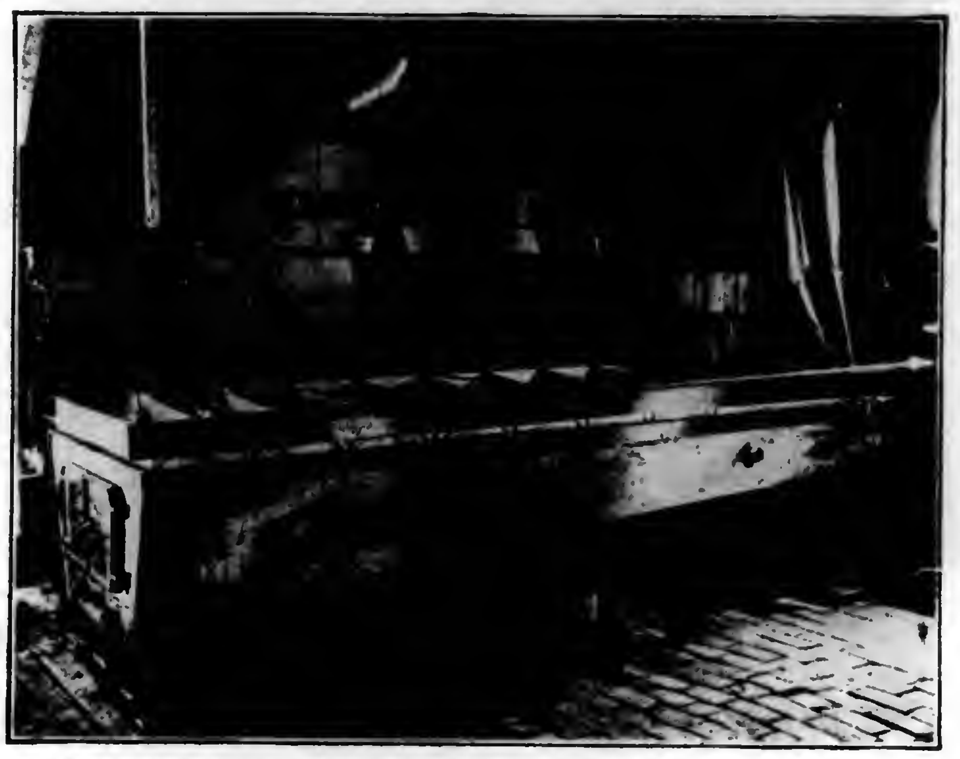
"Mr. Editor, I will write for a few words of information on planting apple trees in unbroken soil. I have ten acres of land, has rubbish such as chestnut and oak which will be easily cleared off. Will it do to blast holes in the spring and plant the trees. Then tear up the soil during the summer, and will it do to plant this plot in one kind of apple or would it be more advisable to mix trees."

D. B. FARMER,
Franklin Co., Pa.

The general locality involved in this inquiry is exceptionally well adapted for fruit, hence the only questions to be settled are whether the particular area referred to is satisfactory and whether it could be economically cleared at the present time. The advice of experienced men in the neighborhood should be sufficient to settle both. The main points to be considered in settling the former are whether it is enough higher than its immediate surroundings to be relatively free from frosts, whether it has a satisfactory water supply, and a soil of reasonable depth and freedom from excessive stoniness, and whether it will be reasonably accessible to market or good shipping point.

In regard to the planting, if it is at all convenient to do so, the clearing should be done first, or at least enough should be cleared to allow the rows to be set straight and permit a strip at least four feet wide to be cultivated on each side of the rows. Of course it is possible to go right in and plant the trees right among the stumps with only slight deviations in the rows, and do the clearing later or let most of the stumps rot out, and I know of some very good orchards that have been developed in this way, without any clearing at all, but it is a question whether such a course is really profitable or not, especially where many chestnut stumps are involved, as they are not easily killed as a rule.

If the stumps are taken out, a team of mules and a good strong stump puller will do the work as easily as and more cheaply than anything else. The best plan is to have a good long cable, at least a hundred feet, and then get about a dozen of the short, hitching cables which are put around the stumps, and hitch them all on at once so as to pull a dozen stumps or so at one drawing of the cable. The hitches are so arranged as to pull only one stump at a time, of course, but also fixed so as to bring the whole bunch before the cable is drawn in. A third mule is also very useful in this job, to unwind the main cable. The pulling can be done right along thru the winter, whether the ground is frozen or not, as the amount of power developed by these pullers is something tremendous.



One Kind of Evaporator Used in New England for Making Maple Syrup

If any stumps are left in, they should be killed as promptly as possible, so that nature can begin her method of removal which is rather slow at the best. They can usually be killed in one or two seasons by keeping the sprouts off of them entirely, until they quit coming.

In regard to blasting the holes for the trees, I would prefer to use any dynamite that I might have in blowing out stumps. One is surer to get some return for his money in this way.

On the ten acres involved, either one or two varieties might well be used, but not more. Either Stayman Winesap or Grimes or part of each should be satisfactory. If planted about 32x30 feet, this would give 68 trees to the acre until they began to crowd too much when they could be thinned to 32x40, and if planted with this in mind, one of the varieties could be removed entirely at that thinning.

In the next inquiry, the ubiquitous spray problem bobs up again.

"Dear Sir:—

There are several points, I do not seem able to clear up, and I am confident you can, and hoping you will, solve them for me.

First:—Is atomic sulphur safe to use on peaches, for brown rot control?

Second:—This orchard is young—the peaches bearing heavily, the apples just beginning. If I use either "Sulfocide" or "Atomic Sulphur" for peach spray, would either of them pay to use on the apples for scab control—the peaches being fillers in the orchard, apples trees being permanents?

Third.—If I use either sulfocide or "Atomic Sulphur," would you advise not mixing with arsenate of lead in other words, separate sprayings for control of curculio and brown rot?

I am trying to get away from the use of self-boiled lime sulphur.

Thanking you in advance, believe me, Very truly yours,"

HALL MACLAY CROSMAN.

In reply to the first of these questions, I would say that some results show that the so-called "atomic" sulphur is not entirely safe on peaches, and is about as effective as self-boiled lime-sulphur, but is considerably more expensive, as a rule.

Second, I would not care to depend on "atomic" sulphur to control scab on apples, and it is the only commercial fungicide that I would consider safe on peach foliage.

Third, the "atomic" sulphur is ordinarily safe on peaches either with lead arsenate or without it, but in some cases causes severe burning. It would be rather expensive to have to make separate applications for the pests named, whenever they can just as well be sprayed for together, in at least part of a normal spraying schedule.

The so-called hydrated lime-sulphur might furnish the solution desired. It is made —with 8 pounds of hydrated lime, 8 pounds of sulphur, and 8 gallons of boiling water. The sulphur and hydrated lime are mixed thoroly, passing them thru a sieve if necessary to remove lumps, the boiling water is then added, and the mixture is stirred vigorously for five minutes. Then cool the mixture at once, and dilute to the full volume of 50 gallons for spraying. Larger quantities can be made at a time, if desired, by simply preserving the same relative quantities of materials, but without changing the time allowed for the hot water to act.

SAVING GARDEN SEEDS

Every housewife should see that there is an ample supply of pumpkin, and squash seed saved for the coming year. Every good ripe pumpkin, or squash that she cuts, the seeds should be saved and spread on a paper rather thinly. Place them where they will dry, but not too near the stove or fire as that will ruin the germination.

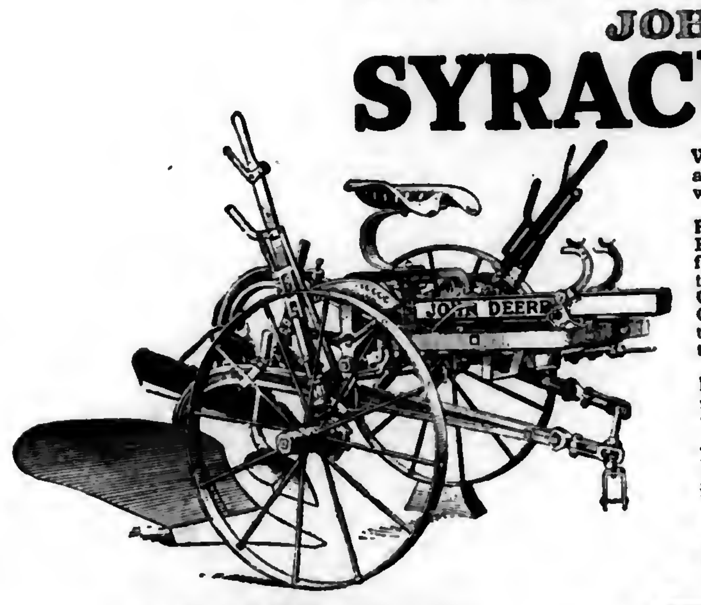
This last spring, pumpkin seed was selling in these parts for one dollar a quart, and many could not get any at any price. These seeds if properly dried will keep indefinitely. I have planted them when four and five years old, and they germinated well, and grew finely. If one saves one's own seed, they know they have seed that will grow. Sweet corn, beans, carrots, peas, lettuce, tomatoes, peppers, turnips, summer and winter squashes, cucumber beets, etc. Parsnip, I have several roots that seem to live year after year and produce fine seed. Parsnip seed will not grow only the first year. All the others will grow, when two or three years old, and some of them even older. It is quite a bit of extra labor to save seeds, but when one purchases their seeds, and many fail to appear, after being planted, we do not be grudge the extra work. And so many of the seeds on the market, do that very thing. I had several papers of seed this year that not one seed came up, and also several that but few came.

I make it a point to save all the seed I can, and of all the varieties possible. And I always have seed to give to my neighbors.

Label each variety correctly and when properly cured or dried, store in a dry place, where the mice cannot come in contact with them. As mive make short work of most the garden seeds. Raise, Caraway, dill, anise and other aromatic seeds! You will relish them.

Poor seed has been the general complaint for the past year or two—but if one raises their own seeds and properly cares for them, they will be well repaid by having them grow.—M. I. C. A.

Boys and girls in Oregon are engaged in work of beautifying their home grounds as part of their club work.



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The John Deere Syracuse Two-Way Plow is the product of an Eastern factory's 43 years of successful experience in building plows for Eastern farmers. It's the ideal plow for hillside plowing, for plowing out the nooks and corners of irregular fields, around stones or other obstructions, or up close to fences. It also does good work on level land.

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With this plow you can throw all of the soil one way and do away with dead furrows and back ridges, where these are not desired.

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Equipped with the famous Syracuse bottoms, made in different styles to fit every soil condition in the East.

Because of its combination of operating convenience, thorough seed-bed making and long life, this plow is a special favorite among Eastern farmers.

Write for a folder describing this plow fully. Address John Deere, Moline Illinois. Ask for Booklet ST-39

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Burpee's Annual is a complete guide to the vegetable and flower garden. It fully describes the Burpee Quality Seeds, with a hundred of the finest vegetables and flowers illustrated in the colors of nature. If you are interested in gardening, Burpee's Annual will be mailed to you free. Write for your copy today.
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Increase your profits by using The Best Potash Fertilizer. THE JOYNT BRAND PURE UNLEACHED HARDWOOD ASHES. A complete and sure fertilizer for all growing crops. For top dressing seeding down and truck growing they have no equal. Agents wanted. Correspondence invited. JOHN JOYNT, L. B. 297, Lucknow, Ont., Canada.

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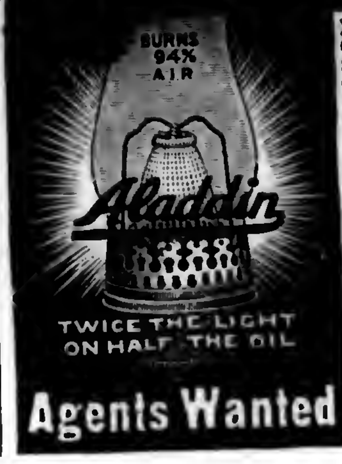

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Agents Wanted

IRREGULAR PAGINATION

SEEKING A MARKET FOR DAIRY BY-PRODUCTS

EVERY dairyman will agree that if he could sell his skimmed milk for what it is worth as a human food, the profits on his dairy business would be substantially increased. But where is the market for skimmed milk as a human food?

Authorities say that the milk supply of the country is twenty-five percent below the domestic market requirements, if each man, woman and child of this country, to say nothing of foreign needs, is to receive the amount of dairy products necessary for proper nourishment. This, then, is the market—helping to make up the 25% shortage by diverting to human use a part of the large quantity of skimmed milk which is fed to stock. And here is one method by which this can be done:

Skimmed milk lacks only a fat content to make it desirable for cooking and baking. The lack of fat, too, makes it unpalatable. Hence, it is just plain common sense that, with the addition of a vegetable fat, skimmed milk can be made palatable and more desirable as a human food for culinary operations, releasing whole milk so used for other more needed purposes.

Hebe Brings Skimmed Milk to Market as Human Food

HEBE was created to reach this additional market—*to serve as an auxiliary to the daily milk supply for specific uses in the home.* Hebe is labeled with the utmost frankness as to its contents and uses. It is advertised as it is labeled—honestly and frankly—"A Compound of Evaporated Skimmed Milk and Vegetable Fat," for cooking and baking. By the scientific emulsifying of refined cocoanut fat with the skimmed milk, Hebe makes it possible to market skimmed milk as a human food, and thus opens to the dairyman another and more profitable outlet for his by-product, without interfering with the markets already established for dairy products. In the production of every 100 pounds of Hebe 210 pounds of skimmed milk are used, and 7.8 pounds of cocoanut fat. Thus a small amount of vegetable fat serves as the vehicle for bringing a large amount of skimmed milk to market as human food.

Benefit to the Entire Industry

HOW is this new market to benefit the dairyman who is not near enough to a Hebe condensery to sell his product there? The Hebe industry is young, and Hebe plants few in number, but every can sold is helping to develop this new market, and every bit of advertising put out by the Hebe Company is helping to educate the people to the greater use of dairy products. This influence cannot help but be of great benefit to the entire industry, for every additional outlet for marketing a product puts a new value on the product, and skimmed milk, prepared and marketed for a human food, is bound to increase in value, thereby benefitting every dairyman.

Every By-Product Should be Utilized

BUSINESS has proved that no industry is completely successful until every by-product has been utilized in the most profitable way. To feed the skimmed milk to stock is not the most profitable method of utilizing this by-product, because only a very small percentage of the food value of the skimmed milk is recovered in the meat of the animal. The larger part is used up by the animal simply in living.

The dairy industry will reach a fuller measure of efficiency and economy when the skimmed milk is disposed of in the most profitable way—as human food. Hebe points the way. It is an ally to the dairy industry, offering one method of utilizing skimmed milk as human food and increasing the use of dairy products in the home.

You will be interested in reading our booklet, "The Missing Third." Ask us to send you a copy. There is no charge for this. Address 2158 Consumers Bldg., Chicago. The Hebe Company, Chicago and Seattle.

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High or low wheels—steel or wood—wide or narrow tires. Wagon parts of all kinds. Wheels to fit any running gear. Catalog illustrated in colors free.
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Written by our L. J. Farmer who has spent over 35 years among strawberries and other small fruits. The most widely read book on strawberry culture ever written, fourth edition, just off the press, price 50c or 5 copies for $2.00. Cloth bound copies $1.00 each. This is not a catalog, but a real treatise on strawberry culture and is "Worth its Weight in Gold" to anybody who contemplates going into the strawberry business. Send for our beautifully illustrated catalog of Strawberry and other Berry Fruit Plants, etc. It is free. Address
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THE McINTOSH APPLE

Among all the members of the great apple family there is none better in every way than the McIntosh Red. It is large, shapely, handsome in color, perfect in flavor, and when properly grown and marketed intelligently will probably bring more money than any of them. From its appearance and general character the McIntosh is supposed to be a seedling of Fameuse, but this can never be known as the original tree was found by John McIntosh when he settled on his homestead on the shore of the St. Lawrence River near Iroquois, Ontario, in the early part of last century. McIntosh was a lover of fruit and soon realized he had something worth having in his wild apple tree, but it was a good while before the fruit came into his own. When it did, by means of scions in the hands of nurserymen, its reputation spread like wildfire and in one section of the Western States the McIntosh apple is used as a trade mark by the land companies.

Very little remains of the original tree. Its trunk with some of the branches still stands. A fire which consumed a dwelling in 1893 did injury to the tree, but a portion of it continued to bear fruit until 1908, in which year all life went out of it. Probably one of the most unique demonstrations that has ever taken place in this country was the erection of a monument to this tree near Iroquois, put up by the hardy rural sons of the Dominion and unveiled in an old fashioned basket picnic. The monument is to the "McIntosh Red" apple and a peaceful farmer who lived more than one hundred years ago. It is a memorial to an event that is apart from strife and bloodshed or even of the sordid competition of commercial life, for there had never been claimed a royalty on the McIntosh Red apple. It had been given freely to the country. It was a fine gift of nature and given freely to the world.

Squashes Grow Double in New York

The State of Washington has been trying to claim credit of having originated and propagated the McIntosh Red apple, and the Canadians around Iroquois did not intend that those people should get all the good things away from them, but are now handing down the fact that this apple was first grown in their locality. The monument is of Bebee, Quebec, granite in a three-piece structure rising by tapering columns to a height of ten feet. It stands on the country road a little to the side of the McIntosh house near a beautiful maple grove and about twenty rods from the old original tree. On a copper plate is the following inscription:

"The original McIntosh Red Apple Tree stood about twenty rods north of this spot. It was one of a number of seedlings taken from the border of the clearances and transplanted by John McIntosh in the year 1796."

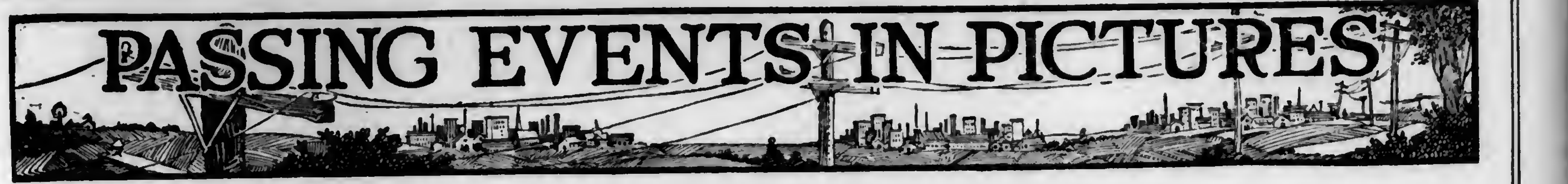
STOP THE DECAY OF TREES

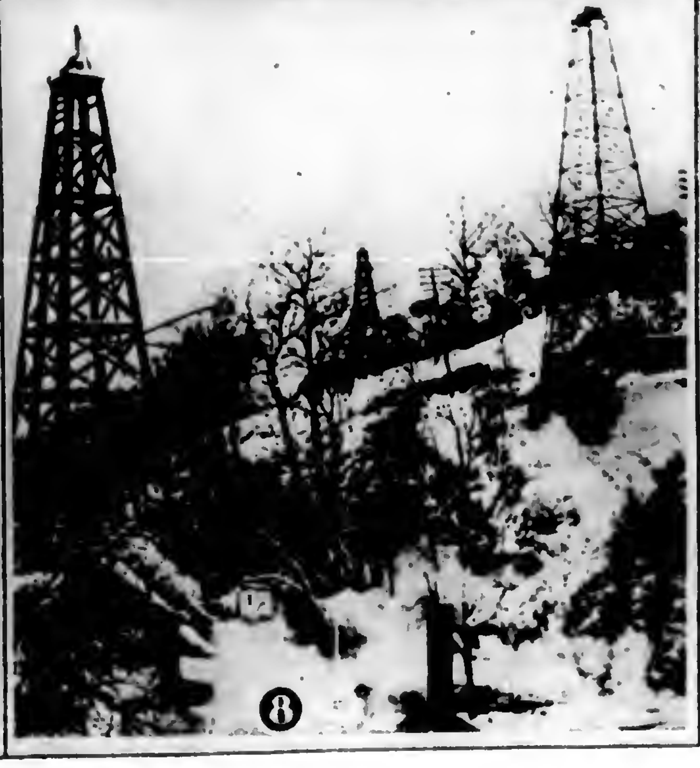
Whenever the limb of a tree is blown off or becomes diseased, the stump should be sawed off even and painted with creosote or tar paint; otherwise decay will set in and spread to other parts of the tree.

Oftentimes even a nail hole will so injure the bark that it will come off leaving the wood underneath unprotected. If these spots are left bare, decay will set in and seriously endanger the tree. A coat of creosote or tar paint will prevent spread of decay and gradually the bark will grow over the bare place again.

The farmer who keeps records is in a position to plug up the leaks and to take advantage of the opportunities to enlarge his business in the most profitable ways.

PASSING EVENTS IN PICTURES





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1.—Harvard's Man of Mystery, an Electrician Who Defies Vault Doors and Steel Boxes.

2.—Vice President Marshall, who is a Favorite With the Boys, is Given an Ovation.

3.—Lada, the Famous Indian Dancer, Surprises and Entertains New Yorkers.

4.—Governor Coolridge of Massachusetts Signs Bill For Memorial to the Pilgrims.

5.—Juanita Hansen Has the Distinction of Having a Young Leopard For a Pet.

6.—Lieut. Isaacs Who Received Nations Highest Honors For Naval Service and his Wife

7.—Children Who Left Insane Mother in Sweden and Came to America as Stowaways.

8.—First Wells in the New Oil Field Near McKeesport, Pa.

9.—Tractors Are Used to Clear Away the Heavy Snows in Paris Streets.

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HAVE eggs to sell—plenty of them—*all through the season.* There's a nice profit in table eggs, so making money is only a matter of healthy hens—assured by the use of

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POULTRY

WHAT DO EGGS COST?

It has always seemed to me that the subject of poultry raising and egg production was the most discussed subject in the farm press, probably because practically every farm supports a flock of chickens. And our city cousins who are interested in eggs and poultry from a culinary standpoint often criticise us because of the high prices of these farm commodities. A few garbled facts in the local press can do a lot of damage in the way of causing wrong impressions among city folks who are well-meaning of course but are basing their judgements on their newspaper "information."

Just yesterday my mother took in a big basket of eggs, which she sold to a local grocer at a price of 65c. That evening she attended a luncheon in company with a number of city women the most of whom were heads of families and good, intelligent women. They brought up the subject of eggs, and when informed by mother that she had sold eggs that day at 65c they were astounded. One of them remarked: "What? You sell eggs at 65c and we pay 80c! That isn't right and is not treating you farmers right. Surely it doesn't cost 15c to handle those eggs over the counter."

I honestly believe that if we visited and fraternized with our city friends less prejudice would exist between us, but what I want to get at here is the cost of producing those eggs that had to be sold for 65c a dozen. Here is the cost as given for the month of December as shown by my records which are true:

130 lbs. mash, equal parts cornmeal, ground oats, middlings, meat, scrap, and tankage, by weight	$5.39
179 lbs. shelled corn	2.22
179 lbs. whole oats	3.01
Grit	.25
Labor ½ hour for 31 days @ 25c an hour	3.87
Interest on Investment 118 hens @ $1	.59
Depreciation on poultry house & equipment	.50
Total cost	$15.83
Receipts 226 eggs	
Cost per dozen	.84

This represents the cost of producing eggs in December, the hens having begun to lay on the tenth of the month. No eggs were had in November, for the hens were moulting and were given only such feeds as would hasten their moulting. It will be seen that eggs were produced at considerable loss, but the January receipts begin to show a lower cost as the hens are all ready reaching a 30-egg-per-day stride in the first week. The price of eggs is also declining on the local market. All the feeds I figure at the market cost here on our farm which is probably lower than a commercial feeder would have to pay. The cost of these feeds, home grown, will be ten or 15 percent higher for January and still higher for February.

I know of but one of my neighbors who had been getting eggs for the past three months and most of them keep flocks of 100 or so. What it costs them to produce eggs will be considerably more than they think. I believe that a farmer should be entitled to a fair profit above his feed costs, and in order to do that the expenditures should not rise above the receipts for not more than a month or two. Feed and labor costs are the chief items on producing eggs, and feed costs are sure to begin to rise after the first of the year.—J. L. Justice.

ARE EGGS TOO HIGH?

Sitting on a trolley car listening to people talking about the awful high price of eggs, and telling each other how the women boycotted egg merchants in some cities, and how shameful it was to charge the people from 68c to $1 per dozen is most entertaining. But if they purchase a flock of chickens try to sell the eggs at a profit they will find it is decidedly a horse of a different color. Some time ago while riding on a trolley car in the city of Reading, a stranger remarked about the weather. Yes, I said, the rains are hard on the farmers. There were hardly enough nice days to harvest the wheat and oats, and it was very hard on the potatoes, causing this crop to rot, etc. The stranger remarked "Well, they have had their's during the war, even if they have a bad year." This is the prevailing idea among many people, especially those who attend city markets. I told him a few things which would take up too much space to print. Well he did not know that a farmer works from 12 to 16 hours each day, no half holidays. Help is so scarce that many women are obliged to assist their husbands at work which is not fit for women, and that some are obliged to take their little children with them into the stable to milk.

How much work does it require to produce one dozen eggs? I have a flock of 90 chickens, of which very few are two years old, the rest younger according to my way of thinking, they have very careful attention, a warm house, are fed mash made of ground oats, corn meal, bran, middlings, beef scrap, and green feed. Scratch feed consists of cracked corn, oats, buckwheat and some wheat. The roosts are kept clean, and care is taken that the litter is kept dry and fresh.

Just how many hours I spend in the chicken house, I am unable to say. However, I will show that for my time I do not have from 40c to $1 an hour like probably the man who buys the eggs. By general request of the Editor, I will give figures for month of December, 1919:

Receipts

Dec. 8—1½	doz. eggs @ 74c	$1.11
Dec. 15—4	doz. eggs @ 80c	3.20
Dec. 23—5	doz. eggs @ 76c	3.80
Dec. 29—5	doz. eggs @ 70c	3.50
Dec. 31—6½	doz. eggs @ 70c	4.55
		$16.16

Expense—Feed Only

Dec. 1—Feed	$9.45
Dec. 11—Feed	3.10
Dec. 23—Feed	3.00
Dec. 25—Feed	9.73
	$25.28

I have asked at least one dozen people for their experience. Some of these have 150 chickens and get as high as 4 eggs a day. Many with large flocks 2 and 3 eggs each day, some none. From the information I gathered there is a good substantial reason for eggs selling at from 70c to $1.10 per dozen. Instead of profiteering, farmers should get more for their eggs during these months.—Chas. S. Peiffer, Berks Co., Pa.

EGG ACCOUNT FOR NOVEMBER AND DECEMBER

My income on eggs for November and December was $52.13 and my expenses were $99.39, without labor and grit—quite a nice record for two months. I am getting 90 cents per dozen for eggs at present.

In 1905 when we lived in town, we paid 28 cents a dozen for eggs. I was getting 18 cents an hour for work, which now pays 67 cents an hour, or 3⅔ times the wages paid them. If eggs were now 3⅔ times the price they were then, then would be $1.03 per dozen, and yet they say wages have not increased in proportion to living expenses.

The only way the farmer gets what belongs to him is to keep an expense account. Put it in black and white before the public and then let them judge.

I did not keep an account of the labor, but would say that I spent at least 1 hour per day. At the rate of 67 cents an hour, 61 days would total $40.87. I give below table of receipts and expenses for November and December if everything was counted.—I. P. Y.

Labor	$40.87
Expenses	99.39
Total	$140.26
Income	52.12
Loss	$ 88.14

EGGS COST $1.00 PER DOZEN

That city man who sold November and December eggs for 50 cents per dozen, at a profit, ought to get a medal. I have 80 hens, and they have done what I call well. I got 36 dozen for November and December and I received 85 cents per dozen for them. I figure they cost me $1.00 per dozen.—E. J. B.

THIS FLOCK PAYS

It gives me pleasure to comply with the suggestion contained in foot note to article "What do eggs cost" on page 14-14 your issue January 3rd.

The following statement is taken from my account book:

Average number pullets and hens during 1919	85
Average monthly expense for feed	$33.33
Average eggs per mth. 86 doz.	
Eggs in December 45 dozen	
45 doz. eggs @ 70c (market)	$31.50
27 doz. eggs @ 90c (market)	24.30

My hens started laying January 6, 1919, being then pullets.

During 1919 they produced in eggs, meat and manure	$630.67
The cost during that period was	407.00
Profit (no charge for labor)	$223.67
Average income per hen	$7.41
Average profit per hen	2.63

You will note that in November and December I had a deficit. The most profitable month was when eggs were the lowest in price, 40c.

I have found that a backlot flock the size of mine more than pays for itself. Besides we always have fresh eggs and table fowl available, and also the outdoor work connected with their care has been highly beneficial to both my wife and myself.—John M. Bain, Clearfield Co., Pa.

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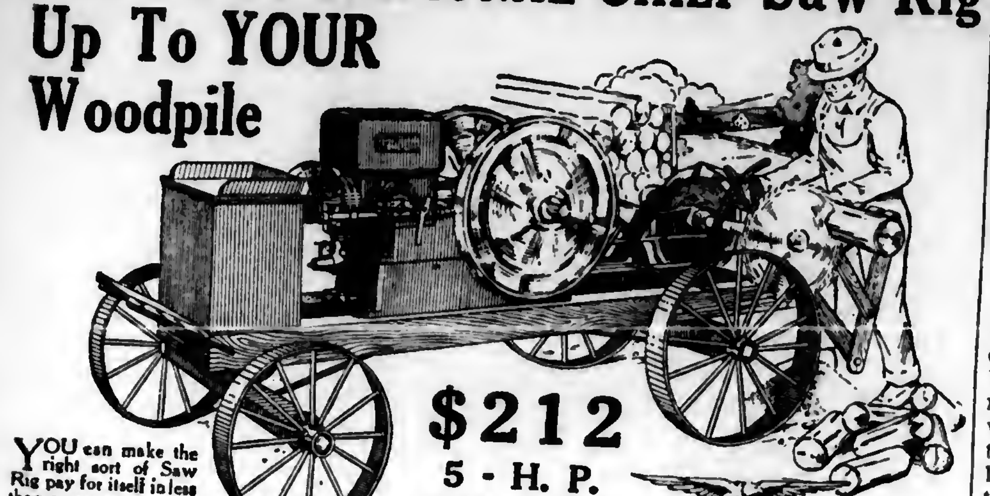

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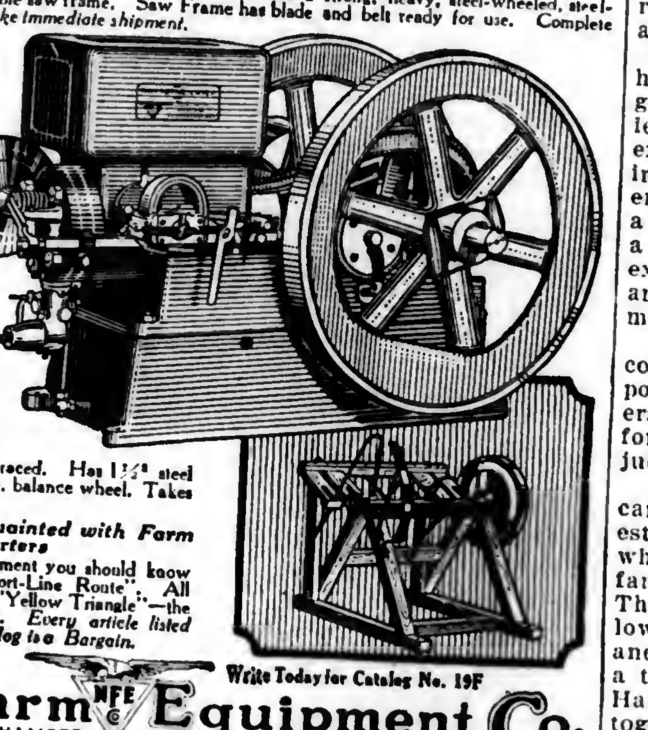

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BEEF-CATTLE JUDGING FOR THE FARMER

A real need in agricultural regions today is more widespread knowledge of how to judge live stock properly. While the judging of the finest animals is likely to remain an art in which relatively few persons can attain the highest standing, nevertheless farmers as a whole should be thoroly familiar with the general principles of judging stock. Knowledge of this sort is a real asset.

The art of judging beef cattle is the foundation of all beef-cattle shows, and also is largely the means of determing the value of cattle offered in public sales. It serves as a basis for every man who buys and raises cattle to seek improvement along well-recognized lines.

If a breeder is not a good judge he can not mate individuals so as to get the best possible offspring. Knowledge may be obtained thru long experience, but a systematic course in judging may accomplish the same end at a cost of fewer mistakes and a much shorter time. If a farmer is a competent judge of feeders, for example, he can go to the market and save the buying charges or commission men.

For the man who feeds cattle for commercial purposes, it is more important to study how to judge feeders than fat cattle. Judging the former requires more skill than judging the latter.

Without standards, stock judging can not be made a success. The smallest cattle owner as well as the man who owns a large herd needs to be familiar with the ideal beef type. This animal, when fat, must have a low-set body which is broad, deep, and smooth, with level lines, having a thick, even covering of firm flesh. Hair, hide and bone of good quality, together with general character and style, also serve as an indication of the inner parts which can not be seen.

In learning to judge beef cattle it is necessary to become familiar with the location and names of the different parts of the animal. The names are similar in all classes of live stock and can be learned easily by referring to annotated illustrations or diagrams. The names of wholesale cuts of the beef carcass correspond quite closely to those of the live animal, the only difference being that the wholesale carcass contains fewer parts.

Three Classes of Cattle

From the butcher's standpoint, cattle may be divided into three classes—fat cattle, feeders, and breeding cattle. The first comprises animals ready for the butcher's block; the second is the "unfinished product" and the third constitutes the class from which the others are produced. In fat cattle, one must judge according to what the cattle are at the time. In feeders, the animals which give promise of putting on the biggest and cheapest gains, and developing into the best beef form when fattened, are the ones desired. In breeding cattle, the true beef form is of prime importance, but there must also be assurances that the beef characteristics will be transmitted to the offspring.

Judging Fat Cattle and Feeders

Fat cattle, so called, include steers, heifers, calves, cows, and bulls. Fat steers and heifers constitute by far the largest percentage. Each must be considered from the butcher's standpoint, the finish and quality of flesh being of prime importance. Cattle bred especially for beef purposes have a tendency to produce marbled meat or to deposit layers of fat thruout the lean meat, while in cattle bred exclusively for dairy purposes, the tendency is to deposit a surplus fat, principally around the internal organs, where it becomes a relatively cheap suet and does not tend to improve the quality of the lean meat. In judging feeders, it must be borne in mind that they are "unfinished" cattle and therefore do not have the width and flesh covering of fat cattle. In general, the same qualifications apply to feeders as to fat cattle, excep that certain points of the score card must be emphasized and other minimized. The desirable feeder is one that will dress out a high percentage of high-priced meats when finished and slaughtered.

Judging Breeding Cattle

Breeding cattle, first of all, must have the true beef form. In that respect they are intermediate between feeders and fat cattle so far as flesh is concerned. Early maturity and easy fattening qualities should be present to a marked degree. Good handling qualities are essential, as excessive fat, showing that the animal has been pampered, is undesirable. Heavy flesh is necessarily of importance, but breeding cattle should be judged more by their value as breeding stock than by the flesh they carry. Superabundance of flesh may hide defects. Too much emphasis can not be given to the fact that animals being judged should have ability to transmit their usefulness and desirable characteristics to their offspring. In fact, prepotency should be so strong and the line of breeding so well defined for the specific purpose, that the animal will have a tendency to produce better individuals than itself. Prepotency is obtained by consistent breeding toward a definite type and therefore is to be expected most frequently among animals true to their breed type.

Suggestions About Judging

In judging a class of cattle or inspecting a single individual, one should first make a general survey of the animals or animal, examining the general features from a distance and noting the general outline and typical beef form.

When first approaching an animal, note the front view and the features of the head and the width and depth of the chest. On moving toward the side, note the depth of the body and the lowness of the flank. The rear view will give the width of the back, spring of the ribs and thickness and development of the hind quarters, particularly the thighs and twist. After a survey of the animal from a short distance, a close inspection of the various parts of the body should be made, beginning at the head.

In the case of beginners, judging work usually should commence with the use of the score card, after the various parts of the animal have been identified and the use of the card has been explained. One should make a complete examination of the individual before the various cuts are noted on the card. The score card is intended primarily for beginners, and is to be used in learning the details of comparative judging. Comparative judging is employed exclusively in placing the awards at public beef-cattle shows. Practice tests may be confined to selecting the best individual in a class of cattle of the same age.

As one becomes more proficient, animals of different ages may be waged, but the sexes should be kept separate. In comparative judging one must examine the various parts and make direct comparison, keeping in mind the parts which are relatively the most important.

The judge-to-be should gradually acquire facility in summarizing the total of the qualifications of each animal. Use of the score card is a step toward efficiency in the difficult task of comparative judging. Only in close competition in comparative judging does the experienced judge need to place side by side the smallest details. However, in many judging contests, this becomes necessary and the judge may finally be required to make his decision upon relatively fine points.

Bats mats may be made from the good portions of worn bed spreads, bound at the edges.

RATIVE WOOL SALES

mined to get the most out of ool, the sheep men of Cayuga joined hands last year and eir Sales Committee sold their ooperatively. With a county niles long it was no easy mat- the men to handle the pron. The success of the sale was the experience gained in selling ool in 1918 and to a strong ttee of farmers in charge.

Wool Growers met early in ary 1919 and organized, the s being elected and action tak- iacorporate the Association the Cooperative Law of N. Y. (Section 13-A of the Member- Corporation Law.)

by-laws provided that every er must sell his wool thru the iation. This provision is "the at binds" and makes coopera- successful. Membership in the iation is 50 cents with annual of $1.

om the sale of wool one-half of percent was deducted. This int was enough to handle the nse of the sale of 32,208 pounds ool and leave some money to be in bringing experts to the coun- help the sheep men with their lems, this to be done thru meet- with experts at the barns of e of the prominent sheep men re flock husbandry can be dis- ed in a practical way.

lany plans of sale were under sideration by the Board of Direc- and out of it all came the de- on to sell f. o. b. cars, Auburn. having enough wool to interest large buyers, neighboring coun- joined in a meeting called in ca by the Tompkins County p Association. Here men were gnated to visit the large mills advertise for bids. The activity e committee resulted in the sale e wool to the highest bidder, Mr. . Avery of Syracuse, who load- e Cayuga wool June 24th and The total amount of wool by the counties was 127,122 s and prices paid farmers, less ll handling charge, was as fol-

od	$.65 per lb.
lood	.61 per lb.
od	.59 per lb.
ne	.65 per lb.
	.51 per lb.
ing and Rejects	.50 per lb.

rhaps the most interesting part e sale of the Cayuga County was that, as the wool was load- was graded before the growers' and for his protection an ex- grader from the State Agricul- College, Mark Smith, checked rading. Men with chaffy wool ved their penalty for neglect of lock and men with good wool re- d their just compensation. The were given a lesson in standard- n and quality—two principles ary to the success of Farmers' rative Associations.

oading time the sheep men had ortunity to study the grades of hat were bringing the most and then could talk with the s of this wool. Many sales or ges of rams was the outcome conversations.

grower was paid for his wool Association as soon as it was . This method proved much than the consignment proposi- tri 1 in 1918.

ture of the Association right with the coming barn gs and the annual roast lamb gether when plans for the year will be formulated.—E.

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No. 2-SX100.	Carload, 625 reels, per reel	$1.90
No. 2-SX101.	100 reels, per reel	1.95
No. 2-SX102.	50 reels, per reel	2.00
No. 2-SX103.	25 reels, per reel	2.05
No. 2-SX104.	Less than 25 reels, per reel	2.10

HARRIS BROS. CO., Dept., RX- 87
35th and Iron Sts. CHICAGO

Clean Cut Business Farmers and Stockmen wanted as general and local agents, in counties and townships where we are not now represented. Write or call at once.

(The Tix Ton Line for Conserving Animal Life.)
PARSONS CHEMICAL WORKS, *Leona Park Experiment Station, Grand Ledge, Michigan.*

Save $200 or $300 on Your Engine

Use Your Auto

Ward Work-a-Ford

will grind your feed, saw your wood, shell your corn, shred your fodder, pump your water, fill your silo and do all the other power jobs up to 12 H. P.

Couples up to automobile in three minutes. No permanent attachment to car. No wear on transmission or tires. Friction Clutch Pulley on end of shaft. Ward Governor, run by fan belt, gives perfect control. May be used with Ford, Overland, Dodge, Reo and Chevrolet 490 cars and Fordson Tractor.

Money back if not satisfied. Write for circular and special price.

WARD MFG. CO., 2060 N. St., Lincoln, Neb.

Bone Spavin

Nomatter how old the case, how lame the horse, or what other treatment failed, try

Fleming's Spavin and Ringbone Paste, $2.08 a Bottle

(War tax paid). One application usually enough. Intended only for established cases of Bone Spavin, Ringbone and Sidebone. Money back if it fails. Write for FLEMING'S VEST-POCKET VETERINARY ADVISER. It is FREE

FLEMING BROS. 253 Union Stock Yards, Chemists, CHICAGO, ILL.

Watch me grow!

from a wee, little squealer into a 375-lb. perfect, profit porker in nine months. That's the experience the owner of **Collins' Jersey Reds** has with every hog he raises. You can enjoy the same thrill. Helpful book free.

ARTHUR J. COLLINS & SON
Box 12 MOORESTOWN, N. J.

COLLINS' JERSEY RED

MUTILATED
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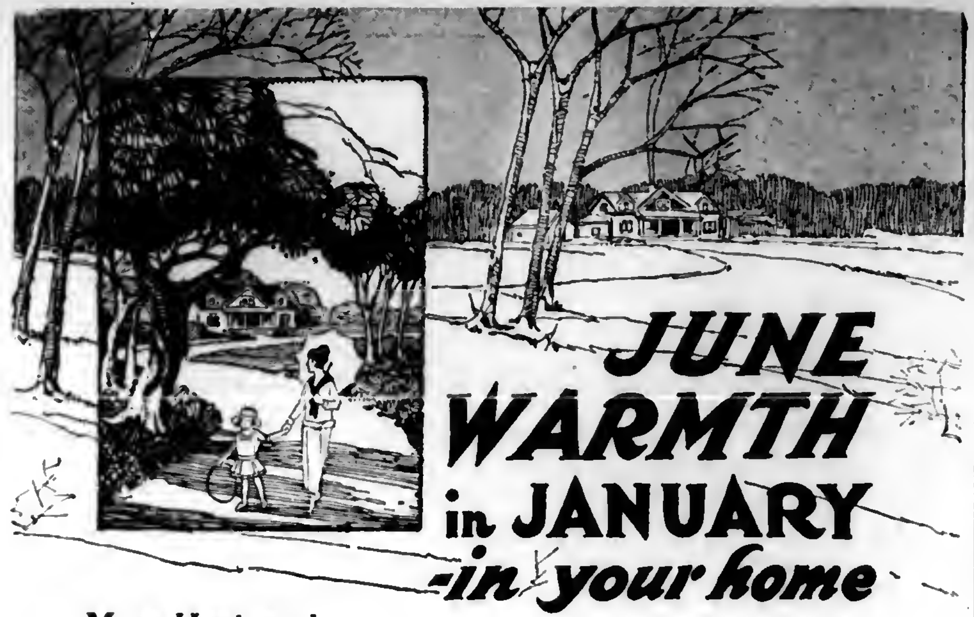

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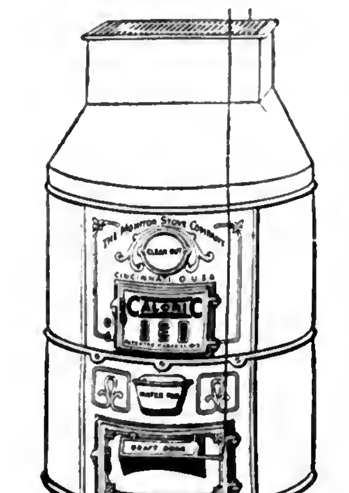
Center Valley, Pa.
While the Caloric is lavish with heat it is very economical with coal, as we are burning less coal in the Caloric than we used in our stove, and our house is warm thruout.
CHARLES P. APPLE

Make your farm home warm and cozy in winter—make it convenient—make it modern—banish the dirt, drudgery and expense of stoves, by installing the

PIPELESS CALORIC FURNACE
The Original Patented Pipeless Furnace



The CaloriC heats homes of 18 rooms or less through one register. Used in over 76,000 buildings, many in farm homes in this State. Saves 1/3 to 1/2 the fuel. *Circulates* pure, balmy, healthful heat into every nook and corner of every room, upstairs and down. Burns any fuel. So simple a child can operate it. Temperature regulated from first floor. Installed in old homes or new, usually in one day. Sold on a money-back guarantee to heat your home to 70° temperature in coldest weather. See the nearest CaloriC dealer or write us TODAY for CaloriC book and names of users in your locality.

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(*The Monitor Family*)
101 Years in Business
128 Woodrow Street CINCINNATI, OHIO

CALORIC
IN OVER 76,000 HOMES

KEEP WARM

in Army Woolens that have met the U. S. Army's Rigid Requirements
These goods, bought direct from the U. S. Government
Can NOW be Obtained
BY MAIL

Army O. D. Wool Shirts, Relaundered, Perfect	$2.50
Army Wool Underwear, Relaundered, Perfect per garment	1.00
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Raincoats, Renovated	5.00
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Sent Parcel Post, prepaid, insured on receipt of money order.
Money refunded if not as represented.
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207 SIXTH AVE. NEW YORK CITY
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Illustrating
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SLIDEWELL COLLARS

are all made with the Patented Tie-protecting Shield that Saves your Tie, Time and Temper. Unsurpassed for Style and Long Wearing Qualities.

Hall, Hartwell & Co., *Makers*, Troy, N.Y.

Fresh Frozen FISH
BY PARCEL POST

We guarantee to deliver to your door in first-class condition by Parcel Post

9 lbs., or over, Round Ocean Whiting for........ $1.25

9 lbs., or over, No. 1 Smelts $2.25

These fish are of the finest quality and satisfaction guaranteed. Whiting in some localities are called Frost Fish and Ocean Trout.

Send personal check or money order. One trial and you will become a steady customer.

Prices on all varieties of frozen and fresh fish for shipment by express in lots of fifty pounds or over mailed on request.

QUAKER CITY FISH CO.
WHOLESALE FISH MERCHANTS
Dock Street Fish Market
Address Parcel Post Dept., Philadelphia, Pa.

5 GREAT NOVELTIES 20 cts. The glorious crimson **Woolflower** recently introduced by us has succeeded everywhere and proved to be the most showy garden annual. Nothing can surpass the mass of bloom which it shows all Summer and Fall.

We now have three new colors—pink, yellow and scarlet, as well as crimson. All these colors mixed. **20 cts. per pkt.**

With each order we send 1 trial pkt. each of **Giant Kochia**, most decorative foliage annual.

Salvia Hybrids, white, pink, striped, scarlet, plumed, etc., mixed.

Japan Iris, new hybrids, all colors. Magnificent.

Giant Centaurea, superb for garden or vases.

And our Big Catalog, all for 20 cts.

Big Catalog, free. All flower and vegetable seeds, bulbs, plants and new berries. We grow the finest Gladioli, Dahlias, Cannas, Irises, Peonies, Perennials, Shrubs, Vines, Ferns, Peas, Asters, Pansies, etc. All special prize strains, and many sterling novelties.

JOHN LEWIS CHILDS, Inc. Floral Park, N.Y.

AN APPLE A DAY

Keeps the Doctor Away

This old adage was not far wrong, for a sufficient amount of the acid and mineral salts afforded by such fruits as the apple go a long way toward keeping the body functioning regularly. And you may be glad to have some of these ways for serving apples:

Quince Apple Sauce

Slice the apples in with some canned quince slices, cover with boiling water, and cook until the apples are tender, sweeten to taste. This makes a pleasing variation from plain apple sauce.

Cider Apple Sauce

Take some of the sweet cider which you pasteurized and canned last fall, and boil it to reduce it somewhat in volume, then put in some quartered sweet apples, having the cider just cover the apples. Simmer until the apples are tender and the cider has become rather thick like syrup. Add a bit of stick cinnamon if liked. Good to serve with roast pork.

Old-Fashion Fried Apple

Cut some apples into eighths without peeling, and put into a deep frying pan with 2 tablespoons pork fat and a little water to start steam. Sprinkle well with sugar, cover tightly and cook rapidly until the apples are soft. Then uncover and cook quickly until the water evaporates, and the apples are rich and slightly browned. Also good to serve with pork.

Good Apple Pies

Apple pies will hold their own as a "steady" with any pie ever made as long as there are men folks to ask for them. Two-crusted or one-crusted, with or without cream, they are prime favorites. To make a good two-crust pie, line the pie plate with plain pastry, slice in peeled and cored apples to fill the plate, sprinkle on them 1/4 cup sugar, or more if the apples are very tart, dot with 1 teaspoon butter, wet the edges of the under crust, lay on the upper crust, and pinch it to the under crust. Bake 45 minutes in a moderate oven. A teaspoon of lemon juice or 1/4 teaspoon of grated nutmeg may be used to vary the flavor if desired.

Apple Tart Pie.—You will need 4 or 5 apples, 3 tablespoons flour, 5 tablespoons sugar, milk, cinnamon and butter. Peel and halve the apples, line a rather deep pan with plain pastry, sprinkle the flour and 4 tablespoons sugar over the crust, lay on enough apples, flat side down, to cover the bottom of the plate, sprinkle 1 tablespoon sugar and a little cinnamon over the apples, fill the dish with milk, dot with bits of butter, and bake until the apples are soft. Then flatten them down a little with a fork, and serve hot.

Apple Float

Ingredients: 1 Pint of steamed apples, 3 eggs, 4 tablespoons sugar. Put the apples thru a colander. Beat the whites of the eggs until stiff, and the sugar, and then beat in the apple. Make a soft custard of the egg yolks, and when it is cold, fill a dish with this custard, and put the apple foam on top as a "float."

Apple Peggies

Ingredients: 1 1/2 Cups flour, a little salt, 1 teaspoon baking powder, butter the size of an egg, lard the size of an egg, and milk to make a dough.

Roll out the dough and cut into five strips, moisten with a little water and cover each strip with finely chopped apples. Roll up each strip and put in a well-greased baking dish, cover with syrup made of 1 cup granulated sugar, a small piec butter and 1 cup of boiling Bake 35 minutes in a moderate

Apple Pudding

Ingredients: 2 Cups flour, 1 milk, 1/2 cup sugar, 1 egg, 2 spoons baking powder, butter size of a walnut.

Beat the yolk and white of egg separately, mix-in the other gredients, adding the beaten last. Pour the batter over some of apple, and bake an hour in a erate oven. Serve with cream sugar.

Apple Muffins

Add 1 cup of chopped apples to favorite muffin recipe, then into the top of each a thick slice apple, sprinkle with a little and bake in a moderate oven. these muffins, when sweetened a tle more and served with a sa make a good dessert.

Apple Whip

Whip 2 cups of thick apple sa (made smooth by putting it thru sieve) with 2 unbeaten egg wh until white and light. Flavor d cately and pile in a glass dish, serve cold with a thin custard sa made of the yolks of the 2 eggs.

Apple Tapioca Pudding

Pare and quarter 6 apples, put a baking dish and cover with 1 cu white corn syrup, adding a tin pinch of salt, some cinnamon an some bits of butter. Then cook fo 15 minutes 1/2 cup of instantaneou tapioca in 1 quart of boiling wate with a little salt for seasoning. Po this over the apples, and bake in moderate oven until the apples a tender. Serve with cream and suga

Apple Sauce Cake

Ingredients: 1 1/2 Cups apple sauce, 1 cup sugar, 1/2 cup shortening, 2 cups flour, 2 teaspoons soda sifted into the flour, 1 cup raisins, and 1/2 teaspoon each of cinnamon and ground cloves. Cream the shortening a the sugar together, add the ap sauce, sift the spices into the fl and add it, then the raisins. P into a well greased pan, and bake a moderate oven.

Apple and Celery Salad

Take equal parts of apples peel cored and diced, and celery clean and cut into small pieces, cutting also the tender white leaves, ad cup of chopped nut meats, and m ten with mayonnaise or boiled dr ing. Serve on a bed of lettuce lea garnished with halves of wal meats and little strips of bright apple peelings.

Another attractive way of serv this "Waldorf" salad is as follo Scoop out the inside of some attr tive looking apples, leaving j enough apple adhering to the skin hold the shape. Then put the app. and celery mixture into these cu and set on the lettuce leaf bed. Y can put the top of the apple back o for a cup if you like.

Apple and Cranberry Jelly

Pick over 1 cup of cranbe slice 3 medium-sized apples, an with 1/2 cup hot water into a sa pan, and stew until the fruit is so then add 1/2 cup sugar and cook un the sugar is dissolved. Strain it i cups rinsed in cold water.—Mr Wm. Stillman, Union Co., N. J.

FROM GRANDDADDY'S MUFFL

For years it had been packed aw in an old chest and treated w moth-defying care. It was too lo ly to be raveled out even to use

verlet squares when the us ravel and rip apart available composed of as made of loose, coarsely l threads that look hand- it would not have been anyway to ravel it; be- ould have seemed to me

beautiful, with its black back- d plaided in purple, green and rse thread of white. This fall that I just could not help doing thing with this pretty old muf- o bring it before the eyes of my ds, who, I knew, would admire much as I do.

I cut off just enough of one end e muffler to make the top of a cap—18 inches was enough for I basted the two sides to- r, then crocheted with coarse wool yarn as near like that in muffler as I could find a turn- border eight inches wide, as n in the photo. Then I cro- d two large wool roses of this yarn, making three tiers of s, and having the whole rose ure about five inches across n finished. I crocheted an edge nd the petals in single crochet,

from Granddaddy's Muffler

that on the inner and outer green, and on the middle pet- ad it purple, to match the shades in the muffler. I found could purchase green yarn of the same shade as that in muffler, but purple to match shade was not obtainable, so ed some out of the sides of the , which were somewhat worn ould need, therefore, a firmer ut on with some of the new yarn. This I did in single t.

finished roses were sewed one h side of the cap where the es were sewed together, these been pleated to form as near shape as possible without cut- e material. The crocheted of the cap was trimmed; as the photo, with long running of the green and purple hen turned back double to e base of the cap and a frame face.

that I single crocheted with k all around the muffler, a loose, smooth stitch to hold erial firmly in place, and to p where I had raveled off a urple yarn to edge the middle of the roses. I also crocheted r across each end of the muf- like that on the cap but only ches wide, and put on some made of the three colors of This crocheted border was immed with long, loose run- itches of the purple and green

thread of old white in the could not be matched any- t the stores, but a friend of anddaddy's muffler age says e thinks that she has some away somewhere among her asures, and will let me have if she finds it, to add this o the cap and the muffler.— ina Wallace, Broome Co., N.

POTATO AND CRACKERS NOT FOR BABIES

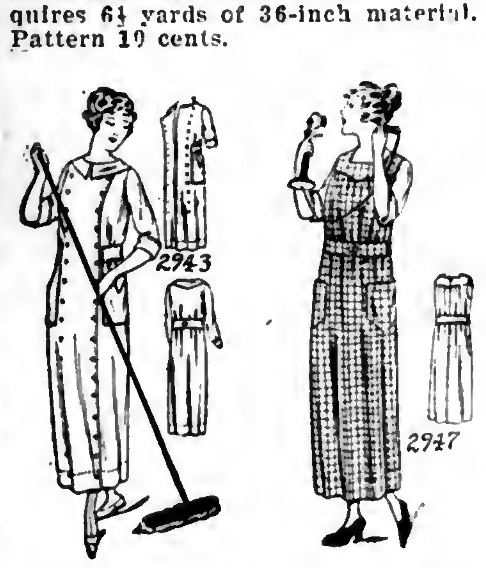
Babies of less than a year of age have not developed enough to digest starches, which are the food substances of which potato and cracker are largely composed. To give a child food which he can not digest is as sensible as feeding him bits of rag or paper. It can do him no good, and there is always the danger that it will harm him.

Do not feed potato to children until they are past 18 months old. Some authorities say not until they are 2 years old.—Edith Allen.

PENNSYLVANIA FARMER PATTERNS

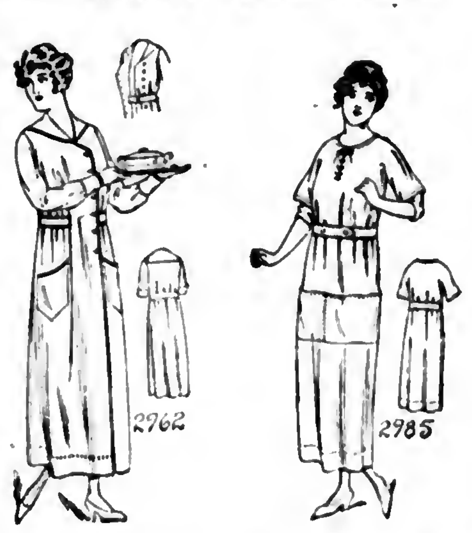
Give figures and letters of each pattern exactly as printed at beginning of each description or we will not be responsible for correct filling of orders. Give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261 S. Third Street, Philadelphia, Pa.

2943.—Reversible Service Dress.—A good feature of this design is the reversible closing. The sleeve may be finished in wrist or elbow length. Width of skirt at lower edge is 2 1/4 yards. The pattern is cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires 6 1/4 yards of 36-inch material. Pattern 10 cents.



2947.—Neat Apron.—It is sleeveless and comfortable. The pattern is cut in 4 sizes: Small, medium, large and extra large. Size medium requires 4 1/2 yards of 36-inch material. Pattern 10 cents.

2962.—Another Reversible Front Work Dress.—This style is made so that the closing may be reversed. The sleeve may be finished in wrist or elbow length. The pattern is cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires 5 3/8 yards of 36-inch material. Width of dress at lower edge is about 2 1/4 yards. Pattern 10 cents.



2985.—Unique Model.—This design has a roomy, "carry-all" pocket. The model is in "slip-on" style, cut with body and sleeves in one. The pattern is cut in 4 sizes: Small, 32-34; medium, 36-38; large, 40-42; extra large, 44-46 inches bust measure. Size medium requires 5 yards of 36-inch material. Patterns 10 cents.

You can use that cold room in comfort now

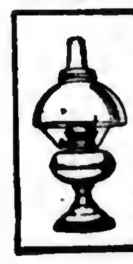
Have you a cold room or two in your house? Rooms that the furnace never seems to heat properly?

A Perfection Oil Heater will bring these rooms back into comfortable use. It will quickly warm an ordinary sized room and starts giving full heat the moment it is lighted.

PERFECTION OIL HEATERS

You will use far less coal with a Perfection in the house. Even on cold winter days its cheerful glow makes a moderate furnace fire sufficient. It is the most efficient, economical and convenient of all auxiliary heating devices.

Easily carried from room to room. Smokeless, odorless and absolutely safe. You *can't* turn the wick too high.



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Rayo Lamps give a bright cheerful light without glare that will not tire your eyes. They make night reading or sewing a pleasure.

See the many attractive models at your dealer's.

ONE gallon of Atlantic Rayolight Oil will burn for ten hours in your Perfection Oil Heater. Best for Rayo Lamps too. Costs no more than ordinary kerosene.

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Direct from Foundry to Farm
ON 30 DAYS' TRIAL
AT WHOLESALE DEALERS' PRICE

BURNS ANY KIND OF FUEL

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Philadelphia Stove and Iron Foundry Co.
5th & Columbia Ave., PHILA., PA.
Established 1863

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PROTECT YOUR LOVED ONES
By
Securing LIFE INSURANCE of the Company which is loaning its MONEY on farms.

Write for rates of our SPECIAL POLICIES TODAY. TOMORROW may be TOO LATE.

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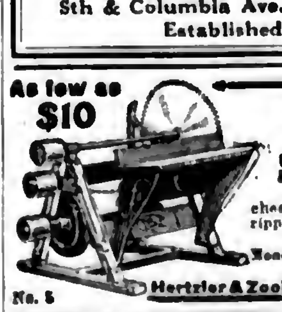
Famous Restaurant Combination
COFFEE
FROM WHOLESALER DIRECT
In 5-lbs. Lots or Over Delivered Free within 3rd zone (300 miles) 4th zone 37c lb.—5th zone 39c lb.—6th zone 41c lb.—7th zone 43c lb.—8th zone 45c. lb.
35 c. lb. Ground Only.
We're accepting orders from families direct for this remarkable blend, used by leading N. Y. restaurants
Satisfaction Guaranteed or Money Back
Gillies Coffee Co., 233-239 Washington St., N. Y
Established 79 Years

As low as $10



$10,000.00
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Our No. 1 is the best and cheapest saw made to which a ripping table may be attached. Guaranteed 1 year Money refunded if not satisfactory
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LIGHT YOUR HOME LIKE DAY—COST 1c
for 5 hours. Pure white 60 candle power light from common Kerosene.
SOLAR MANTLE LAMP
approved by government experts. Beats gas, gasoline or electricity. Entirely new. Every home interested. AGENTS MAKE MONEY. Weeks free trial. Write quick selling plan, territory and trial offer.
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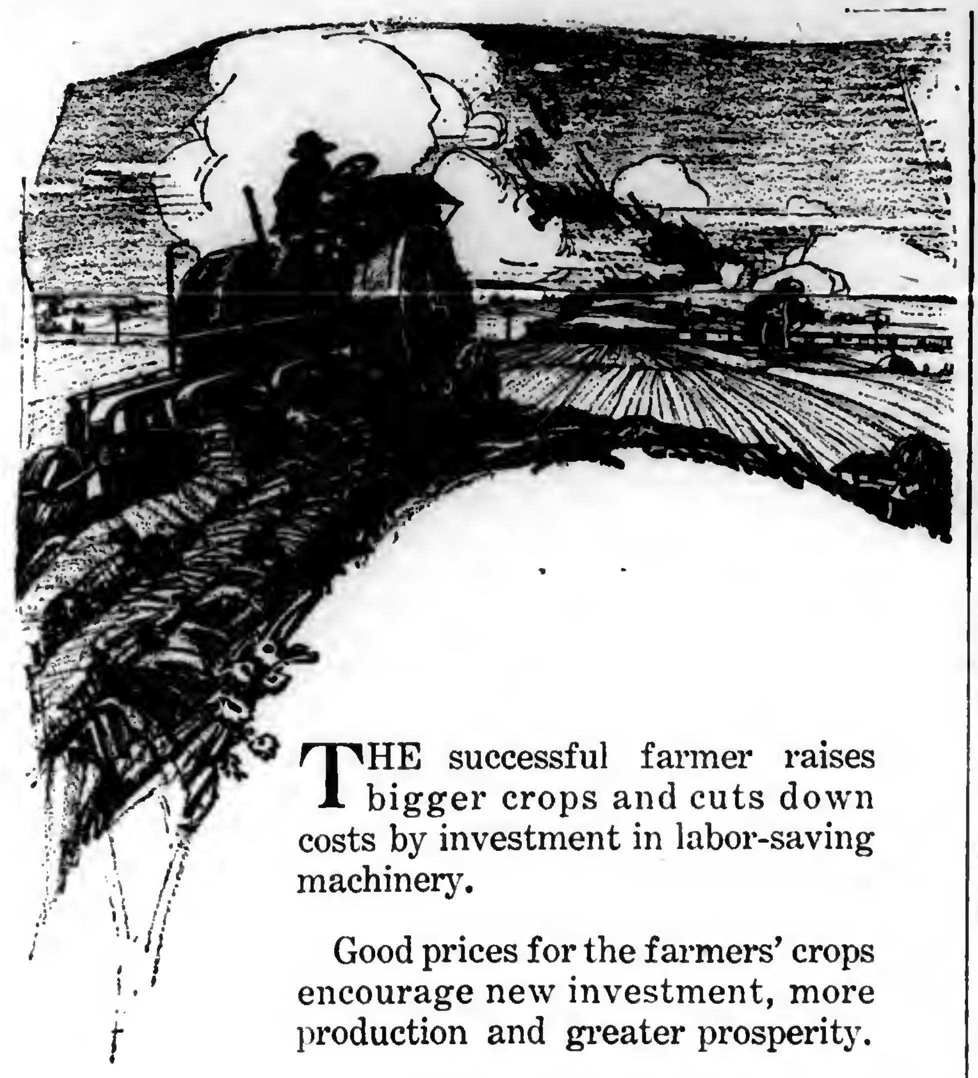
PIPE second hand. Large stock all sizes furnished with new threads & couplings. Prompt shipment. J. F. Griffith. 416 Moyer St. Phila



THE successful farmer raises bigger crops and cuts down costs by investment in labor-saving machinery.

Good prices for the farmers' crops encourage new investment, more production and greater prosperity.

But the success of agriculture depends on the growth of railroads—the modern beasts of burden that haul the crops to the world's markets.

The railroads—like the farms—increase their output and cut down unit costs by the constant investment of new capital.

With fair prices for the work they do, the railroads are able to attract new capital for expanding their facilities.

Rates high enough to yield a fair return will insure railroad growth, and prevent costly traffic congestion which invariably results in poorer service at higher cost.

National wealth can increase only as our railroads grow.

Poor railroad service is dear at any price. No growing country can long pay the price of inadequate transportation facilities.

"Out of accumulated capital have arisen all the successes of industry and applied science, all the comforts and ameliorations of the common lot. Upon it the world must depend for the process of reconstruction in which all have to share.

—JAMES J. HILL.

This advertisement is published by the Association of Railway Executives

Those desiring information concerning the railroad situation may obtain literature by writing to The Association of Railway Executives 61 Broadway, New York

HARRIS SEEDS

SEEDS GROWN IN THE NORTH

Seeds that are grown in the north produce **earlier** crops and **better yields** than if grown further south. This has been proven over and over again. Get seeds you **know** are northern grown. Harris' seeds are raised near the Canadian border and are therefore by far the best for the northern states. They are sold direct **from the grower to you** at **wholesale prices.**

Every lot of seed is tested and the percent that germinates is **marked on the package.** You do not have to guess how thick to sow, and can always get uniform results.

We raise Vegetable seeds, Farm seed and very choice Flower seeds and plants. Catalogue free. If you raise vegetables for market, please ask for Market Gardeners' price list.

JOSEPH HARRIS CO., Box 24, Coldwater, N. Y.

ADVANCED REGISTRY TESTING IN PENNSYLVANIA

(Continued from Page 9.)

to supply Supervisors as promptly as possible, provided the proper notification has been given. Schedules for the Supervisors must be arranged in advance in order to save as much time and traveling expense as possible, and breeders must not expect requests for Supervisors to be filled immediately after receipt of notification. Whenever more requests are received than can be filled, they will be placed on file in order of receipt and Supervisors sent in turn as promptly as possible.

(6) Breeders wishing to start 300 or 365-day semi-official Advanced Registry tests should give us the second or final notice as soon as the first cow to be placed on test has calved, so that within thirty days we may send a Supervisor to the farm for the first regular monthly inspection. It is very important that all breeders observe the above rules as to advanced notification to this office and to their breed association.

Expense For Tests

(7) Uniform charges for the different forms of tests are made by the Dairy Husbandry Department to all breeders in order to meet the traveling expenses and salaries of the Supervisors and the overhead charges in connection with the administration and checking of the work, postage, telegrams, expressage, printing, etc. Until further notice the following rates will prevail:

Long Time or Year's Tests

1½ day test (one-day test with preliminary milking) $10.25

2 day test (without preliminary milking) $11.50

2½ day test (two-day test with preliminary milking) $13.25

Each additional day $3.90

Short Time or "Seven-Day" Test

7 day test (with preliminary milking) $37.25

30 day test (with preliminary milking) $126.00

Each additional day beyond 7 or 30 is charged at $4.00

Differences in the rules of the various breed associations as to length of the regular monthly test and the preliminary milking, in the year's tests, make necessary the different rates in that division.

(8) The above represents the only charge made by the college to the breeder and the total amount charged is governed by the number of days testing, regardless of how many cows are being tested:

The maximum number of cows which one Supervisor can handle at one time if he is provided with good facilities for testing at the farm is:

7 cows milked four times per day.

Or 10 cows milked three times per day.

Or 15 cows milked two times per day.

or any combination of these totaling thirty milkings per day. When a small hand tester or poor facilities are provided, the Supervisor must reduce the number of cows handled in order to perform his work with the proper thoroughness and accuracy.

(9) The breeder shall provide a Babcock testing machine, sulphuric acid, and glass jars for holding samples for each cow on test. The Dairy Department furnishes all other apparatus needed.

(10) The breeder is to convey the Supervisor to and from the ne est railroad or trolley stati promptly, at the beginning and cl of the test. If the Supervisor h hire a conveyance for this this expense is added to the charge for the test.

(11) The breeder shall the Supervisor with board a petent men in this work, it i sary that they be provided w sirable accommodations.

(12) The breeder shall p Notary Public fees necessary nection with his tests and tage or express charge fsr composite samples to State C

(13) Under no circumstan permissible for any payment o uity to be made to the Super the owner of the cow, or by interested in her.

Work of the Supervisor

(14) The Supervisor is i ed to carry out all regulations breed association in so far a apply to his part in the cond any test. Since the Agric College in each State is res for the accuracy and reliabili the Advanced Registry records under its supervision, the Dairy bandry Department has form additional rules governing the conduct of the tests by its Su ors, and these must also be fo in every test.

All breeders realize that the value of Advanced Registry r is based upon public confid the reliability and accuracy o supervision. It is our purpose t this work done by competent trustworthy men and to have ords and tests absolutely above tion. We must have the hea operation of all breeders and visors in the proper dischar their duties and make it conv for them to carry on their work perly and accurately.

Our Supervisors must strictly low every rule laid down for t work, and breeders or their emp ees must not ask or expect them deviate in the slightest from th rules.

(15) In order that only com tent men be retained as Supervi and that our force be kept at a h state of efficiency, we request t every breeder make a careful re of the character of work done each Supervisor on the postal provided by the Supervisor for purpose. Breeders should u stand that the value of these will suffer as a result of carel pervision or failure to observe rule in detail, and that these r are the best source of informat have as to the work of Super

(16) It is not permissi any man employed as tester fo Co-operative Cow Testing Assoc tion to supervise Advanced Regi tests for members of the Associat which employs him.

(17) It is the duty of the Supe visor to notify this Department once of any irregular occurrences the farm. We hold the owner sponsible for any acts of his empl ees or agents, and whenever any v lation or attempted violation of t rules has been shown or whenev there has been interference with t liberty of action of the Supervisor the proper performance of his ties, it will be deemed suffici cause for withdrawal of the privile of supervision of the tests of cows the breeder concerned.

(18) All communications in r gard to this work should be addre ed to the Dairy Husbandry Depa ment, State College, Pa.

ss Feed Mill

Double crusher roll, machine-cut plates. Grinds better quality feed with less power, grinds green ear mall grains and alfalfa. Also ed with cast plates. Sizes 1½ H. P. Write for prices and

less Fodder Shredder

u have 3 engine you n this 14- machine sfully. Will r itself in ear's use. Will not pulverize and tops. Sold on thirty days al. Write for price and catalog.

. DELLINGER, Lancaster, Pa.

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Easily passes all tests.

1st. HIGHEST in PURITY, free from weeds.

2nd. HARDIEST, produced in short, cold seasons of the North.

3rd. STRONGEST in GERMINATION — the very best seed to sow.

Means more hay

Write for free copy

Hoffman's Seed Book

gives you the facts on Seed you will buy this Spring. Offers choicest strains of clovers, Alfalfa, Corn, Oats, Maine Potatoes, Field Peas and Beans.

Seed samples free

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APPLE MARKET SEASON

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The apple market started at a high level. Since the opening the price changes have been less extreme than for most other leading lines of produce. Development of several unfavorable conditions tended to prevent any further extended rise and at times led to temporary market weakness.

Gains in Commercial Crop

The crop was larger than expected. According to the December estimate, the commercial production exceeded that of last year by 1,431,000 barrels. The northwestern apple section produced 35,463,000 boxes and the barrel section 14,353,000 barrels. The total commercial crop of all sections was equivalent to 26,174,000 barrels, which is about 3,000,000 barrels more than the September estimate.

Early prospects of a rather light crop were gradually changed to a certainty of one of the largest commercial crops in recent years, showing 3,707,000 barrels over 1917 and 1,115,000 barrels more than the commercial crop of 1916. The box apple section has gained on the barrel section, the box section now furnishing nearly one-half the crop. The average box crop of the preceding three years was about two-sevenths of the combined crop. Carlot movement from the two sections also has been nearly equal this year, with 31,734 cars from eight leading box apple States and 32,116 cars from the barrel apple sections.

Quality Variable

The greater part of the fruit was of good size. Eastern apples were large but discolored by the sooty blotch which detracted at least $1 per barrel when present. In those parts of the Middle West and South where drought prevailed the apples were small. In the Rocky Mountain section the apples were considerably damaged by insects and disease, and graded low, causing much of the stock to be shipped in bulk. Northwestern apples, however, graded unusually high, but later suffered some damage from freezing.

Shipments Heavier

According to the car-lot figures all the box apple States, except Utah, greatly exceeded last year's shipments and the total movement of box apples to the end of the year was about 50 percent above last season to corresponding date. This gain of 9,672 cars of boxed fruit was partly offset by a decrease of 2,670 cars from the barreled sections, leaving a net gain of 7,000 cars.

In the barrel section, the feature was a falling off in shipments from New York, the leading State, to little more than one-third the movement of last year. The unusually large size of the apples in some of the barrel sections caused an unexpectedly large outturn from many States of the Northeast and Southwest. Thus, Maine has shipped about 2,000 cars, compared with 250 for the whole of last season, and Arkansas shipped about four times as many at last season.

Other Unfavorable Conditions

Besides the poorer returns from the export markets, the situation was affected by the sugar shortage, the freezing of a part of the northwestern crop, and the poor color and keeping quality of some of the eastern crop.

For these reasons, and because of a fairly large crop, the apple market has shown no great strength compared with that of the leading lines of vegetables. Prices have experienced no sharp rise like that which occurred last season after the stock went into storage. Considering shrinkage and cost of storage, the present level is relatively not much above the early prices, altho actual range so far has been higher.

Prices Higher This Year

Compared with a year ago the general range to date has been $2 to $3 higher per barrel stock, but prices of box apples have averaged about the same as last season so far.

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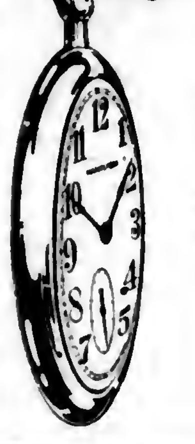

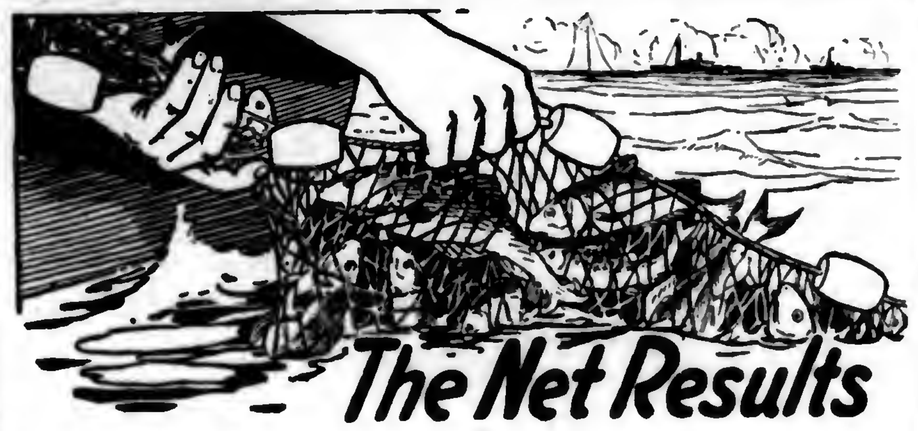

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KEZIAH COFFIN

By JOSEPH C. LINCOLN

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(Continued From Last Week.)

"I guess not, Mrs. Rogers. It's a beautiful afternoon, isn't it?"

"There! I knew you wa'n't well. A beautiful afternoon, and it hotter'n furyation and gettin' ready to rain at that! Don't tell me! 'Tain't your mind, Mr. Ellery, it's your blood that's gettin' thin. My husband had a spell just like it a year or two afore he died, and the doctor said he needed rest and a change. Said he'd ought to go away somewheres by himself. I put my foot down on that in a hurry. 'The idea!' I says. 'You, a sick man, goin' off all alone by yourself to die of lonesomeness. If you go, I go with you.' So him and me went up to Boston and it rained the whole week we was there, and we set in a little box of a hotel room with a window that looked out at a brick wall, and set and set and set, and that's all. I kept talkin' to him to cheer him up, but he never cheered. I'd talk to him for an hour steady and when I'd stop and ask a question he'd only groan and say yes, when he meant no. Finally, I got disgusted, after I'd asked him somethin' four or five times and he'd never answered, and I told him I believed he was gettin' deef. 'Lordy!' he says, 'I wish I was!' Well, that was enough for me. Says I, 'if your mind's goin' to give out we'd better be home.' So home we come. And that's all the good change and rest done him. Hey? What did you say, Mr. Ellery?"

"Er—oh, nothing, nothing, Mrs. Rogers."

"Yes. So home we come, and I'd had enough of doctors to last. I figgered out that his blood was thinnin' and I knew what was good for that. My great Aunt Hepsy, that lived over to East Wellmouth, she was a great hand for herbs and such and she's give me a receipt for the thickenin' the blood that was somethin' wonderful. It had more kind of healin' herbs in it than you could shake a stick at. I cooked a kittleful and got him to take a dose four times a day. He made more fuss than a young one about takin' it. Said it tasted like the Evil One, and such profane talk, and that it stuck to his mouth so's he couldn't relish his vittles; but I never let up a mite. He had to take it and it done him a world of good. Now I've got that receipt yet, Mr. Ellery, and I'll make some of that medicine for you. I'll fetch it down tomorrow. Yes, yes, I will. I'm agoin' to, so you needn't say no. And perhaps I'll have heard somethin' about Cap'n Nat and Grace by that time."

She brought the medicine, and the minister promptly, on her departure, handed it over to Keziah, who disposed of it just as promptly.

"What did I do with it?" repeated the housekeeper. "Well, I'll tell you. I was kind of curious to see what 'twas like, so I took a teaspoonful. I did intend to pour the rest of it out in the henyard, but after that taste I had too much regard for the hens. So I carried it way down to the pond and threw it in, jug and all. B-r-r-! Of all the messes that— I used to wonder what made Josh Rogers go moonin' round makin' his lips go as if he was crazy. I thought he was talkin' to himself, but now I know better, he was tastin'. B-r-r-r!"

Keziah was the life of the gloomy parsonage. Without her the minister would have broken down. Time and time again he was tempted to give up, in spite of his promise, and leave Trumet, but her pluck and courage made him ashamed of himself and he stayed to fight it out. She watched him and tended him and "babied" him as if he was a spoiled child, pretending to laugh at herself for doing it and at him for permitting it. She cooked the dishes he liked best, she mended his clothes, she acted as a buffer between him and callers who came at inopportune times. She was cheerful always when he was about, and no one would have surmissed that she had a sorrow in the world. But Ellery knew and she knew he knew, so the affection and mutual esteem between the two deepened. He called her "Aunt Keziah" at her request and she continued to call him "John." This was in private, of course; in public he was "Mr. Ellery" and she "Mrs. Coffin."

In his walks about town he saw nothing of Grace. She and Mrs. Poundberry and Captain Nat were still at the old home and no one save themselves knew what their plans might be. Yet, oddly enough, Ellery was the first outsider to learn these plans and that from Nat himself.

He met the captain at the corner of the "Turn-off" one day late in August. He tried to make his bow seem cordial, but was painfully aware that it was not. Nat, however, seemed not to notice, but crossed the road and held out his hand.

"How are you, Mr. Ellery?" he said. "I haven't run across you for sometime. What's the matter? Seems to me you look rather under the weather."

Ellery answered that he was all right and, remembering that he had not met the captain since old Hammond's death, briefly expressed his sympathy. His words were perfunctory and his manner cold. His reason told him that this man was not to blame—was rather to be pitied, if Keziah's tale was true. Yet it is hard to pity the one who is to marry the girl you love. Reason has little to do with such matters.

"Well, Mr. Ellery," said Captain Nat, "I won't keep you. I see you're in a hurry. Just thought I'd run alongside a minute and say good-by. Don't know's I'll see you again afore I sail.'

"Before you sail? You—you are going away?"

"Yup. My owners have been after me for a good while, but I wouldn't leave home on account of dad's health. Now he's gone, I've got to be gettin' back on salt water again. My ship's been drydocked and overhauled and she's in New York now loadin' for Manila. It's a long voyage, even if I come back direct, which ain't likely So I may not see the old town again for a couple of years. Take care of yourself won't you? Good men, especially ministers, are scurse, and from what I hear you I cal'late Trumet needs y

"When are you going?"

"Last of next week, most li

"Will you—shall you go Are you to be—to be——"

"Married? No. Grace an talked it over and we've ag best to wait till I come bac see, dad's been dead such a while, and all, that—well, goin' to wait, anyhow. Sh in the old house with Hann I've fixed things so she'll be ed for while I'm gone. I left it much to her. If she'd thought for us to marry now, I cal should have—have—well, do she wanted. But she didn't hum!" he added with a sigh; a good girl, a mighty good gir so long and good luck."

"Good-by, captain."

"Good-by. Er—I say, Mr. how's things at the parsonag well there, are you?"

"Yes."

"Er— Keziah— Mrs. Coffin, housekeeper, is she smart?"

"Yes. She's well."

"That's good. Say, you mig her good-by for me, if you w Tell her I wished her all th there was. And—and—just s there ain't any—well, that her —say just that, will you friend said 'twas all right. understand; it's a—a sort of j tween us."

"Very good, captain; I'll tell

"Much obliged. And just as to keep an eye on Grace whi gone. Tell her I leave Gracie her wing. Keziah and me a chums, in a way, you see."

"Yes. I'll tell her that, too."

"And don't forget the 'f part. Well, so long."

They shook hands and part

Didama and her fellow new ders distributed the tale of C Nat's sailing broadcast durin next few days. There was wonderment at the delayed mar but the general verdict was Captain Eben's recent death an proper respect due to it furn sufficient excuse. Hannah Poun ry, delighted at being so close t center of interest, talked and t and thus Grace was spared the views which would have be trouble to her. Nat left town, packet, on the following Wedn The village talked of her and commander for a few days and forgot them both. Only at th home by the landing and at th sonage were they remembered.

CHAPTER XV

In Which Trumet Talks of C Nat

Summer was over, autumn passed, and it was winter—Joh lery's first winter in Trumet. weirs were taken up, the bay with ice, the packet ceased to and the village settled down to hernate until spring. The stage c thru on its regular trips, exc when snow or slush rendered roads impassable, but passen were very few. Occasionally were northeast gales, with shriek winds, driving gusts of sleet and and a surf along the ocean side bellowed and roared and tore sandy beach into new shapes, w ing away shoals and buildings oth blocking the mouth of the little let where the fish boats anch and opening a new channel a h dred yards farther down. Tw

e wrecks, one of a fishing the crew of which were enough to escape by tak e dories, and another, a ark, which struck on the ar and was beaten to pieces eat waves, while the town tood helplessly watching shore, for launching a boat urf was impossible. inister was one of those who

News of the disaster had ught to the village by the er's assistant, and Ellery of the able-bodied men in tramped the three miles to h, facing the screaming the cutting blasts of flying s they came over the dumes re times when they had to heels into the ground and ward to stand against the gale. And, as they drew the thunder of the mighty w ever louder, until they white clouds of spray leap ve the crazily tossing, flap aches of beach grass that he last knoll.

masts and a broken bowsprit slantwise up from a whirl y white, that was all they e of the bark, at first glance. asionally, as the breakers ck for another cruel blow, ght glimpses of the tilted ashed bare of houses and

black things on the masts?" llery, bending to scream the into the ear of Gaius Win s companion. "Are they—it possible that they're——"

" shrieked Gaius in reply, men. Crew lashed in the Poor fellers! it'll soon be 'em. And they're most like a stiff a'ready and won't rownin', that's a comfort."

!" repeated the minister in "Men! Great God! and are and by here and see them die lifting a hand? Why, it's us It's——"

ow seized his arm and point

!" he shouted. "Look at How much good would our ands do against them?"

looked. The undertow, ond, was sucking the beach cking with such force that and small stones pattered e slope in showers. And be a wave, its ragged top ravel he wind into white stream piling up, up, up, sheer and d mighty, curling over now ending with a hammer blow ook the land beneath their nd back of it reared another, ther, and another, an eighth of whirling, surging, terri s. with a yelling hurri ing them on.

oon over, as Gaius had d be. A mighty leap of tion of hull broken off nto view for an instant, the masts went down. ollowed almost at once. atchers, most of them, o the village, saying little nd dispersing silently to

e next fortnight John cted six funeral services, s beside the graves of en from that wreck. The hey were washed ashore, to plain coffins paid for d of selectmen, and bur corner of the Regular side other waifs thrown a in other years. It was ence for him, but it was ce and tended to make his own sorrow just a little. Or, if not to forget, at least to think of and sympathize more keenly with the sorrows of others. As Captain Zeb put it, "Most sailors are fools enough to get married, prob'ly this lot wa'n't any exception." It was no new thought to him or to any other dweller in that region. It was almost a fixed certainty that, if you went to sea long enough, you were bound to be wrecked sometime or other. The chances were that, with ordinary luck and good management, you would escape with your life. Luck, good or bad, was the risk of the trade; good management was expected, as a matter of course.

Mr. Pepper made no more calls at the parsonage, and when the minister met him, at church or elsewhere, seemed anxious to avoid an interview.

"Well, Abishai," asked Ellery, on one of these occasions, "how are you getting on at home? Has your sister locked you up again?"

"No, sir, she ain't," replied Kyan. "Laviny, she's sort of diff'rent lately. She ain't nigh so—so down on a feller as she used to be. I can get out once in a while by myself nowadas, when she wants to write a letter or somethin'."

"Oh, she's writing letters, is she?"

"Um—hm. Writes one about every once in a week. I don't know who they're to, nuther, but I have my suspicions. You see, we've got a cousin out West—out Pennsylvany way—and he ain't very well and has got a turrible lot of money. I'm sort of surmisin' that Laviny' writin' to him. We're about his only relations that's left alive and—and so——"

"I see." The minister smiled.

"Yup. Laviny's a pretty good navigator, fur's keepin' an eye to wind'ard is concerned. She was awful down on Phineas—that's his name—'cause he married a Philadelphy woman, but he's a widower man now, so I s'pose she feels better toward him. She's talkin' of goin' up to Sandwich pretty soon."

"She is? Alone?"

"So she says."

"To leave you here? Why! well, I'm surprised."

"Godfreys mighty! so be I. But she says she b'lieves she needs a change and there's church conference up there, you know, and she figgers that she ain't been to conference she don't know when. I s'pose you'll go, won't you, Mr. Ellery?"

"Probably."

"Um—hm. I kind of wisht I was goin' myself. 'Twill be kind of lonesome round home without her."

Considering that that variety of lonesomeness had been Abishai's dream of paradise for years, Ellery thought his change of heart a good joke and told Keziah of it when he returned to the parsonage. The housekeeper was greatly surprised.

"Well! well! well!" she exclaimed. "Miracles'll never cease. I don't wonder so much at Laviny wantin' to go to conference, but her darin' to go and leave Kyan at home is past belief. Why, every time she'd had a cold her one fear was that she'd die and leave 'Bish behind to be kidnaped by some woman. Kyan himself was sick once, and the story was that his sister set side of the bed night and day and read him over and over again that chapter in the Bible that says there's no marryin' or givin' in marriage in heaven. Dr. Parker told me that he didn't believe 'Bish got ha'f the comfort out of that passage that she did. And now she's goin' to Sandwich and leave him. I can't think it's true."

(Continued Next Week.)

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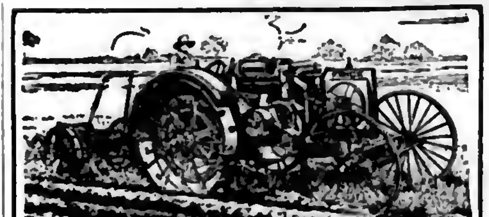

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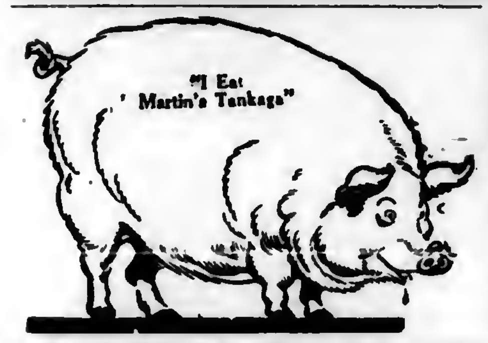

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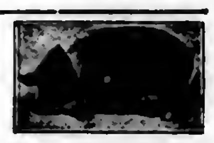

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EARLY PENNSYLVANIA HISTORY AND "UNEARNED INCREMENT"

I note the lotter from Oliver McKnight in the issue of Pennsylvania Farmer of December 20, 1919.

I do not wish to get into any newspaper controversy, nor do I want to make any argument pro or con on the subject of "Unearned Increment." It is a subject full of controversy and probably never will be satisfactorily settled, at least to those who have not. "A difference of opinion is only a difference in knowledge." I want to tell a story, one which applies to much of the ownership of land in this dear land of ours. The story is as follows:

Along about 1762, believing that by virtue of the grant to Connecticut by the then King of England, they were the rightful settlers on certain lands now within the state of Pennsylvania, a body of immigrants from Connecticut walked or otherwise journeyed to the Wyoming Valley and, forming an association, laid out for each an allotment of land consisting of a town lot and certain farming lands for each settler. The same King of England had, prior to the grant to Connecticut, made a grant to William Penn, of part of the same territory.

Soon after the coming of the Connecticut settlers, the claimants under William Penn proceded to try to evict the Connecticut people and the first Pennamite war was waged. The Connecticut settlers had started the task of clearing the land and cultivating it, but this war drove them to build small improvised forts for self-protection. The Pennamites being driven off, the settlers again attempted home-making.

Soon a second attempt by the Pennamites was inaugurated and again the farming of the settlers was interrupted. Again Penn's representatives were compelled to retreat and again the farmers began work. Come we now to the Revolution. Most of the able-bodied men went into the Continental army, leaving old feeble men or young children to keep up the work of digging farms from the wilderness.

The year 1778 found these at work until, late in June, the Indians began to show restlessness and on July 3, 1778, joining forces, British, Indians and Tories began the destruction of the results of the labor of some ten or twelve years and wiped out the settlement by the massacre.

Thus far 'tis history, and now for the personal part. Among the survivors was a woman with a family of small children, the eldest but about twelve years old. On the morning of July 4th, this woman saw an Indian wearing the uniform of her husband enter the fort which had been surrendered. The woman with her children walked thru the "Shades of Death" across the state of Pennsylvania and eventually reached Connecticut. After the Revolution that boy who in 1778 was twelve years old came back to Wyoming to claim his father's allotment and was given it. In 1802 by the treaty of Trenton, his title to the land was confirmed by Pennsylvania.

In 1837 this man died, leaving two sons to inherit the land for which their grandfather had died. In 1892 the last of the sons died, leaving the same land to his sons, and I, one of them, still live on and possess some of the original land, land which no white man save our family ever owned. It is still a farm, altho surrounded by an increasing town, almost a city.

Of course it is far more valuable than when the Indians sold their rights to it to the representatives of the Connecticut settlers in their meeting at Albany, New York.

What has made it so? The answer should be plain to those whose minds are not biased by the thought of "the one, who having but one talent hid it." This is the chronology; blood, death, pain suffering, work, taxes, deprivation, care, anxiety, thrift and economy. These make up the "unearned increment" on this real estate, tho it is surrounded by paved streets and granolithic side walks. I have paid good hard cash for all; I have planted the trees, erected the dwellings and greenhouses, have many and many a time put in twenty hours of unceasing work, care and watchfulness, without rest. Capitalize this and allow a nominal interest upon the same for the past hundred and fifty years and where does the unearned part begin to run?—Benjamin Dorrance.

NATIONAL GRANGE MASTER URGES FARMERS TO ACT IN PARTY AFFAIRS

Sherman J. Lowell, present master of New York State Grange and newly elected master of the National Grange, gives farmers some very valuable advice in a recently published statement, which is an innovation in a way, and gives promise of the vital part the new master is to play in the agricultural affairs of this country.

It has been the policy thru the war for State Master Lowell and his able assistant, Secretary W. N. Giles to keep the farmers of their state informed as to the policies recommended by this leading organization, by a series of statements given to the public. These statements are eagerly read by farmers, as a quick direct means of co-operative thought and effort. This policy from the National Master will be most popular and profitable.

In urging farmers to see that only strong men are selected for office, National Master Lowell says:

"It is not too early for the farmers of the United States to begin to take not merely an active interest in the nomination for President which will be made in June probably by both parties, but to take such action as will make them a factor in these nominations.

The average American farmer is very proud of his citizenship, but very slow in undertaking the duties which make that citizenship worth while, either to himself or to his country. It is true that a very large number of our citizens turn out on election day to vote for the candidate of their party; but they do not seem to realize that it is far more important that they should take a deep and active interest in the selection of the candidate.

On election day the citizen is limited to voting for one of two men, and it may well be that he feels that either one of them or both of them fail to represent the ideas which the citizen has for the betterment of his country.

We have well established machinery for the nomination of candidates for the presidency. There are primaries to elect delegates, or delegates are secured at a convention to which the members have been elected by popular vote of the members of the party represented.

The delegates who go to the National convention will go either instructed for a particular candidate in public fashion, or committed to a favorite, or with a hint from some high political power as to who the ultimate candidate should be, and in a few instances, not instructed, either publicly or secretly, and with the firm determination to vote for their own consciences and preferences.

The farmers of the country have a big and vital interest in the results of the nominating conventions, as well as in the result of the election. They are more deeply concerned with the selection of the candidates than they are really with the election, because, if two candidates of equally strong Americanism, equally vigorous, forceful and effective, are selected the farmers may well feel sure that in the final result the country will be taken care of by a strong man. But if the candidates do not measure up either in Americanism or administrative ability the eventual result will be of dubious value to the farmer.

Therefore it seems to me at this time that the farmers of the country should take a direct and vital interest in all the preliminary work looking towards the nominating conventions. They should study the candidates who are publicly mentioned they should investigate their records, and they should not hesitate to voice strongly their opposition to any particular candidate or to show their preference.

There is no necessity for organizing in favor of any particular candidate. In such a matter the farmer should voice his individual opinion and out of these individual opinions will grow a definite current showing the strength or the weakness of any particular aspirant for the nomination."—F.

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Registered Holstein Friesian Cattle Sons of the great Finderne Sir Valdessa, a 37 lb. bull, for sale.
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Miscellaneous

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FRANCIS SCHEIB, GRATZ, PA

[illegible] their feed. [illegible] petrolatum, once daily.

Loss of Appetite.—Have young sow that seems to have lost her appetite for food. She is fond of cold water. J. M. H., Towanda, Pa.—Give her 15 grains powdered gentian and ten grains powdered red cinchona at dose 3 times a day.

Care of Young Pigs.—We have young sow due to farrow February 1st and as I have had trouble with young pigs, after they reach 4 weeks old, would like to know the cause? They eat until they get pot-bellied but don't thrive. H. H. L., Millersville, Pa.—Pigs four weeks old should be fed some milk and ground grain, furthermore feeding utensils should be kept clean. It is unnecessary to feed them drugs. Keeping young pigs in a clean, dry and warm pen will greatly help to keep them healthy. A pig pen should be cleaned out as often as twice a week, their feed trough cleaned daily.

Sow Fails To Come in Heat.—Have a sow one-year-old which fails to come in heat. She is of good breed and am anxious to make brood sow of her. W. S. D., Littlestown, Pa.—Give her ten grains ground nux vomica, twenty grains ground capsicum and a teaspoonful powdered licorice at dose in feed 2 or 3 times a day. If she is very fleshy, reduce her and has she plenty exercise? It is rather unusual for a sow that has been well fed not to come in heat, before they are a year old.

Bunch on Udder.—Mare twenty-years-old has bunch on udder situated between the two teats. Our local veterinary thought it might be a wart, he burned it with caustic three times, the last time about two weeks ago. I wash it with soap and water and have applied coal-tar disinfectant, but she don't get well.—P. P. M., Narrowsburg, N. Y.—Paint bunch with tincture of iodine two or three times a week, if this fails dissolve one dram salicylic acid in one ounce of acetic acid and cautiously apply to bunch twice a week.

Muscular Spasm.—Feeding Linseed Meal.—Worms.—Have horse troubled with cramp in hind legs, most noticeable during cold weather. What can I put in feed that will help him? How much linseed or cotton seed meal should I feed to my driving horse which weighs 1200 pounds. My horse passes a few worms. I. S., Harrisburg, Pa. — He may have stringhalt or the muscles of stifle and thigh may cramp, but if you will apply camphorated oil to stifle daily it will help him. One half pint daily is about right quantity to feed a horse and of course linseed meal is preferable. Santonin is the best known worm remedy, but it is rather expensive. Give one dram dried powdered sulphate of iron and ½ ounce powdered gentian in feed once a day.

Injured Back.—I have a grade Holstein heifer calf 4 months old that seems to have a weakness in its back. I noticed when it was very young it was weak, but thought good feeding would be all that was needed to bring it out all right. The calf can stand alone, but when it walks it wabbles, mostly in hind quarters. It is apparently no worse, but is no better. It is fed skim milk calf meal, some oats and bran, also has mixed hay and shredded fodder. W. O. D., Lutzville, Pa.—Rub back with equal parts turpentine, aqua ammonia and raw linseed oil every [illegible]

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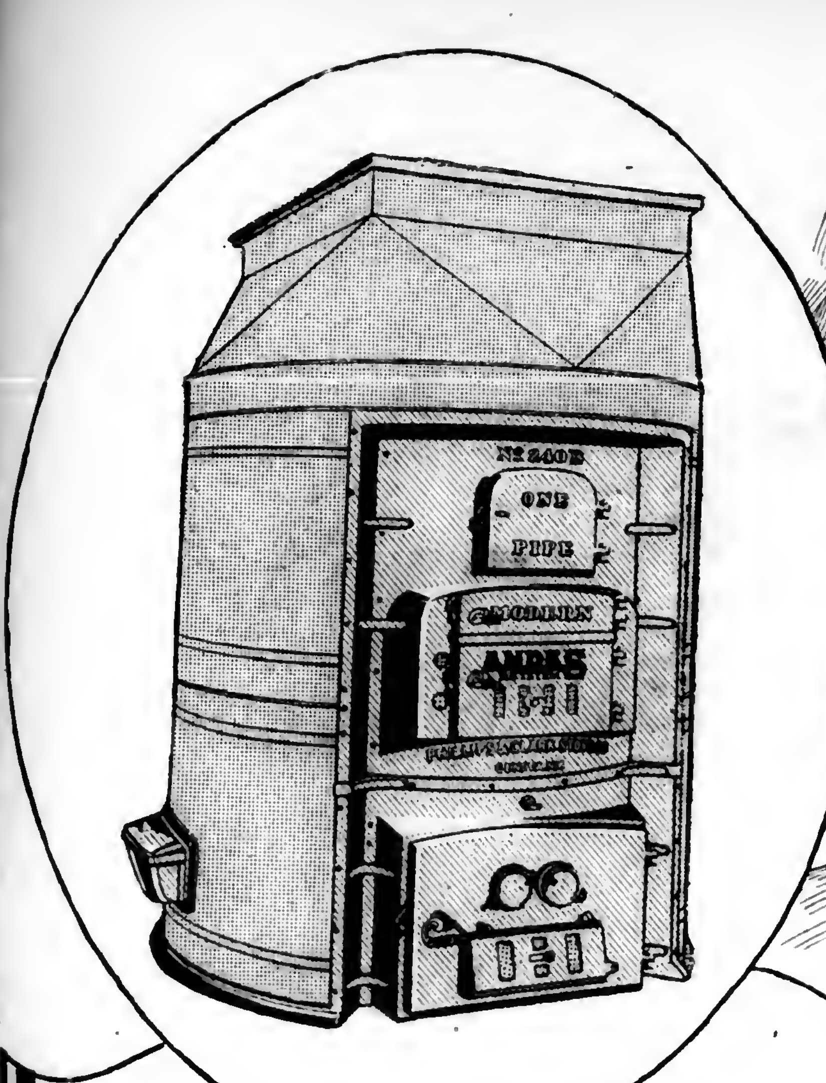

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AGRICULTURE THE KEYSTONE OF NATIONAL PROSPERITY

ESTABLISHED 1880 PUBLISHED WEEKLY

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Additions to Our Farm Equipment

First, Second and Third Prize Articles

EQUIPPING THE FARM FOR BUSINESS

I purchased and moved onto my farm just eight years ago this month. The farm contains 87 acres of good fertile land and will carry 25 head of cattle. The barn which was on the place was old and not very warm so naturally my first thought was for a new barn. The silo was an old ramshackle affair.

In the spring of 1915, before building the barn, I erected a 12 x 30 feet tile silo. The first cost of this silo was more than many other makes, but has proved more economical, considering that it never needs repairs and keeps the ensilage in as perfect a condition as it is possible for it to be kept. I erected this silo where it would be at one end of the new barn.

I then turned my attention to the new barn. I built a building 40 feet by 70 feet with basement. I installed steel stanchions, the last word in cow comfort. A cow can do her best only when she is comfortable and contented. At the time of building my barn, I bought individual drinking cups for the cows, but did not install them until last winter. It was surprising to notice the increase in the milk yield, owing to the fact that water of the right temperature was within the reach of the cows at all times. This one improvement has been a money-maker, increasing the milk yield and economizing on feed and labor.

The water is pumped into a large tank at the barn by a power-pump which is run by a one h. p. gasoline engine. The cost of running this engine is very small, being about two cents a day to keep the barn supplied with water for all the stock. I also use a feed truck which saves many steps in a day, making one trip at feeding time, instead of eight or ten. I am at present, installing a litter carrier, which I expect to be a great labor saver and make the task of cleaning the barn much less disagreeable.

At corn cutting time, labor is very hard to get, so I purchased an ensilage cutter and a gasoline engine to operate it. By this means I am able to care for my corn crop at the proper time, and am assured of good ensilage which goes a long way in cutting down the cost of feed. My neighbors help in filling my silo, and after that is done I take my cutter and engine and help them. In this way we solve the labor question.

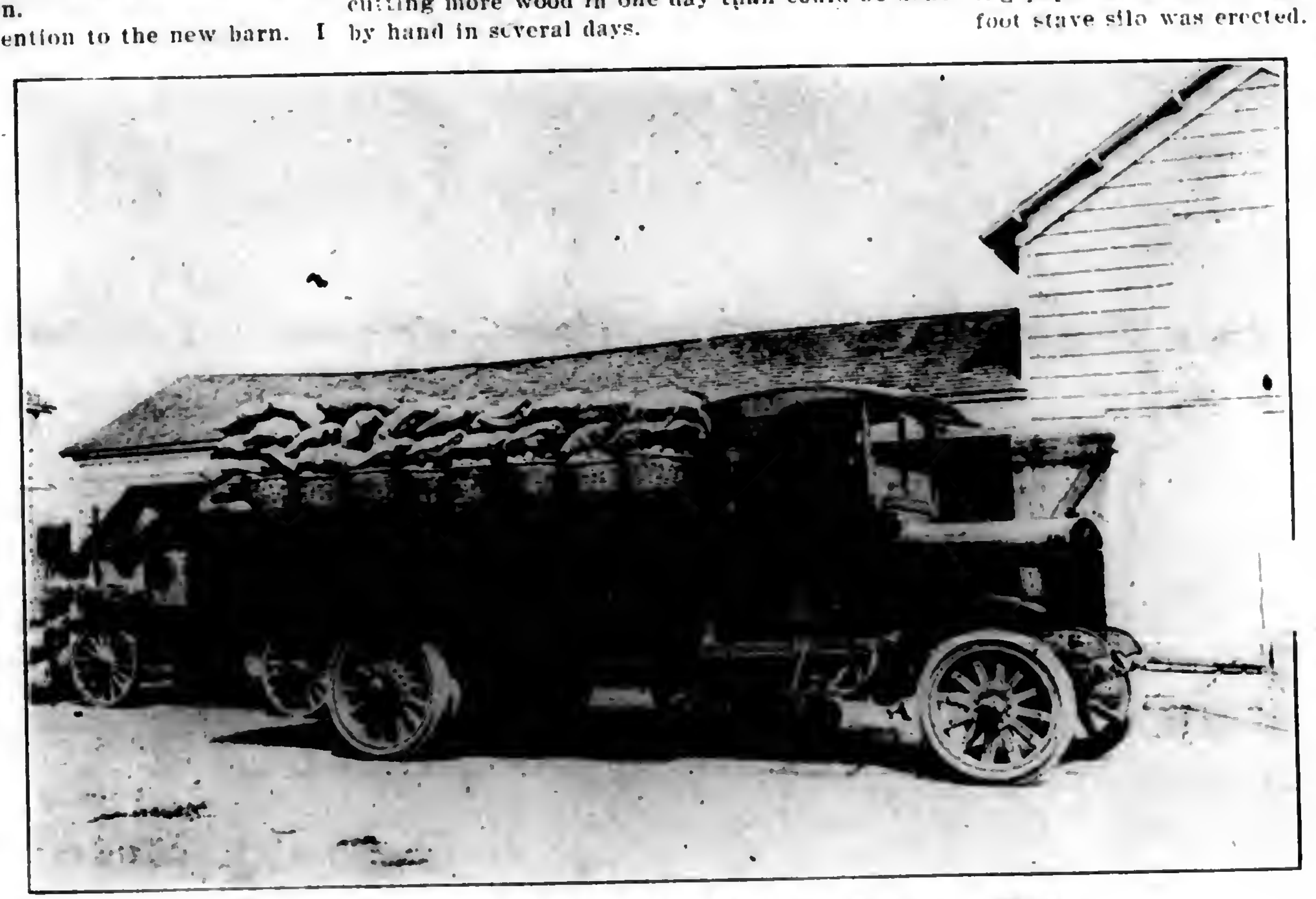
In May, 1919, I purchased a thorobred Holstein cow for $325. In October, she gave birth to twin heifer calves, which are worth $125 each. As fast as possible I am equipping my farm with pure bred stock. I know it pays, as one thorobred will produce as much milk as two common cows.

Last summer I installed a milking machine. Where labor is scarce and high priced these machines are a great help, taking the place of one or two men at a very low cost of operation. I do my own milking and the time and labor saved is a great economy.

I also have a wood cutting outfit run by a gasoline engine. This works very satisfactorily cutting more wood in one day than could be done by hand in several days.

I count my auto as part of my farm equipment. We use it to carry the milk to a milk plant four miles distant. The trip can be made in about one hour which is a valuable saving in the busy season. I also use the car to get repairs and other things, which many times saves taking a horse from the field. My wife runs the car and often helps me out in this way. I do my own work which would be impossible unless I employed labor-saving equipment. This is much more satisfactory than trying to get reliable help, as good farm laborers are scarce, and what few there are, are high priced.

The time has come when the farmer must operate his farm by business methods, employing means of lessening labor and bettering conditions. He must also keep accurate accounts of his business, if he would benefit by his experience and know how and where he stands.—P. O. Wilcox, Warren County, Pa.



How William Wicks, of Long Island Hauls His Produce to Market

EQUIPMENT HISTORY AT BROOKTHORPE FARM

In reviewing the events of the past twenty-two years at Brookthorpe Farm there are a few that might be called epochal. The first of these events was the erection of a silo in 1898. This silo was filled twenty times and was only abandoned when the herd was sold. This old silo was 20 by 30 feet and was built by erecting 2 by 4 studding and nailing a double layer of ½ by 6 inch spruce to the inside of the studding, using building paper between the layers. Later, a 14 by 30 foot stave silo was erected. I believe the smaller size is preferable to the larger size as it can be used more economically, has less spoilage, and it is more convenient to remove the silage from.

The next event of importance was the remodeling of the stables. The old chain ties were replaced by steel stanchions, concrete platforms were laid down, the windows enlarged and extra windows built in.

One of the best investments in "farm equipment" at Brookthorpe was the purchase of a good, pure bred Holstein bull. This was in 1908, and two years later a still better bull was brought to breed to the daughters of the first bull. A fine herd of high grade Holsteins was the result.

A litter carrier was installed in 1912. A greater labor saver, used in conjunction with the manure spreader, never came on the place.

In the year 1915, a milking machine was installed. It is a two-double-unit outfit with a 2½ h. p. gasoline engine to furnish the power to run the air pump. This outfit was, with out qualifications, an entire success. I would not attempt to run a dairy herd again without a milking machine and I would buy the same make. This machine, two double units, with a man to each unit and proper stripping of the cows after the machines are removed is, I think, an ideal arrangement. One man can handle two double units and do his own stripping, but I prefer a man to each unit for best results. In this way two men with the machines are easily equal to five good hand-milkers.

So far I have devoted my discussion entirely to dairy equipment, but out on the farm proper similar advancement was going on. A side delivery hay rake was bought in 1911, and it is still in service. A very useful tool where a large amount of hay is made.

A corn harvester, bought a couple of years previous to the rake, was about one of the poorest investments for us at Brookthorpe Farm. There are several reasons for this. For silo filling we always hired a steam traction engine, and a gang of men always went with it therefore men were more plentiful than horses, which were needed to haul the fodder to the cutter. Another reason was that our corn, Virginia White Ensilage, was too tall and rank for the binder to handle successfully, and many years it was down too bad.

A tractor, a 12-24, was purchased in 1918, and a 1½ ton motor truck this year. As I see it now, I believe it would have been better policy to have reversed this order and bought the truck first.

In commenting upon the problem of farm equipment Dr. Sparling in his admirable work "Introduction to Business Organization" says "another problem of considerable difficulty which confronts the farmer is that of equipment. In most lines of business the same equipment is employed thruout the year, but the farmer is compelled to invest his capital in expensive equipment which is used only for a short period. For instance, he invests in an expensive reaper, which is probably used for a period of two weeks, and in mixed farming more frequently for less time. Thruout the other period of the year this machine is idle, and is subject to the rapid depreciation incident to unused machinery. The rule is that the machinery lies idle the greater portion of the time. Upon this idle capital, which is equal to about fifty percent of the value of his land, the farmer must make his profits."

Upon this point of idleness during the greatest portion of the time is where the litter carrier, milking machine, and truck score a point, because the litter carrier and milking machine are in use every day in the year, and the motor truck ditto on the dairy and general farm. That is why I say we possibly made a mistake in getting the tractor first because its idle periods are very extensive in comparison with the motor truck.

However, the tractor and manure spreader are only second to the above mentioned machines in numbers of days service per year and are worthy factors in modern farming.—H. A. Caum, Haverford, Pa.

THREE VALUABLE ADDITIONS

Three tools or machines we have added to our equipment recently that have proven very satisfactory and economical. The first one in importance in my mind is a potato digger. We bought the digger in the fall of 1918. It is what is called an elevator digger. I bought it with the understanding that it would give me perfect satisfaction, or I could return it. At digging time we put it in the field and hitched four horses to it, and to our entire satisfaction we dug 964 bushels of potatoes that fall, besides lending it to our neighbors to dig about 2000 bushels more. This year we dug between 700 and 800 bushels for ourselves, and again lent it to our neighbors who dug over 2000 bushels more. Of all the tools on my farm, this one saves the most real hard work in the shortest space of time.

To work the digger at full capacity in good potatoes will require about 16 men and 3 teams, this allows 2 men and 2 teams to run the digger, and 2 men and 1 team to draw potatoes to cellar or storage bin, and 12 men to pick up in crates. In this way you can dig from 1,000 to 1,500 bushels in 10 hours, depending on the yield.

The second machine which we prize very highly is a hay hoist. This we run with a gasoline engine, and any 9 or 10-year-old boy, or a woman, can handle it very easily after the engine is started.

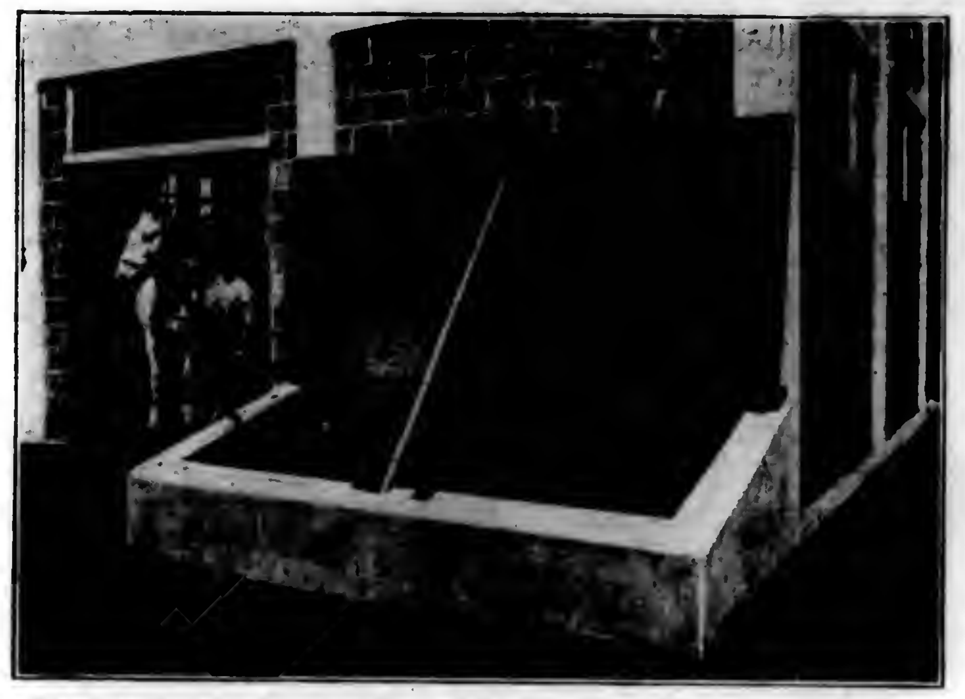
The time saved in unhitching and hitching up our team will save the price of this hoist on almost any farm in one year, besides the real hard work of driving the team and carrying a heavy set of whiffle trees which is too often placed on a woman or some slender girl.

We not only unload our hay with the hoist, but we mow it away with it, and also unload our oats and other grains. This machine at the time I bought it (about three years ago) cost $2250 besides the freight. It has certainly proven satisfactory and economical.

The third machine we have recently added to our equipment is a 1000-pound capacity truck. This machine saves us a great deal of time in disposing of our light loads of farm produce, as well as bringing back what we have to buy. It saves a great deal of road work for our horses, and this in turn saves grain and horse shoeing which means a lot of money in the course of a year. We have made several trips to the nearest city curb market, which is about thirty miles away with loads of produce, which brought us from $25 to $50 and back home at 2 P. M. I consider this one of the best investments on my farm. It has proven both satisfactory and economical.—F. G. Payne, Athens, Pa.

Save The Manure

Many will recall when a few years ago Assistant Secretary Vrooman of the Federal Department of Agriculture startled the country with the statement that "our billion-dollar manure waste is the world's greatest economic leak." If there is anything of truth in this statement it means a loss of about $130 yearly upon the average farm, the greater part of which could be saved.



The Standard Oil Company Can't Afford to Waste Manure. Can You?

Conservatively speaking, each horse and mule produces annually $27 worth of manure, based upon commercial fertilizer values; each head of cattle, $20 worth; each hog, $8 worth, and each mature sheep at least $6 worth. The government believes that fully one-half of this great wealth of fertilizing material is lost. Some of this loss, of course, is unavoidable but the greater part of this fertilizer might be saved.

On the dairy farm, the best and cheapest way is to draw the manure directly to the field and spread it as fast as it is made. If plenty of good absorbent bedding is used, the most valuable or liquid portion of the manure can be saved. Rain, after the manure is spread on the land, only helps to carry the fertilizing materials where they can do the most good—provided, of course, that the land is reasonably level.

There are few farms, however, where all the manure can be handled in this way. Very often, heaps of manure accumulate beside the barns from which the most valuable constituents leach away. Prof. Van Slyke of the New York Experiment Station once said it was no exaggeration to say that two-thirds of the plant-food value is thus lost from much of the stable manure used on American farms.

The best method of storage is in a manure pit. A pit three feet deep, twelve feet long and six feet wide will enable the average farmer to properly preserve the extra manure until he can find time to haul it to the field. Such a pit can be readily constructed with farm labor of cement, or of hollow tile washed with a thin coat of cement to prevent seepage. The cost will be trifling in proportion to the saving effected.

The manure pit should be so located that the liquid portion can be drained directly from the stable into the pit. In the fluid portion is resident about one-half of the value of nitrogen and two-thirds that of the potassium.

Considered as a plant food, barnyard manure is unbalanced. It is high in nitrogen and low in phosphorus. If used freely it is apt to force a rank growth of foliage without a corresponding increase in the grain yield. Thus it is a good plan to sprinkle acid phosphate over it in the pit at the rate of forty to fifty pounds per ton. The acid phosphate will absorb some of the liquid manure. The free ammonia, instead of escaping, will be changed into ammonium phosphate and ammonium sulfate,—both valuable fertilizers. Manure so treated is not apt to heat and will make a much better balanced fertilizer than clear manure.

Another good plan is to build an open feeding shed with a concrete floor for young stock not kept in the stanchions. If this shed is kept well bedded, the tramping of the stock will prevent fire-fanging and the manure can be preserved with the least possible loss.

The question of maintaining fertility is so distressingly acute that every measure looking toward the conservation of manurial values should be closely followed. Saving the manure is one of the least costly and also one of the most practical ways of increasing production and one that also shows good business sense on the part of farmers who practice it.—A. H. Pulver,

Is Wife's Work Counted?

The census of 1920 is being taken and the true value of farm produce and the cost of all farm management is being ascertained by numerous questions. Farmers, who do not keep accounts, need to be careful that their expense items are as completely recorded as their crop sales. Too often consumers fail to realize the expense of farm operations and the necessary high cost of farm produce. Sometimes its our own fault, because we don't take time to tell the public half enough about "our side."

The farmer and the hired man are not the only laborers on the average farm. The wife and the children of working age, should be recorded on the census blank as producers also. In almost all cases farm women are more than housekeepers. Their labor with poultry, dairy, and crops generally, entitles them to be recorded as such. When the census enumerator records your husband's occupation, and sets you down as "none," object. You are entitled to the credit of "a helper" at least. For too many years, women's labor on the farm has gone unrecorded when the prices of farm produce are set. All laborers and all hours of labor are entitled to recognition in farm management just as surely as they are in the factory and store. If labor expenses and a fair profit make good shoes sell for twelve to fifteen dollars a pair, then labor expenses and a fair profit, entitle the farmer and his wife to twelve cents or more a quart for good milk. It is up to the dairy farmers to strengthen their organization and to keep accurate accounts, so that they will be in a position to demand this fair profit above all expenses.

Therefore, sister farmers, if you milk, or raise calves and poultry, or pick fruit, or make butter or go to market, or help operate farm machinery, and do the "hundred and one" things that thousands of our industrious, conscientious farm women are doing, see to it that Uncle Sam records your labor correctly.—Mabel R. Briggs, Bucks County, Pa.

"I Hear You Ca-a-aling Me," warbled daughter from the parlor.

"Yes," sang the mother from the kitchen. "I want you to help me with the dis-s-shes!"

And then a profound silence reigned.

Voice of Mother.—Louise, it is very cold down here. Have you something around you?

Daughter.—Yes, mother. Jack's here.

Adaptation of Crops to Soil

One day in August, 1918, I went with the owner over a nine acre field from which the winter wheat had just been harvested and threshed. The entire crop was nine bushels.

Why so small a yield? Winter killed. The field lay so that it was very much exposed to the prevailing winds. The previous winter had been a long, cold one (as any winter is liable to be in these Alleghany Mountain hills) and the snow—natural protector of winter crops—was swept off by the wind, and the soil and young wheat plants left exposed to its fierce blasts. Then every thaw gave Jack Frost an additional chance to pull the crop up by the roots, so the wonder is that there was even so much as a bushel to the acre.

Why try to raise winter wheat in such a location? Why not substitute spring wheat to fill out the rotation on this field? It could not be a worse failure, and would at least escape the danger—I might almost say certainty,—of winter killing.

Year after year I pass and repass fields in which, every time the rotation comes round corn has been planted on low, clayey, ground where frost is absolutely sure to come late in spring and early in fall, and I never saw a decent crop of corn there in that time.

On such land oats yield well, timothy will bring heavy crops of hay, and with proper drainage splendid crops of potatoes might be raised. Why not substitute some other crop and cut corn out of the rotation on that field? Better grow two successive corn crops in a suitable location than to get only half a crop with the same labor and expense.

I have seen oats on a dry knoll with a thin soil, deficient in phosphoric acid, potash and moisture,—three essentials for a good oat crop; but little came of it except a lot of lost labor and plenty of disappointment. Nothing else was to be expected in the first place. All spring crops that require parts of the summer to finish their growth and maturity must be rooted in a soil that will supply the abundance of moisture during the warm, dry months.

It is folly to plant an apple orchard on thin, impoverished land, or on a hill top exposed to strong winds and expect anything but crooked trees of stunted growth subject to the inroads of every disease and insect enemy in the country, or to look for them to bear fruit that is fit for anything but a pig to eat.

Peaches and Japan plums however simply must be on or near the tops of hills if they are to bear fruit or even long survive, in our climate.

Grapes need a warm sunny exposure, but raspberries and blackberries, requiring plenty of moisture for growth of canes and fruit, should have a rich cool, retentive soil, not too much exposed to the fierce heat of the sun.

Strawberries will do well on good corn land. Cherries need a sunny exposure, while currants require a deep soil with plenty of moisture for their greatest perfection.

In a country of nearly level land, of nearly identical soil and of equable climate it is quite easy to work out a suitable rotation adapted to those conditions; but in a hilly country where almost every field has a different exposure, a different soil, and a different relative elevation as regards the local frost lines, it is quite another matter. Yet I find that farmers in these regions often fail of maximum production by reason of their ironclad adherence to rotations that were worked out under entirely different circumstances.

For the dairy farmer who depends upon corn to fill his silo it is of the utmost importance that he have sufficient land adapted to its growth and proper maturity to produce sufficient for his requirements. It will pay him also to see that he has land enough that is suitable to the growing of such legumes as vetch, Canada field peas, soy beans, and the clovers including alfalfa if possible. His pasture land should be adapted to the growth of native grasses of high nutritive value.

The sheep farmer must have suitable upland pastures for his flocks and thus avoid the diseases and parasites that afflict the sheep family, and which are especially prevalent in low meadows and swamps where there is stagnant water.

In the matter of fruit growing, one of the commonest errors of the small or general farmer has been the planting of the home orchard on ground that was simply not wanted for anything else without any regard to its fitness for the purpose.

A few years ago an apple buyer who had purchased a farmer's apples (not of any too good quality as it had turned out) made the remark to him at the dinner table "Mr. D.———, why don't you plant an orchard on some of the good land you have here?" If this farmer did not understand the force of this remark some of the listeners did, for the old orchard from which these apples were taken stood on the roughest, poorest part of a very good farm.

I am satisfied that in my own county the average yield of the several annual corps might be increased several bushels per acre in a single year by simply adapting the crop and rotation to these conditions of soil, exposure and relative elevation. The several fruit and vegetable crops might also be much improved in yield, size, appearance and quality by taking more care that each be planted where conditions were best adapted to its growth and health and the proper maturity of its fruit.

No Wonder This Wife Looks Contented. And See the Pile of Stove-Wood!

I would suggest that a valuable work for the Farm Bureaus is the working out of suitable crop selection and rotations for the different localities and even farms and fields in their respective counties, as desired by farmers. In irregular, broken country like we find among the hills of many parts of Pennsylvania, the adaptation of crops to conditions, or its lack, may spell success or failure to many a farm enterprise.—T. L. Wall, Clearfield County, Pa.

Farmers Should Advertise

Is your farm for sale? Then advertise it. Have you an old plow that you have discarded on account of having purchased a tractor? Then advertise it. Has one of your team slowed up in work on account of age? Then advertise it. There is always someone who is waiting for just such an opportunity to buy, providing of course, the price is right.

Farmers are the largest producers in the world, bar none. They glory in the fact. BUT they are the poorest salesmen in the world. If the average farmer has anything to sell from a sythe to an automobile he nearly always is more willing to ask twenty neighbors if they are looking for such an article than to invest in a twenty-five cent want advertisement. He thinks of an advertisement as a wonderful accumulation of words which when properly placed together will enchant the reader, sending him either to his writing desk or the telephone. Such is not the case! The best advertisements are those which briefly state a description of the article advertised, its price, and the reason for selling. The more simple the wording, the more concise the language, and the briefer the advertisement as a whole; the greater the chance for results.

Now for a word of caution. Don't expect too much. After the first insertion in the evening paper don't sit with folded hands waiting for the telephone to keep you busy all the evening. Ten chances to one it won't. Have patience. If you are selling only one article you need only one buyer. Perhaps you will get only one answer and that will be sufficient to sell the article. If you receive no answers at all perhaps there is a reason. Don't advertise an article that is out of season. Remember that skates aren't popular in August, nor are refrigerators salable in December, as a rule. If people aren't interested in the article you are trying to sell, wait awhile and try again later in the season.

The whole idea of advertising is simply to acquaint people, that you have something to sell. A farmer who has just moved into a new neighborhood can, within a year, make himself better known by judicious advertising than a man who has lived years in the community. I have in mind two neighbors; one has lived for more than fifty years on the same farm, never advertising in any way, the other is a new comer who for the last two years had advertised incessantly, sometimes for a hired man, again for pickers, again an incubator for sale, or at another time wanting to buy something he needed. During the winter he has built up a large wood business by advertising, always making his goods match his advertisements. Everybody knows BLANK. Why shouldn't they? He's made it his business that they should be well acquainted with every thing that he does. People rate him as a hustler; a man who isn't capable of failure. His borrowing capacity is greatly increased, its a pleasure to lend money to a wide awake business man.

How shall I advertise? Circular letters? Newspapers? Farm papers? The main value of circular letters is to solicit repeat orders. If people bought of you before, and liked what you had to sell, they will probably want some more. Possibly they do not remember your name. A circular letter will remind them. For farm use their value is limited. Your main dependance must be in the use of the daily paper and your weekly or monthly farm paper. If you have something of small value, something that must be sold locally, or something you think farmers wouldn't be interested in, then advertise in your local paper. If however you wish to sell your farm, or perhaps some of your purebred stock, or again you wish to part with some valuable farming implements, a tractor or the like, then use your farm paper. The advertising rate may be higher, but it will pay you. You are putting your message before thousands of eager eyes instead of hundreds. Your chances of a sale are multiplied many times. The larger the circulation, the cheaper you can tell your story to each thousand of its readers.

Get into the game! You surely have something to sell. Write an advertisement about it. You can write it yourself. There is no magic about it. Describe it, price it, and you will sell it.—E. G. B., New Jersey.

"I love the country," said the young man on vacation, "because everything smacks of freshness."

"Perhaps it does in some parts," replied the rural maiden, "but freshness gets no smacks here."

PENNSYLVANIA FARMER
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PHILADELPHIA, PA., JANUARY 31, 1920.
VOLUME 47 NUMBER 5

Our job is to serve our readers. Whenever and wherever we can help you, write us.—The Editors.

The Farm Products Show

THOSE who were fortunate enough to attend the farm products show at Harrisburg last week were unanimously of the opinion that it was "the best yet." The exhibits of farm products, farm and home equipment, and the educational institutions made the most concrete showing of what Pennsylvania is doing and can do that has ever been brought together. Previous shows were good and well worth while and the steady development from year to year indicates the advisability of making plans for some kind of permanent show or fair with such financial backing as will relieve the few of the strain and personal obligations which they now carry.

Space is not available to even attempt a detailed account of the show or of the educational meetings held in connection with it. There is little question but that the corn exhibit was the largest and best display ever brought together—there being 369 different entries. The display of fruit, vegetables, poultry products, etc., was excellent. With no intention of slighting by omission the many other educational exhibits we cannot forebear to call the attention of those who oppose "newfangled" ideas in education to the mighty suggestive exhibits of the vocational schools. Parents who have a real concern for the welfare of their children had here the concrete evidence that there is something better in the way of educational equipment than the "Little Red School House" can offer Why not have it?

Another feature in favor of this kind of show over the average fair is the absence of fake, gambling, indecent and other objectional features too often permitted at so-called agricultural exhibits. The management of the show, which was divided between the Department of Agriculture and State College, is to be congratulated for its success in staging this valuable exhibition.

Shall We "Nationalize" The Cow?

IN SPITE of all the anti-revolutionary sentiment in this country and the certainty that American spirit is against adopting any Russian principles, we have the spectacle of a report made by the so-called Fair-Price committee appointed by the Governor of New York urging that milk production and sale be under State control. It goes without saying that the 79,000 members of the Dairymen's League are unanimously against any such proposition. It is difficult to conceive of any fair minded, honest body of men singling out any one industry for state control, especially when that industry has been for years one of the least profitable to those engaged in it. That the purpose of such a plan as proposed is to insure production for dairymen is not to be thought of because of the spirit of the men back of it.

The report recommends that "power to fix rates be delegated to a new, separate State Board, composed of three officials, removable at the pleasure of the Governor, with authority to subpoena producers and dealers in milk and milk products, and their records, and to fix prices paid to the farmer and charged by the distributor to the consumer." It recommends that power sufficient to control the distribution, use and manufacture of milk and its products. Stripped of all verbage it means all that is summed up in the Bolshevic principle of "nationalization." What makes it doubly disgusting is that representatives of the class who shout from the house-tops, "Down with the Reds," and who unblushingly disfranchise thousands of law-abiding citizens should approve such a measure. Is it possible that there are those who would if they could "nationalize" agriculture alone while granting the greatest possible privileges to others? We hope to see the farmers of New York State rise en masse in defense of the privilege of conducting their business upon American principles, as against allowing it to be the plaything of politicians and truckling job holders.

Our Washington Letter

None of the Washington representatives of the farmer organizations admits that he is influenced in his actions by personal bias. Each one insists that he is voicing the sentiments of the majority of the members in the organization he is employed to represent. When he goes before a Congressional committee he speaks for the five hundred thousand or a million farmers who belong to his organization in particular and for all farmers in general. And here lies the secret of their powerful influence in Congress. The average senator or congressman has a wholesome fear of organized public sentiment. Senator Calder of New York State, author of the Daylight Saving law, has this to say of the power of farm organizations:

"When the Farmers' National Union, the National Dairy Union and Milk Producers' Federation, and other powerful organizations, aided by the National Grange and State Farm Bureaus, show a determination to defeat a measure and follow this up with energetic, intelligently directed effort, the man who attempts to oppose them finds himself up against a stone wall."

* * *

The accomplishments of the National Grange representatives up-to-date have not been spectacular. The grange is strongest in the East, and Eastern farmers are more conservative in their views than those of the newer West. This conservatism is fully and faithfully reflected in the atmosphere of the Washington Grange Headquarters. The Grange representatives, by their timely opposition to the Lane-Mondell Land Development bill, were largely instrumental in defeating the proposition, and Mr. Mondell wisely told a delegation of governors and other representatives from the swamp land states and the arid belt only the other day that there was little chance of his geting his pet land development scheme thru Congress. This bill, it will be remembered, called for government appropriation of five hundred million dollars to drain swamp lands and irrigate desert lands and manufacture a lot of little ready made farms for the soldier and sailor boys who did not want them.

The Grange made a susccessful fight against the Daylight Savings bill. It has endorsed the Cummins bill, providing for the early return of the railroads to their owners, with its provisions for a labor dispute tribunal, and its anti-strike clause. The new Kenyon packer bill embodies the essential provisions that were in the Grange bill which was prepared by Professor Atkeson at the request of Senator Cronna, chairman of the Senate Committee on Agriculture, and if it becomes a law, which is highly probable it will be distinctly a Grange measure.

The Grange has joined with the Farmers' Union, Dairymen's League and National Board of Farm Organizations in presenting a resolution to the Foreign Relations Committee of the Senate, in favor of "the early ratification of the Peace Treaty with such reservations and compromises as may be necessary to accomplish this result."

In regard to Senator Smoot's bill to repeal the exemption provisions of the Land Bank law in-so-far as they apply to future bond issues by the joint stock banks, the Grange representatives say the issue is a plain one.' "Either it is or it is not good public policy to furnish money at low rates to develop farm home owning. If it is good policy, in your judgment, then write our senators and congressman to defeat the Smoot Land Bank bill."

* * *

The National Board of Farm Organizations, which is the Washington headquarters for several allied organizations of farmers in all parts of the nation, has greater difficulty in adjusting its positions on public questions to meet the sentiments and demands of the rank and file members; yet I have never visited the Headquarters in the stately old mansion near the White House that I did not find representative farmers from different parts of the country, conferring together, and developing plans for intelligent future action. Thru these men coming direct from the home folk by the actions of the many state organizations and communication with the local units of the dozen or more National organizations the National Board represents, Secretary Lyman is able to keep pretty well informed as to the true attitude and demands of the farmers.

The National Board did not take an aggressive stand on the old Anderson-Kenyon packing house bill, and perhaps it is well that it did not do so, for friends of effective packer legislation now are of the opinion that this bill, which has been discarded for the new Kenyon bill, not only conferred arbitrary powers upon the Federal Department of Agriculture but it contained loopholes which made it ineffective. Recently when I interviewed Mr. Lyman and Mr. Bower they were somewhat undecided as to their position on the Smoot Land Bank bill.

* * *

The Farmers' National Council, of which George P. Hampton is managing director, and Benjamin C. Marsh, director of legislation, has evidently been more prolific in propaganda than effective in influencing legislation. I cannot recall any recently proposed measure, of which it claims to have been the special champion, that has been enacted into law, or that it has led any general movement of farmers to prevent the passage of any recent legislation; nevertheless I am told that Mr. Hampton was the father of the Denatured Alcohol bill and was instrumental in getting it thru Congress a few years ago.

Like the National Grange and National Board headquarters, the National Council directors claim that they represent the farmers. Giving testimony relative to the attitude of farmers toward government ownership of railroads, before the Interstate and Foreign Commerce Committee, recently, Mr. Marsh said: "Sentiment for government ownership is increasing rapidly among the farmers." Mr. Marsh favored the old Kenyon packer bill which made the Secretary of Agriculture sole autocrat of the meat packing industry.

Mr. Hampton, in a letter to the President, joined wih Samuel Gompers and the railway brotherhood officials in saying that " an overwhelming majority of the farmers, of the members of the American Federation of Labor, of the Railway Brotherhoods, as well as the general public, favor an extension of the period of government operation of railroads for at least two years."

The Farmers' National Council stands with the Grange and National Board in favor of the Capper-Hersman bill, but this appears to be the only hing upon which it is able to agree with the other organizations.

* * *

It is asserted that not one of the three Washington Farm Organizations Headquarters fairly represent the Middle West. If this be true, however, no one but the Corn Belt farmers are to blame. There is plenty of room in the Capital City for another representative farm organization headquarters. Perhaps it may be taken by the new American Federation of Farm Bureaus, which is strong in the Central West.

In closing this letter I will make this suggestion: Don't be afraid to speak out in your local meetings. Let the delegates who represent you at the county and state meetings know your sentiments. Keep your farm paper editors informed as to your legislative needs and your attitude upon public questions. I note that each Washington headquarters keeps files of the farm papers, and they are read very carefully for the opinions of farmers and farm editors, especially the leading state farm papers.—Elmer E. Reynolds, Washington, D. C.

HARRISBURG LETTER

All Records Broken.—More farmers and members of their families gathered in Harrisburg during the week just closed for the meeting of "Farmers' Week" than ever known at any similar series and the attendance at the Fourth State Farm Products Show went ahead of every record. Secretary of Agriculture Frederik Rasmussen in speaking of the series of meetings and the show said that they demonstrated that the people of the State were interested and that there was an opportunity for making the meetings of still greater importance and the show of a higher educational value if steps were taken to coordinate the activities of the various organizations. The secretary said that the meetings were successful because all seemed to be working together and that cooperation made the show something that will long be talked about. Something like forty-five separate sessions were held by various bodies during the week and a larger list of specialists spoke than heretofore. Some of the sessions were so well attended that the quarters provided were inadquate and new arrangements will be made for next year's sessions. The crowds at the meetings held in the evenings were something remarkable for agricultural week and Governor William C. Sproul and other State officials who addressed them remarked upon the manner in which the farmers were tackling their problems.

Constitutional Revision. — The Commission in charge of the studies for revision of the Constitution has decided to recommend continuance of state appropriations to charities under state control, but to provide for a system of payment for service rendered and a close system of accounting. This action was taken by decisive vote, a proposition to stop all charitable payments having been voted down after much discussion. It is now planned to incorporate this charitable appropriation in the budget system together with allowances for educational institutions. The budget is now established and the educational plan remains to be discussed in the work of the Commission. During the next fortnight there will be much heard about taxation, a greater measure of local government and various other topics. The Commission is disposed to give the legislature considerable authority regarding consolidation of railroads and other utilities as a result of war experience.

Changes on the Hill.—Numerous changes are being made in the personnel of the various departments of the state government, some of them being men who were named in periods of political excitement during the Brumbaugh administration. In several instances men who were "fired" have been put back. In other new men have been selected. The governor is sitting very close to the discussion of changes and it is to be noted that in many instances men put in are pretty well selected, some of them familiar with the work of the departments instead of green hands as has been the case many times before.

Rural Educational Work.—The start of the rural education survey will be made in a week. State school authorities held conferences during the week with the heads of the normal school establishments and with a number of men here for "Farmers' Week" and several programs were outlined. The first steps to be taken will be gradual and some districts which present typical problems will be visited.

Resume Institutes.—Farmers' institutes which were interrupted by the meetings held here the last week have been resumed and an extensive list has been prepared for February. State officials, who have been noting the manner in which institutes have been attended, say that there is no question of the importance of expanding them next year. In regard to teachers' institutes it may also be said that attendance has been large and that they will not be done away with, either.

Cold Storage Upheld.—The State cold storage law stood up against a real test a few days ago when it was held that food in storage more than a year could not be sold in Pennsylvania, even when the United States government wanted to sell a million pounds of navy butter. Strong pressure was brought to bring about a ruling in favor of the sale to take it off the navy's hands and to help bring down the price of food, but the doctrine of no exceptions on which the Sproul administration had been standing pat in various matters has been reaffirmed. — Hamilton, Harrisburg, January 26.

NEW YORK LETTER

Holstein Campaign Progress.—The two weeks' campaign to increase the membership of local Holstein Breeders' Associations and to unite all into a State Federation of Holstein Friesian Associations is making fine progress, despite the worst weather in years. Two big meetings are held each day. The need of better breeding to secure bigger milk production, and the use of purebred sires in grade herds is being urged. D. D. Aitken, president of the National Holstein-Friesian Association and R. C. Pollock, the Billy Sunday of Holstein extension workers. M. S. Prescott, editor of the Holstein-Friesian World. Frank T. Price, business manager of the same publication and state secretary and other well known leaders and breeders make a speaking force with much effort to hear and the dairymen are responding well.

Some Beans.—The average yield per acre in the state for beans this year was 43 bushels. Some big yields were obtained where inoculation of seed was practiced. One western New York grower cleared in profit of $225 per acre on red kidneys, even with the price nearly 50 percent less than last year's.

State Fair News.—At the midwinter meeting of the State Fair Commission there was a strong sentiment in favor of a two-week fair after 1920. It will take a little time to provide accommodations and attractions for such a change. Farmers continue to urge their claims to one of their member being placed on the commission to fill a vacancy which occurs in March. The cattle interests still urge their claims for a cattle judging amphitheatre that shall also accommodate public speaking while the floral and horticultural societies of the state are demanding a new horticultural building, saying the cattle men took precedence in their claims when the new cattle building was erected. Maple products are likely to have more generous recognition on the premium lists the coming year.

Timely Notes.—The biggest storm in years has swept the state for five or six days tying up traffic and trade everywhere. The snow is very deep and motor vehicles are laid away for the winter. Rural mail has not been delivered as country roads were blocked. The maple syrup makers expect a good season, owing to the heavy snow fall.

Butter Market Conditions.—The week's New York butter market repors heavy Danish importations of butter, with slow demand and a drop of 4 cents a pound on all grades. The Danish product in 112 pounds casks sold for 63 and 64 cents. Creamery extras to high score sold at 62 and 63 cents. A leading butter manufacturing concern of Buffalo has dropped its price for butter fat from the 80 cents paid in December o 67 cents, due to the lessened demand. These prices mean a low price for milk next month, as butter and cheese prices fix the price of milk for the coming month—a system which takes no account of the cost of production to the farmer.

Children at State Sanitarium.—The state hospital for the cure of tuberculosis at Raybrook already prominent in staying the disease, will have a new addition to the children's pavilion at once.

NEW JERSEY NEWS

Fight Sunday Amusement Bill.—Farmers in South Jersey are generally opposed to a bill that is now being framed in accordance with a pledge of the Republican party at the last election and which will allow motion pictures and amusements and sports, such as baseball, on Sunday. The belief among the rural folks is that six days are sufficient for one to enjoy himself, while the seventh should be devoted to religious worship. This attitude is altogether at variance with that taken by city people, who claim that after striving for six days in mills, factories, offices, etc., thousands of hard-working persons are in need of some form of relaxation on the Sabbath and that such legislation will aid them in their general manner of living. The farmers known as proper livers in the way of work, sleep, etc., claim that a measure of this kind if enacted into law at the present session of the New Jersey Legislature will cause desecration of the day and in order to offset passage of the measure when it is introduced either in theSenate or House soon, they are petitioning the members of the lawmaking body to oppose the bill. In connection with this matter, it might be said that so far, only members of the Legislature who have their homes in populous centres have announced that they are in favor of the bill and will cast their ballots in its favor when it comes into the branch of the Legislature in which they are located.

Daylight Saving Bill Introduced.—Senator William B. Mackay, of Bergen County, has introduced his daylight saving bill in the New Jersey Senate, and the granges and other farmers' organizations in the state from the Hudson River to the Delaware Capes are banding themselves together with a will to have the measure defeated. The bill would change the time of day in March and October of each year, and the agriculturists say that it will injure them immeasureably, if it is passed by the Legislature and signed by the new Governor, who comes from Hudson, a county that is not much interested in the affairs of the farmer.

Aiding Soldier-Farmers.— Young men of the farming districts of New Jersey, who responded to the number of about 25,000 to the call in the world war, are being encouraged to keep up their war risk insurance. Considerable discontent existed in relation to this insurance among the farm boys and others who had served their country, but the situation is now rapidly being adjusted to their satisfaction and thousands of policies that will be for the good of the former soldiers are now being retained.—Kelly.

NEXT WEEK'S ISSUE

will contain a discussion of

The Farm Labor Problem

by Dr. Jacob G. Lipman, C. C. Hulsart, J. N. Glover and others.

Other articles telling what our folks have added to their

Farm Equipment

and what others have done to

Beautify and Improve the Farm Home

An address on

Cooperation in Dairying

by Frank P. Willitts, President of the Interstate Association will appear.

In the Horticultural Department will be found a discussion of

The Outlook in the Fruit Business

by Sheldon W. Funk, and an article by Dr. Stewart describing

A Profitable Small Orchard

The Gardener will find these articles interesting:

Preparing the Garden Soil
Peas, Beans and Beets
Aids to Earlier Crops

These are but a few of the features which you can't afford to miss next week.

SOIL TESTING DAY

Special days have been set apart for almost every purpose, but it remained for Maryland to set a special day, February 2, to be known as "Soil Testing Day." The Experiment Station authorities have asked that farmers all over the state take samples of their soil on that date and send them to the station for analysis as to their lime requirement. They have adopted the slogan, "Lime the Key to Fertility Building," and a good one it is. Maryland, as is the case in every other state, has thousands of acres that might be turned from unprofitable to profitable use by the application of lime and followed by good farming methods. If soil needs drainage or lime, and frequently it needs both, it is a waste of time, labor and fertilizer to try to farm it. It simply can't be done at a profit, but given these two things there is scarcely a limit to what can be accomplished in the way of fertility building.

FARMERS' MEETINGS

Farmers' National Conference, National Board of Farm Organizations at Washington, D. C., February 19, 20, 731 Eye Street.

Conference will convene at 10 A. M. on 19th when committees will be appointed and resolutions be introduced. In the afternoon, Hon. Victor L. Murdock, chairman of Federal Trade Commission will give an address on "Business" and Senator Kenyon will speak on "Packer Legislation."

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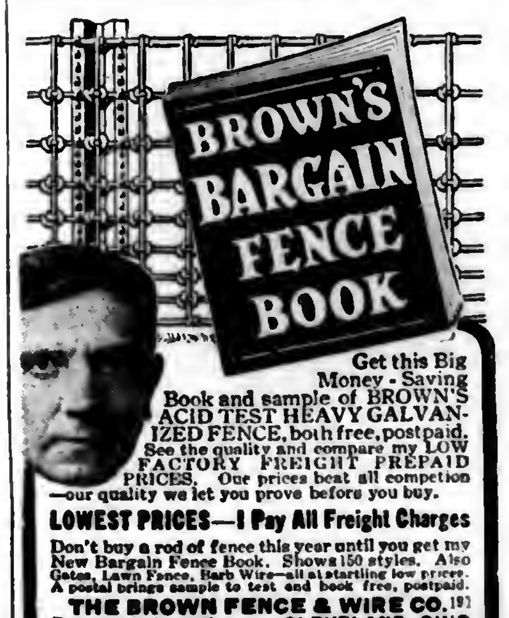

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There's a reason for everything, and surely one for the superiority of DE LAVAL separators.

The DE LAVAL was the first continuous discharge centrifugal cream separator. Invented in 1878, it has led ever since. The great DE LAVAL shops in both America and Europe are devoted solely to the production of centrifugal separating and clarifying machines.

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Every single step of cream separator advancement, for forty years, has been DE LAVAL conceived or developed.

On the other hand, practically every feature of construction ever used in any other cream separator has been one that run-out DE LAVAL patents left free. Such features have then always been out of date in the later improved DE LAVAL construction, and most of them were never quite good enough to have been actually used in DE LAVAL construction at all.

It might aptly be said that DE LAVAL has forgotten more about cream separators than its imitators and would-be competitors ever knew.

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DISEASES OF THE COW'S TEATS

By Dr. G. H. Conn, Ames, Iowa.

Diseases of the cow's teats are of much importance to the cow owner because the cow sometimes forms bad habits while afflicted with such diseases. Permanently injured teats and a complication of the adjacent part of the udder often result in permanent injury and resistance to treatment.

These diseases may be divided into those affecting the exterior and the interior of the teat. They may be caused by predisposing conditions such as infection from bacteria and from infection and inflammation that may spread from within outward during diseases of the udder. Exciting conditions such as use of mechanical instruments, excessive pressure during milking, injuries from stepping on teats when getting up or lying down, stepping over high sills, injuries from bushes, shrubs and the like in the pasture and from standing or wading in dirty, filthy mud or water or thru manure pits may also cause diseased teats.

Daisy Dean DeKol 2nd. Owned by R. H. Fleming, Bradford Co., Pa.

Cows having large, pendulous bags and large teats often step on them when getting up and lying down. After milking with a wet hand or after calf sucking, the cold, damp air will occasionally make them sore. Some young heifers have an abnormal udder or teat development, and others have teats in which there is no milk duct at all. Altho some quarters of the udder with ductless teats secrete milk the same as the others, it is necessary to make artificial openings thru the teats and dry her up and beef her. In some teats the milk duct is closed from the growth of the lining membrane and in others there is no opening between the milk sinus and the milk duct. Some of these last named cases are amendable to treatment and in others, it is unsatisfactory.

It should be borne in mind that some conditions of the teats can not well be treated when the cow is giving milk, but only at the dry period.

Chapped or Cracked Teats

This condition may be caused by one of several causes, such as sucking of the calf, milking the cow with wet hands, wading thru wet grass or thru mud and water, or from lying on wet bedding. It is then brought about by the chilling of the skin by the cold air.

This condition varies greatly, owing to the time that has elapsed, the manner of treatment and the sensitiveness of the skin covering the teats. At first it will be but a dryness and redness of the skin with marked tenderness evidenced while milking; but, if allowed to go along without treatment, the manipulations during milking and the other influences such as moist, damp atmosphere will sometimes result in deep cracks or fissures on the surface of the teats, often involving the deeper layers of the skin.

If this condition is recognized early, the teat should be painted after each milking with a compound tincture of benzoin, using a camel's hair brush. If the condition is pretty well advanced before treatment is well applied it is then well to use an antiseptic solution such as germicidal discs in solution of 1 to 1,000, filling cup with the solution and then holding against the udder allowing the teat to be suspended in the solution for at least five minutes after each milking and then paint with the following: One-half ounce tincture of iodine in two ounces (by volume) of glycerine, using a camel's hair brush. If there are any scabs formed, the solution just recommended will remove them and besides it is a very good antiseptic. It is sometimes necessary to use a sterile milk tube to draw the milk, as the teats are too sore to permit milking.

Teats Blocked By Casein

Due to unhealthy conditions of the udder, a teat will occasionally become blocked with coagulated casein which becomes very hard and dry from the loss of the liquid which it ordinarily contains; can often be moved up and down in the milk duct of the teat and often removed. If unable to remove, a small quantity of almond oil which has been previously boiled should be injected into the teat and then, after a few minutes, it can usually be removed with the aid of a spring dilator.

Warts on the Teats

Warts give more or less trouble when found on the teats and are very detrimental to an animal that otherwise might be a show animal.

Possibly the best way to rid the cow of them is to snip them off with a sharp pair of scissors and then paint the spot with tincture of iodine after each milking. This should be done when the cow is dry. If done while the cow is giving milk, it may be necessary to draw the milk with a tube for a few days.

Calculus Or Stone in the Teats

The teats of cows have been known to contain calculus or stones which are formed from the calcareous salts that are found in the milk. If it is impossible to remove them by the use of a spring dilator, it will be necessary to have a veterinarian remove them surgically, preferably best done when the cow is dry.

Tumor in the Teat

We occasionally find a teat that is obstructed with a warty or tumorous growth and this may occur anywhere between the orifice to the base of the teat. It is advisable to call a veterinarian to handle these conditions as it is most times necessary to remove them surgically, and this can best be done when the cow is dry.

Closure of Milk Duct By Lining Membrane

This usually takes place while the cow is dry and is not discovered until she freshens. It sometimes is possible to draw some milk from the teat that is affected, as the closure is not always complete. We have been able in a few instances to open the milk duct by working the milk tube from side to side and then in a circle. If this is not successful or is impossible, it is then necessary to take a small bistoury which is made for that purpose and cut thru the thickening in at least two directions. Keep this open by a spring dilator until healing has taken place.

This condition is caused, no doubt, from an inflammation within milk duct which brings the walls in opposition and they unite, either wholly or in part, thus closing the milk duct, either completely or partially.

Stricture of the Teat

This is a condition which to the average cow owner seems very simple, yet we are frank to say that in our experience it does not yield satisfactorily to the modern methods of treatment that are now employed by practicing veterinarians. We believe, tho, that they are as good as can be employed for such conditions. It is a very common thing to see a severe case of mammitis follow interference that is practiced in an effort to relieve a stricture of the teat.

Stricture of the cow's teat does not often close the milk duct entirely, but, when it does, it is usually in young heifers that have never calved before. If the stricture is near the end of the teat, the teat will fill with milk quite readily, but will either draw in a very small stream or will flow in several small streams in a sort of a spray. If it is near the top of the teat, it will fill very slowly, but it can be drawn from the teat quite easily.

A stricture located in the end of the teat will often yield to repeated dilation. Sterilize a teat dilator and wash the teat with an antiseptic, insert the dilator into the end of the teat and dilate to the proper opening, then let it remain in this position for a couple of minutes, after which the dilator should be removed for a couple of minutes. This procedure should be performed five or six times, at intervals of two or

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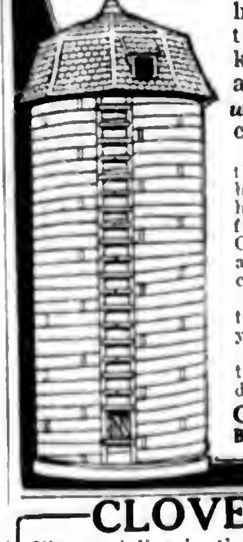

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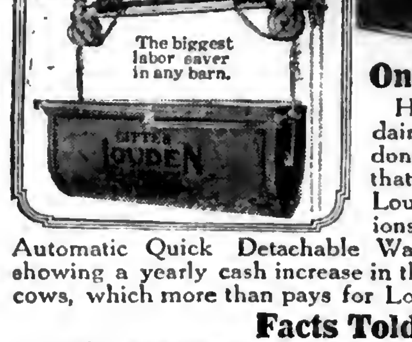

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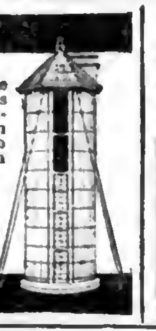

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three minutes rest between dilations, and treatments should be continued for several times at intervals of two or three days. A stricture that is located high in the teat should be treated only by a veterinarian, and then not until he has explained to the owner of the cow the danger of complications that may injure that quarter of the udder. It is strictly surgical in the majority of cases, but in a few cases where the stricture is not too high up a course of dilations are worthy of trial.

Absence of Opening

We sometimes find heifers that have a perfect udder and teat development, except that the external opening of the teat is absent. There is usually present a small depression where this should be. By means of a heavy needle or a small stylet the skin may be punctured after which the needle should be turned from left to right several times, using care that it is not pushed deeper into the tissue then laid aside, while a sterile milk tube is gotten ready, the opening made by the stylet or needle is enlarged by a small curette, after which the tube may be pushed thru the opening ino the milk duct. The opening should be kept open, until healing has taken place, by a dilator or a small piece of guaze soaked in glycerine, allowing it to protrude so that it may be removed in 24 hours.

Fistula of the Teats

This condition is usually due to an injury but may be the result of mammitis or other conditions affecting the udder. It is sometimes the result of cutting off of rudimentary teats. They may have a milk duct and in that case they may continue to drip milk continuously. This condition is very refractory and requires surgical treatment to affect a cure. If it has been of longer than one month's standing, it is well to defer treatment until the cow is dry; if not, good results may be obtained at any time.

135 BRADFORD COUNTY COWS MAKE 40-POUND LIST

During the past month 135 cows in Bradford County Cow Testing Association produced 40 pounds or more of butter fat. The Canton Association leads all other Associations in the county in the number of Quality cows. This Association had sixty-one to meet this requirement. The Eastern Bradford Association had twenty-six; the Laurel Hill Association had twenty-five and the Troy Association twenty-three.

The highest producer for this report was a pure-bred Holstein owned by C. W. Newman of the Eastern Bradford Association. She produced 89.3 pounds of butterfat. The second high cow was a grade Jersey, owned by C. W. Mitchell of the Troy Association. She produced 85.9 lbs. of butter fat. The third high cow was a registered Holstein owned by R. H. Fleming of the Troy Association. Her yield was 77.4 pounds of butter fat. The fourth high producing cow was a pure-bred Holstein owned by Fred Bohlayer of the Canton Association. She produced 76.6 pounds of butter fat.

Accompanying is a picture of a purebred Holstein cow, Dairy Dean De Kol 2d, owned by R. H. Fleming, Alba, Bradford County, Pa. This cow was the highest producer for last year of all the Associations in the county as well as the highest producer of all cows in all the testing Associations in the county in the past seven years. Her yield for the past year was 553.9 pounds of fat. The unique feature of this cow and her record is that for the six records which she has made during her whole life as a member of the Cow Testing Association for the 5½ years she has an average annual production of 11,088 pounds of milk, yielding 460.2 pounds of fat.

This remarkable cow has a wonderful reproduction ability as shown by her two daughters which are also very good producers. The one daughter produced 12,427 pounds of milk, yielding 494.3 pounds of fat. The other daughter produced 11,643 lbs. of milk, yielding 437.9 pounds of fat. This combination of butter fat production and reproducing ability makes Daisy Dean De Kol 2nd truly a wonderful cow. She has always been fed and handled with ordinary herd conditions but her owner possesses unusual ability in knowing what the cow likes to have for best results.—D. K. Sloan, County Agent.

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A TRIBUTE TO WILLIAM D. HOARD

The dairy word does well to honor the late W. D. Hoard for the pioneer work he did in helping to make dairying prosperous and profitable.

William Dempster Hoard, dean of American dairymen, knew the full meaning of the poverty and privation of pioneer life. Save for the teachings and influence of Godly parents, his opportunity for mental and moral growth was limited to a few months in the district school each year until he had arrived at the age of sixteen years. As a young man, his knowledge of the questions of the day was absorbed largely from the discussions he heard in taverns, stores and public gatherings.

Meager as were his opportunities, so profoundly did he ponder over the problems of the time that in later years when he was brought face to face with great questions, he had acquired a reasoning power, a breadth of judgment and a store of information that easily put to rout the subtle skill of the polished orator and exposed to view the arts of the political trickster.

With the breaking out of the Civil War he enlisted and served his country thru the four years of this great conflict. Returning to Wisconsin at the close of the war he shortly afterward established a little country newspaper, becoming its publisher, editor, and general roustabout, and it was from this modest entry upon a journalistic career that a great editor was to emerge and with him the founding of a publication whose influence has been world-wide.

With a prophetic vision, W. D. Hoard, discerned in the dairy cow the greatest saving influence in agriculture, and noting about him the crude, unscientific and unproductive manner in which dairy farming was practiced he devoted a great deal of attention to the subject in the columns of his local newspaper and believing that the time had arrived when the industry should be represented by an organ of its own, he launched Hoard's Dairyman.

If ever a man caused two blades of grass to grow where but one grew before, Hoard is that man. Up and down this broad land he went preaching the gospel of the dairy cow; for forty years he waged a battle against ignorance and prejudice, and today hundreds of thousands of happy, prosperous dairy farmers pay homage and allegiance to him as the great teacher, friend and companion.—Geo. W. Rankin.

Let Your Orchard Pay Its Share of the Farm Profit

Your apple orchard, even if you have only twenty-five or fifty trees, can be made to pay a substantial part of your farm profits. It should be one of the best money-makers on your farm. The way to make this extra profit is as *simple* as it is *easy,* and as *certain* as it is *inexpensive.*

Protect your fruit from diseases and insects. Keep your apples free from insect damage and fungous blemishes. Grow sound, clean, attractive apples,—the kind that people like to buy and that will bring you a good price. You can get more apples and practically your own price for them,—you can make your apple orchard pay a real profit by spraying with

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Fifteen more sound, smooth apples on the tree will usually pay for the PYROX it takes to spray it. But you are sure to have many times fifteen—for PYROX will protect your apples against the codling moth and other worms and bugs. It will keep them free from rot, spot and fungous diseases. It will increase the health and vigor of the tree as shown by the rich green color of the leaves, and the apples will hang on until they are ready to harvest in spite of even heavy windstorms.

PYROX is easy to use—just measure out the right amount and mix with cold water. It is a smooth, creamy paste, free from grit and lumps, and will go through the finest nozzle. It eliminates the worry and work of preparing separate chemicals.

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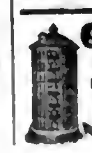

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HORTICULTURE

New York Fruit Growers' Meeting

Discussions of Interest to all Fruit Growers

The "round up" of the Eastern fruit growers at the annual meeting of the New York State Horticultural Society in Convention Hall, Rochester, January 14-16, was characterized by discussion on the insect pests, soil fertility problems and the unusual attention given to small fruits and vineyard crops. The production of grapes and berries was large last season and these fruits brought very attractive prices, which will undoubtedly lead to an increased planting of berries, and more attention to the care of the vineyards in the big grape belts. Just now it is evident that fruit growers are more interested in improving the quality of their products than in the marketing, especially apple growers.

Pruning Trees in Late Winter

Exhibits

In the large exhibition building the display of apples, pears and other fruits was large and attractive. The Geneva Experiment Station had a very large exhibit of box apples. The machinery and nursery men exhibits occupied a greater part of three floors.

The attendance during the three days reached the highest mark set by either of the parent societies in past years. Many growers were present from New England, Pennsylvania, Maryland and other sections. As a means of interesting the young men in fruit farming, boys under twenty-one years of age when accompanied by their fathers were admitted free, as were all students of agriculture in high schools and colleges accompanied by their teachers.

Dusting Vs. Spraying

One of the most highly interesting features of the meeting was a paper on "The Present Status of Dusting," by Professor W. H. Whetzel, plant pathologist at the State College of Agriculture. The subject of dusting has been before the fruit growers for several years. No other question is of more general interest, according to Professor Whetzel, with the exception of marketing. Every grower is debating on the question, "Shall I spray or take up dusting?" The question is not that a dry material is any more effective than a wet material of the same kind; but whether you can dust a dry material onto plants as efficiently as you can spray.

A summary of four years of experiments in New York state showed an average of 43 percent of scab on apples in the unsprayed orchards; in sprayed orchards 11 percent, and on dusted trees 12 percent. In controlling codling moth, there was 7 percent in sprayed orchards; 5 in dusted orchards, and 21 on unsprayed trees.

Michigan dusting experiments since 1915, four years, showed a little higher percent of scab on dusted than on sprayed trees, but the results from dusting have improved each year, being more effective this year than ever before.

Results of experimental dusting in Nova Scotia are similar to those in New York. Taking the three years, there was an average of 48 percent of scab on unsprayed, 7 percent on sprayed and 5 percent on dusted trees.

In Minnesota there was a less amount of serious scab on the dusted and more marketable fruit than in sprayed orchards. For scab and codling moth dusting has proved just as efficient as spraying.

Professor Whetzel recently sent out a questionnaire to apple growers in New York state, as to whether they favored dusting in preference to spraying. Of 73 replies, 49 said "yes;" and 9 said, "no." In reply to the question, does dusting control codling moth, 51 of the 73 said "yes." Replying to the question, will you spray or dust next season, 68 said "we will dust;" four favored spraying.

Professor Whetzel spent a week in Nova Scotia not long ago, visiting the apple orchards in the Annapolis Valley. He found that 50 dusters were used in the vealley, and 200 will be used this year. Not a single commercial apple grower opposed

dusting.

Being a strong believer in the greater efficiency of copper as a fungicide, Professor G. F. Sanders, Dominion entomologist, set about the development of a dry mixture to replace liquid Bordeaux. His tests in 1918 and in 1917 on both apples and potatoes have demonstrated the efficiency of his new copper dust. It consists of a mixture of very finely ground dehydrated copper sulphate and hydrated lime. The formulae used last season was dehydrated copper sulphate 8 pounds, arsenate of lime 4 pounds, and hydrated lime 88 pounds. Professor Sanders thinks the copper sulphate could be increased to 10 pounds, reducing the lime to 86 pounds per hundred. This mixture goes much farther than the 90-10 sulphur dust mixture commonly used. Experimental plats and orchards dusted four times with this copper dust mixture show good control of scab and but slight russeting of the fruit and with no injury to the foliage.

Dusting for brown rot control in peach orchards has given excellent results in Georgia, West Virginia, New York and two or three other states. Of 34 peach growers in New York State interrogated as to the effectiveness of dusting for brown rot 23 reported 75 to 100 percent control; six reported 50 percent or less; 31 will dust peaches next year, and three will not. Of 21 growers dusting cherries for leaf blight, 20 got satisfactory results, and will dust this year. It was predicted by Professor Whetzel that the next advance made in dusting will be a mechanical one, an improvement upon the distributor.

The cost account kept in Nova Scotia shows that dusting can be done at a lower cost than spraying. Dusting saves two-thirds of your time, and dust can be put on at the critical time, thus insuring greater efficiency and economy in the use of materials.

Prices and Profits

In his annual address, President U. P. Hedrick said that all things considered, the past year has been a poor one for New York fruit growers. Fruit crops have been below the average, and while prices have seemed high, they are low when the cost of labor, material and what money will buy are considered. The grape grower has been most fortunate, having marketed a fair crop at a price which would have been high a few years ago but is no more than reasonable at the present time. The blame for this partial failure in 1919 can hardly be attributed to the fruit grower. It is true that many orchards have been shamefully neglected in the past few years, but in most cases this has been because of the impossibility of hiring help at any price.

Markets have been unsettled owing largely to the fact that political and social machinery have been hammering farm prices and interferring with the proper storage of farm products. The prospects are less alluring for next year, fruit growers are discouraged and prices will go higher. Prices for Western fruits have been higher and steadier than for Eastern fruits, because they are better distributed and better advertised. Eastern fruit growers must advertise.

During the past year there has been a more determined effort than ever before in the ranks of fruit growers to work together. The main advance in co-operation has been in the central packing houses. About 125 co-operative associations are now in operation in New York, a goodly

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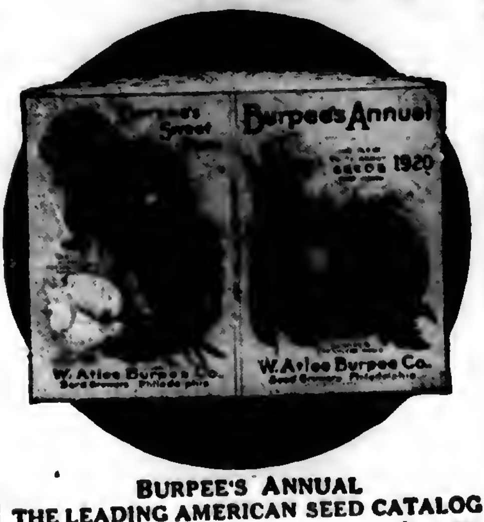

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They are made of materials that have given the best results in actual crop tests,—conducted on many farms in many states, under different soil and climatic conditions. A gain of thirty to forty bushels of potatoes per acre by using fertilizer best suited to the crop is not unusual. Equally good gains have been found with other crops. Our Agricultural Service Bureau is in charge of Dr. H. J. Wheeler, formerly Director of the Rhode Island Agricultural Experiment Station. It has helped many farmers to determine the best fertilizer for their needs. It is ready to help you. Write today for information—the service is free.

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Please Address Office Located Nearest to You

Fertilizer is highly concentrated. It is many times richer than manure. It must be applied properly.

When planting by hand, the fertilizer should be well covered by the soil or thoroughly mixed with it, before the seed is dropped.

If applied by machine select one that mixes the fertilizer with the soil thoroughly. Some corn planters have a special attachment for mixing the fertilizer with the soil. If you have one, be sure to attach it.

If fertilizer is applied broadcast, sow it evenly.

Fertilizer should not be applied to grass or grain that is moist. Apply around, and not on, other plants. —Advt.

number of which have to do with fruit growing and in nearly all of which fruit growers should have an interest.

Organization Necessary

The hope of these organizations lies in collective bargaining. The legal status of collective bargaining has been questioned. The growers must use their influence in every way possible to prevent the enactment of laws prejudicial to collective bargaining and to secure laws favorable to it. Whether or not collective bargaining is justified for other industries, there are special reasons why this privilege should be granted to groups of farmers.

Referring to the politics in the Department of Farms and Markets, Professor Hedrick said that propitiation of politicians is not compatible with betterment of agriculture. Agriculture should be represented at the state capital by a strong, independent, self-reliant institution giving its whole time to the needs of agriculture. The farmers of the state ought to take the Department of Farms and Markets out of politics and make it a stable, efficient institution managed by farmers for farmers.

In considering the question, "Are the fruit grower's profits too large," the mind must not be confused by money. For true value, one must have in mind what farm products will buy. Time was when a barrel of apples would buy the farmer his shoes; it takes two barrels now. A few years ago three or four barrels would buy a suit of clothes; it takes twice as many barrels now. Two pounds of apples would buy a pound of sugar five years ago; four to one, are required now. A barrel of apples would pay the day wages of two men before the war; it scarcely pays one man now.

"For a half century, capital sat at the head of the table carving the turkey, giving the laborer and the farmer the wing or the neck, sometimes only the bones. Now labor proposes to sit at the head of the table carving the bird. Labor expects to take the white meat and the short joint, giving the farmer, as a poor relation, the wing and the neck, leaving the bones for capital. The bird, however, is still in the hands of capital. Isn't it time to ask where the turkey came from? Didn't the farmer raise him? Might not the beautiful bird have been carved by the farmer? Might not the farmer have a little to say as to where the best slices are to go? Hasn't the farmer played poor relation long enough? The fruit grower's profits are not too large; to the contrary they are insufficient, and if capital and labor possess judgment and foresight they will cease hounding the producer of foodstuffs and give him that for which he asks, a decent living and a fair profit."

"Is there a Better Method of Handling the Apple Crop in New York State," was the subject of an address by Charles S. Wilson, commissioner of agriculture. Mr. Wilson said he wished that every one in the audience might visit the New York market, and suggested that the fruit growers hold their summer meeting in New York City, devoting the session to marketing and making the visit to the market early in the morning an important feature of the programme. He promised to provide leaders for the groups of visitors.

In investigating the market, Commissioner Wilson found that about as many cars of Western boxed apples were sold in New York City as there are cars of New York state apples. Conversations with the apple men, however, had convinced him that the barrel is still the package for New York apples. Further argument in favor of the barrel is found in the selling price of barreled fruit.

ALFALFA IN ORCHARDS

In a recent edition of the "Pennsylvania Farmer" I noticed an interesting article by Prof. Stewart referring to the indirect fertilizing of orchards by growing alfalfa as a permanent cover.

If permitted I take this privilege to further affirm the good policy of seeding orchards to alfalfa, especially on thin shaly soils with steep slopes.

A little more than a year ago I had occasion to call on one of the county commissioners, a farmer, near Easton, and my attention was directed to an apple orchard of a few acres. This orchard is located on a slope of about 35 degrees and was started twelve years ago.

At first glance I noticed a big contrast between the first and the second half of the orchard. The trees of the first half were burdened with fruit and the foliage, green and healthy, was still clinging to the trees. The trees of the other half had very little fruit with scanty foliage yellow in color. These trees showed signs of starvation which I noticed at once but I did not know why. Then too they were only half as tall and averaged eight to ten inches less in circumference than the former. I concluded at once that these trees were not over six, seven years old.

The owner explained that all the trees were planted twelve years ago; that they received no attention but the necessary pruning; that part of the orchard now in bearing for four five years needed by far the most pruning; that the different varieties were evenly distributed all over the orchard and that he was unable to account for this difference.

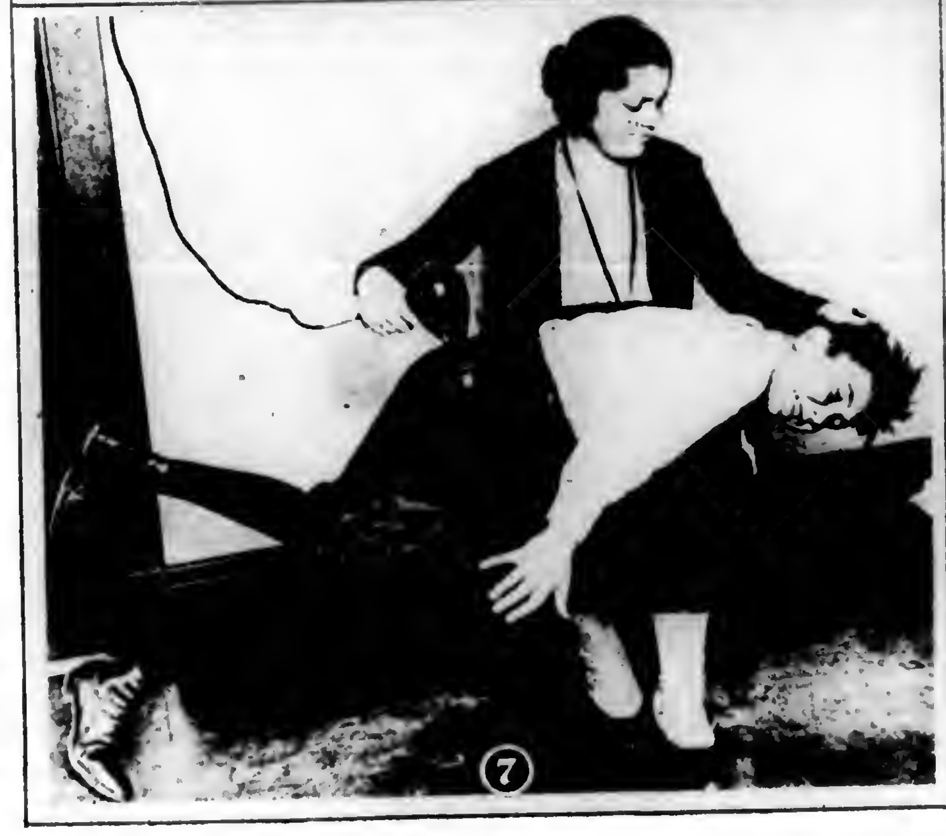
Still puzzled as to what caused this remarkable difference I suggested that it must be due to the fact that the soil of the more prosperous part of the orchard was naturally more fertile. The owner assured me however that the soil on this half of the orchard was even poorer and more shallow that that of the second half and that the contrast was too sharp at the dividing line. Upon investigating I found that the soil was very shallow at this place and the slope by far the steepest.

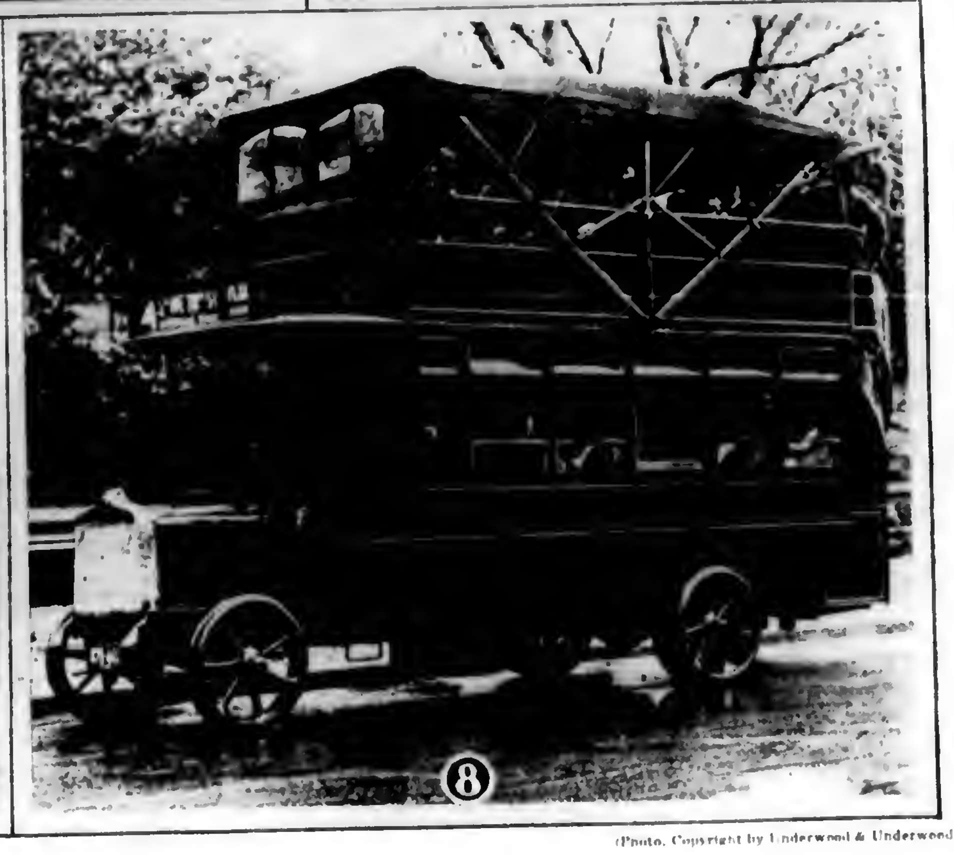
The poorer section of the orchard was in natural blue-grass sod very thick and tuff while the section where the trees prospered had an excellent stand of alfalfa.

I was at once sure that the good condition of those apple trees was due to the alfalfa only, and I told the farmer my conclusions. He explained that two years after the trees were planted he plowed the whole orchard and seeded the half to alfalfa while the second half he allowed to go to blue grass sod. He did not harvest any alfalfa crop but mowed it occasionally using it as a mulch.

Since this experience I am encouraging the farmers of this county to seed their orchards to alfalfa. Many have visited the orchard upon my suggestion and are convinced. I was timid however, in making public mention of what I felt confident to be good practice among fruit growers as I knew that there is very little experimental data on this subject.—C. W. Klapp, County Agent. Northampton County, Pa.

PASSING EVENTS IN PICTURES





(Photo. Copyright by Underwood & Underwood)

1.—Admiral Sims, Who Has Stirred Things Up in the Navy Department.

2.—An Aeroplane, Carrying a Man and Woman, Wrecked by Fall. Passengers Uninjured.

3.—Ellen McAdoo, the Four-Year-Old Daughter of Former Secretary of Treasury.

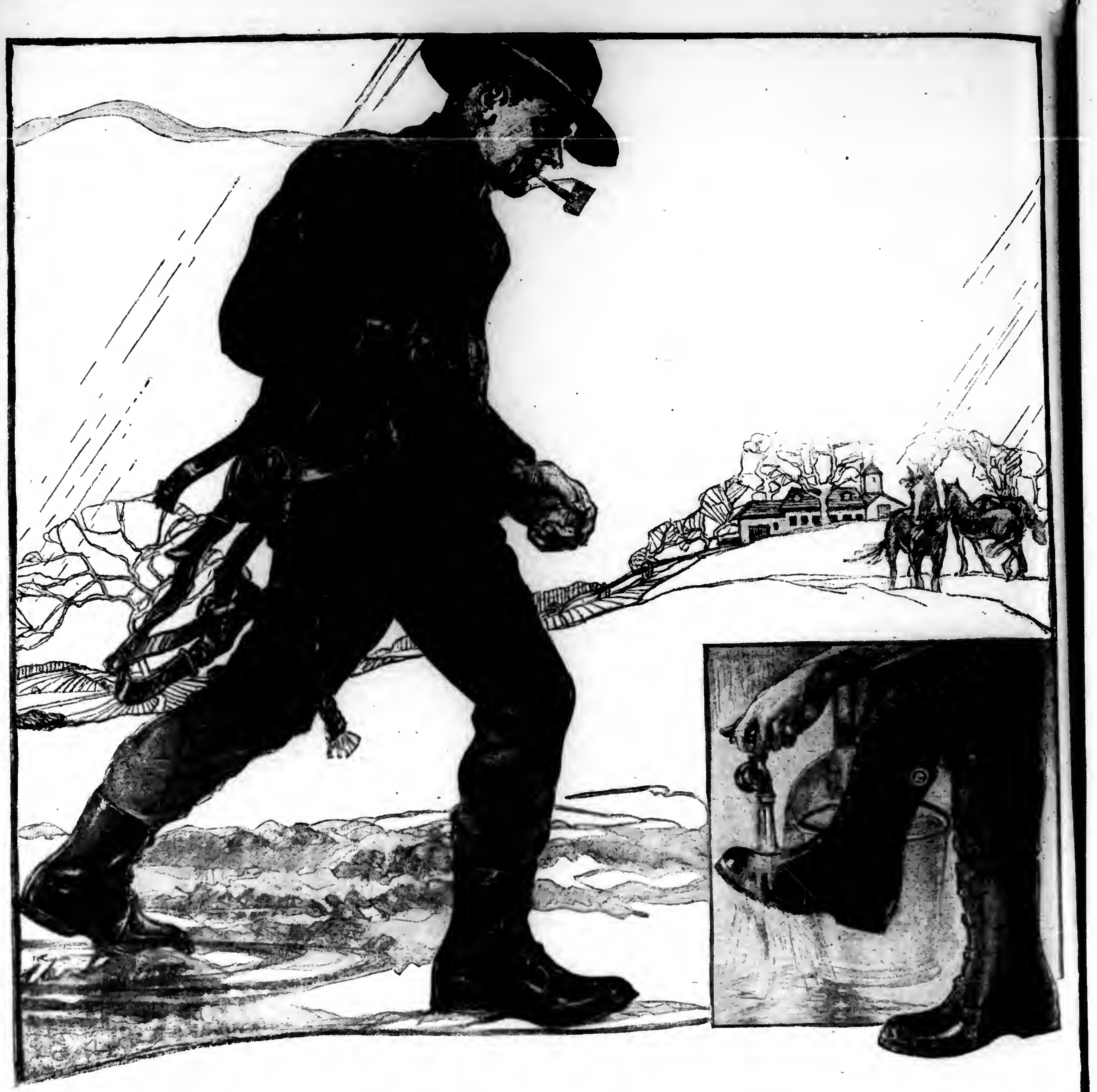
4.—Capt. E. Tupper, English Labor Leader, Recently Returned to England.

5.—Gov. Lowden, of Illinois, Who Has Been Mentioned For President.

6.—Miss Aguinaldo, Daughter of the Famous Philippine Chieftain, Attending College.

7.—An Electric Spanker May Be a Convenience to Mothers But Will Scarcely Prove Popular With the Boys.

8.—Off For a Ride on One of the New Type Two-Story Rain-Proof Busses Used on the Streets of New York City.



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HERE'S an overshoe that gives you the *best* points of the arctic combined with the *best* points of the boot. It's called the U.S. Walrus—don't forget that name! This new overshoe slips on and off easily over your leather shoes. Its warm, fleecy lining keeps your feet comfortable in the coldest weather. And its smooth rubber surface washes off as quickly and cleanly as a boot.

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The comfort and convenience of this new overshoe are backed up by real strength. Made by the oldest and largest rubber manufacturer in the world, the U. S. Walrus is *built to last.* Its sole consists of heavy layers of the finest rubber. All other points of strain are specially reinforced.

Ask your dealer today to show you the new U. S. Walrus. Note the warm lining—the smooth surface—the strongly-reinforced construction. After you've worn a pair for a day or two, you'll realize why they're fast becoming so popular with farmers everywhere.

Other "U. S." models—all built for the hardest wear

Whether you prefer a boot for the wet season, a bootee or rubber for general use, or a cloth-top arctic—you can find in U. S. Rubber footwear exactly what you need. Tough, heavy soles—special reinforcements at toe and heel—and *always* the highest quality rubber—these points are winning U. S. Rubber footwear thousands of new friends every year.

Ask for U. S. Rubber footwear—it means solid wear and long service for your money.

"U. S." Boots—Reinforced where the wear is hardest

1—**The sole**—Five soles in one, all of the finest rubber and fabric.

2—**Back of the heel**—Every step you take puts a strain on the seam in back. At this point every U. S. Boot is reinforced with *ten thicknesses.*

3—**The toe**—won't break through like the toe in so many boots. It has three heavy layers, a special toe-cap, and an extra sheet of highest quality rubber on the outside.

4—**The "bend" in front**—A boot has no lacing in front to "give" as you walk. Every mile you cover the rubber there bends and buckles 750 times. Six heavy thicknesses give long wear to U. S. Boots at this point.

"U. S." Boots—Are made in all sizes and styles: Short, Storm King, Sporting, and Hip. In red, black, and white.

"U.S." Bootee—Worn right over the sock. An all-rubber surface, easily washed off. Absolutely water-tight. Hy-Bootee, six eyelets; Lo-Bootee, four eyelets. In red, black, and white.

"U. S." Arctics—Made of snow-tight cashmerette, warm and comfortable. Reinforced where the wear is hardest. In one, two, four, and six buckles, all weights and sizes.

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"Quality? Right! Every single article at 'Farm Implement Headquarters' is selected for quality—by experts. It has to be good. Otherwise, it could never meet the broad, exacting, N.F.E. Guarantee that assures every customer a complete, lasting protection. You take no risk—you're sure to be satisfied—when you deal with 'Farm Implement Headquarters.'"

Cast Metal Scraper Agitators revolve on axle and function for both agitation and force feed.

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THE N. F. E. Spreader—for lime, plaster, fertilizers and ashes—was chosen strictly on its merits. It **sows even, fast** and **economically**;—is **very strong** and **durable,** and exceedingly **simple in construction.**

It feeds **without clogging or arching.** This is a fact, not a mere claim. Revolving with the axle are numerous cast metal Scraper-Agitators—a set of cast fans for each feed opening. Box has non-corrosive bottom—Scrapers fit close to bottom;—no chance for accumulation. ¶ No gears, cranks, shakers or chains. Drive is continuous from both metal Wheels—either or both of which are thrown out of gear at will. You can regulate instantly and exactly for thickness of sowing required. ¶ Loading is easy—wind trouble avoided—by the low Box. It carries a good load for two horses;—sows 100 to 4000 lbs. dry lime per acre. The Spreader is light—shipping weight only about 400 lbs., but strong and well-braced in every part. No wobbling of Wheels on the 1¼" steel Axle. Screen for Box, extra, $2.25.

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The Famous O. I. C. Swine

We have the undefeated herd of the world. Winning premier breeder and exhibitor at every fair shown in 1919, 1918, 1917 including the following state fairs—Ohio, Michigan, Indiana, Illinois, Missouri, Kentucky, Tennessee, Oklahoma, New York, Alabama, Tri-State Fair at Memphis, and the National O. I. C. twice. Stock of all ages for sale, registered free in the O. I. C. Association. Order now. We will ship any of our stock on approval and allow you to keep three days before you have to pay for it. You will be your judge on your own farm.

Crandell's Prize Hogs, Cass City, Mich.

LIVE STOCK

LANCASTER AS CATTLE CENTER

"Little Giant of the Cattle World"

Up here in Lancaster County, the Garden Spot of America, supplied with the finest pasture lands in the world, what was once a little collection of cattle pens where farmers went to argue the merits of a cow or a steer, there has been established one of the most active cattle markets east of the Mississippi River. The Union Stock Yards of Lancaster today vie with the great centers of Chicago and Buffalo, and Lancaster has expanded into the "little giant of the cattle world." Prominent dealers who handle thousands of head of cattle a month, when asked for an explanation of the phenominal growth during the past five years, seem to be at a loss in presenting an explanation. "'Tis a logical center for cattle," they say.

Be that as it may, the past several weeks of cattle business here have established new records for volume, both the number of cattle handled and the prices obtained surpassing any figures ever prevailing before. An idea of the growth can be had from the fact that five years ago, empty pens could be found without a search. Since then, several large additions have been made to the yards, and this winter, the railroad sidings have been cluttered with cattle trains and cars, because there were insufficient pens to accept the enormous quantity of cattle received.

Ready and Willing—The Result of Good Care and Feeding

The flash of increased business which has swamped the local yards can be partically attributed to the rekindled interest in cattle raising in Lancaster County, almost every farm being stocked with all the cattle the pasture lands can accomodate. Also, a county-wide steer feeding campaign, which will reach into both York and Berks Counties, will soon be begun under the auspices of the Lancaster County Farm Bureau, six mass meetings of cattle raisers having been included in the program. The work will also stretch into Dauphin County, for a big delegation of farmers from that county will be on hand. Cattle received here are shipped from all sections of the east, the majority coming from New York State, Ohio, Virginia, Maryland, and Pennsylvania. The majority of the receipts are feeders, and these cattle in enormous numbers are taken onto the feeding lands of every county adjoining Lancaster.

So important has become the cattle business in Lancaster that the Bureau of Markets of the U. S. Department of Agriculture has established an office here. Dealers here are very optimistic over the future of the local yards, and plans are now under way, which if materialized, will carry the pens over another big tract of land.—R. G. Regester.

EXPERIMENT IN STEER FEEDING

Two methods of housing and six rations common in Pennsylvania are being tried on steers being fed for the spring market in the annual steer feeding experiment conducted by the Pennsylvania State College. Part of the animals are kept in open sheds with a yard for exercise. They are out of doors all the time, but are sheltered from winds and storms by the sheds. The balance are kept in a barn entirely.

Those in the open sheds are divided into six lots of twelve head each. Lot 1 is fed all the silage and corn stover they will eat. Their grain ration consists of 14 pounds of broken ear corn per head and 2½ pounds cottonseed meal per 1000 pounds live weight daily. Lot 2 gets the same ration with the broken ear corn left out. At the end of 84 days this will be added at the rate of 15 pounds per head daily. The ration in the case of Lot 3 is similar to that of Lot 1 except that linseed meal is used in place of cottonseed meal, about 3 pounds per 1000 pounds live weight of steer being supplied daily. The fourth lot receives all the corn silage they will eat and a small amount of corn stover, also 2½ pounds of cottonseed meal, but no corn. Lot 5 is fed the same with the exception that linseed meal is substituted for cottonseed meal.

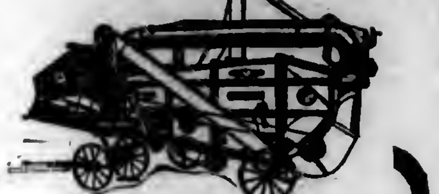
The cattle housed in the barn are divided into two lots, the first of which is given a ration of 18 to 20 pounds corn silage and a little mixed hay,—about 2 pounds a day per head,—ear corn at the rate of 16 pounds per head daily and cottonseed meal at the usual rate—2½ lbs. per 1000 pounds live weight. The other lot gets the same ration with one-third of the corn ration displaced by blackstrap molasses. The experiment is run to furnish additional information about the most profitable ways of feeding and caring for steers during the winter in this state.

PROLIFIC COWS

I have an O. I. C. sow which has farrowed her third letter of pigs within the year 1919. **January 12,** she farrowed twelve and raised nine; June 30, she farrowed eleven and raised ten; and December 18, she farrowed twelve and nine are living and thrifty.

During the year an average of three sows have farrowed seventy-five pigs of which sixty-six lived and some good fat ones have been butchered for winter's meat.

I have made a business of supplying weanling pigs to my customers for several years as well as to develop a strain of purebred registered O. I. C.'s of the best quality. I am very well satisfied with the past year's record.—Edward W. Lydick, Indiana County, Pa.



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Made in two sizes—20x32 and 24x40. Will thresh any kind of grain or seed, peas or beans.

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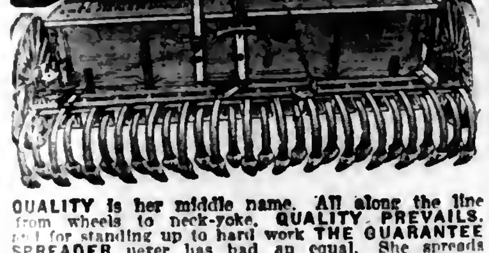

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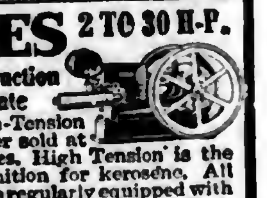

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WANTED—On a small farm two miles from Wilmington, Del., an experienced farmer. Good horseman. Work on salary. State experience and reference. Address: A. L. FOSTER, Montchanin, P. O., Delaware.

Highland Stock Farm Belgian Horses, Jersey Cattle, Large Berkshires, and Indian Runner Ducks. Stock for sale at reas. prices. Anselm R. Kirsch, Nicktown, Pa.

SHIREY'S S. C. White Leghorn Baby Chicks 14c and up according to season. They make the greatest egg producers on earth. C. P. Shirey, Stewartstown, Pa.

$40 per month and expenses paid good men for taking orders. Steady work. PROTECTIVE NURSERIES GENEVA, N. Y.

PLEASE say: "I saw your adv. in Pennsylvania Farmer."

WHAT GOOD HORSES DID

Rookwood Farm, Iowa, consists of a half section, about one-half of which is in wooded pasture land. The balance is tilled for crops. Twelve years ago, I stocked the farm with four Percheron mares, two imported weanling filleys, and one pair of medium weight geldings. The total outlay for horses at that time was $2185. I have made no expenditures for Percherons since, and three animals of the original purchase are still in service on the farm. Two and one-half years later, I disposed of two of the less desirable mares and replaced them with younger stock raised on the farm, without additional cash outlay.

The policy has been to maintain just enough brood mares, in addition to the pair of geldings, to do the farm work and to breed the mares to the best stallions available. The present stock consists of six head of brood mares, two geldings, and two colts. The total sales of colts during the twelve year period amount to $8835.00. All colts have been sold under two years of age, and four of them were sold under one year of age. Two mares have died during the twelve years, and one colt was crippled and of little value.

As an indication of the value of a good sire, two colts were sold at one year ot age in succeeding years, from the same mare, both sired by imported sires, but one sire was very much superior to the other. The colts were equally well grown, and in good condition at time of sale. One of them sold for $350 and the other one for $1000. The total sales for colts from these horses might easily have exceeded $10,000 if a better sire for mating the mares had been available during the earlier years.—C. F. Curtiss.

HOG RAISERS ORGANIZE

The farmers in the Bald Eagle Valley, Clinton County, Pa., have taken steps for the improvement of swine. This section is well adapted for the growing of hogs, because of the excellent pasture and forage crops, which can be most economically used in hog raising, and because of the splendid markets available.

The people in this community are taking an exceptional interest in better hogs, and in starting this swine association, intend to secure the best foundation stock obtainable, so that in the future they will be able to supply the demand on the part of those who are desirous of good foundation stock.

The matter of the best foundation stock will not be overlooked, and in order to place the association on the best road. Dr. Havener, of the Extension Department, State College, is assisting in the selection of the stock. Dr. Havener is well acquainted with the best strains in the big hog growing sections, and is well fitted to guide the organization in its start. He was present at the organization meeting held on the evening of January 13th, and outlined the methods of procedure. Officers were elected, resulting in the selection of Harry Salmon, president; Ray Williams, vice-president; Ray Orner, treasurer and Birch R. Ober, county agent, secretary.

The interest in this movement is the result of the community organization in this section, which holds monthly meetings the first Thursday in each month, the purpose of which is to discuss all problems of local interest and importance.—Birch R. Ober, County Agent.

Increase that Milk Check from 10 to 20% next month!

Do it the way thousands are doing it: from the smallest dairyman to the largest ranchman. Mix Cane Mola, the wholesome West Indian cane molasses with your cows' ration. Watch them go after their feed—lick up every last shred and call for more.

What's the answer? Why so big an increase in milk yield? Read Bulletin 117, Dept. of Agriculture. Tells of tests held at Maryland Experiment Station. When cane molasses was mixed with a hay and grain ration it increased its digestibility 14%—with a hay ration, 24%. *The stock got that much more good from their feed.*

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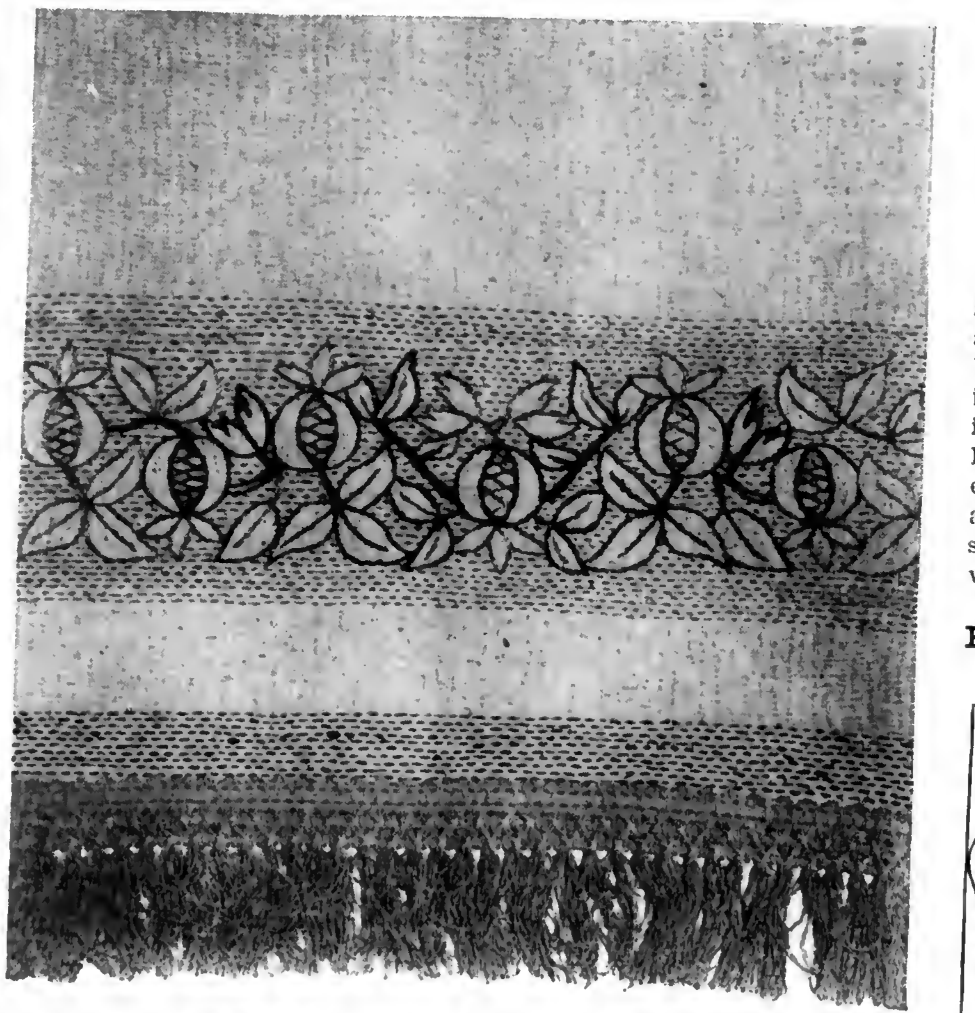
POMEGRANATE DESIGN FOR TABLE SCARF

An extremely effective looking scarf is made from a yard and a half of linen toweling or crash 18 inches wide, with the pomegranate design illustrated herewith set in a background of darning. The work is all done in a medium heavy floss in several shades of dull or Delft blue. It is very easy to do, and is not at all hard on the eyes as are many of the more finely wrought designs. If the scarf is wanted for a room where blue would not be harmonious, choose some other color.



Pomegranate Design For Table Scarf

The fruit and leaves are first worked in the familiar outline stitch. Then the central section of each pomegranate is filled in with graduated herringboning. Now darn in the background with plain darning around the pomegranates and their leaves and stems, that is use a plain running stitch, doing this with a medium blue shade. These darning stitch rows are alternated so that where a stitch shows in one row, underneath it in the row below there will be a space of the cloth; make the rows about one-fourth inch apart. A narrower row of this darning serves as a heading for the fringe at each end of the scarf.

The fringe in this scarf was purchased and sewed on. If desired, instead one may turn a wide hem with a row of hem-stitching to hold it in place. Or the ends of the scarf may be raveled out, and the lengthwise threads knotted to form a fringe.

If you should wish to use the same design for decorating some curtains, you can do so by repeating the design for the length needed.

We do not furnish the transfer design for this piece, but any one who can draw a little can easily copy and enlarge it to suit the particular purpose for which it is desired. Then it can be copied onto the material by laying a piece of transfer carbon paper between the design and the material.—Mae Y. Mahaffy.

CARELESS HANDLING OF MILK

The care of milk in winter is quite as important as in summer, tho it does not sour so quickly now.

Milk is the kind of material in which many harmful bacteria thrive once they get into it. Not all bacteria sour it, in fact the most dangerous members of this family do not.

Bacteria grow most readily in milk which is slightly warm but they can live in cool milk in winter so it must be carefully protected from dirt, dust and insects all the time.

It should be kept covered when not being used. People who have been in the habit of keeping their milk in open pans or crocks should lay something over them.

Do not let a child or any one else drink from a cup and then dip it into a crock of milk. The cup may carry bad cold germs or other germs into the milk when this is done. Keep a special utensil for dipping the milk.

A bad habit which some persons handling milk in open pans or crocks must overcome is the dirty one of blowing the cream to one side with the breath when wishing to dip out some of the skim milk. A sneeze, cough or whiff of breath such as blowing sends bits of moisture out of the mouth bearing any bacteria or germs which may be there. Even healthy people usually have a few dangerous germs lurking around in their mouths waiting for a good chance to make an attack, and these can live in milk, like they do in mouths, once they get there and once they get into some body else's mouth from the milk. The last person may not be able to resist them, so it is a dirty, unkind habit to blow into a dish of milk. And better use milk cans with fitted covers.—Edith Allen.

BABY'S CLOAK

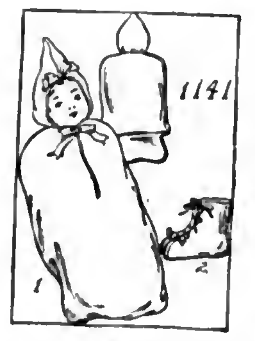
Style and Material

I recently saw a nice cloak for baby made of common table silence cloth. The idea of using this material for a baby cloak may not be new to others, but it was to me. The material is so wide that one length was sufficient.

The cloak that I saw had no sleeves, and was sewed up across the bottom and part way up the front, and had a bonnet attached, so that when baby had it on the little hands and feet were snugly buttoned in. It laundered well, and in every way proved to be a very sensible, serviceable little garment.—Mrs. Perley W. Lawton, Tioga Co., Pa.

(Editor's Note.—Here is a pattern for making such a robe for baby. There will be many days yet this season when such a warm wrap for the little one will be needed. And it is not much work to make one by this simple pattern, so get your material and run one up some afternoon. Maybe you have some material already in the house that will answer. And if not, we advise you to take Mrs. Lawton's advice and get some silence cloth for the purpose, lining it with a warm lining material because the silence cloth is cotton and not so warm as woolen.)

Pattern For Making The Cloak; Also Shoes



Pattern No. 1141. — Eiderdown, blanket cloth, duckling fleece, flannel or any soft wool material may be used for the robe outside, and it may be lined with wash satin or silk, flannel, or with sateen if interlined with some woolen material that will wash. The shoes may be made of quilted satin or silk or of felt. The pattern comes in only one size. It requires ½ yard of 20-inch material for one pair of the shoes, and 2¼ yards of 36-inch material for the robe. Pattern costs 10 cents, and can be had of the Pennsylvania Farmer.

ETHER FOR CLEANING

It is quite generally known that either is superior to gasoline or benzine for cleaning textile fabrics.

It is seldom used, however, because it is considerably more expensive than gasoline; that is, a quart of gasoline will cost much less than a quart of ether, but it does not necessarily follow that the use of ether is more expensive than gasoline for cleaning clothing.

It is becoming more and more difficult to obtain pure, high gravity gasoline. Absolutely pure gasoline is not likely to spot even the most delicate silk, but if it contains a little kerosene, as most commercial gasolines now do, a stain is left where a spot on a garment is removed. The only way to avoid this is to dip the entire garment.

Thus in figuring costs in a case of this kind, it becomes necessary to compare the price of a drop or two of ether with enough gasoline in which to dip an entire garment. Therefore, in spite of the fact that a quart of gasoline costs much less than a quart of ether, it may really be cheaper to use the ether in removing comparatively small spots from delicate fabrics because it is necessary to use so much less of it.

Less of the workman's time is also consumed in working with the ether than with gasoline because he is compelled to operate only on the soiled portion rather than to handle the entire garment.

In using ether, or gasoline either for that matter, great care must be taken to keep the container absolutely airtight because both substances are very volatile and evaporate rapidly if exposed even slightly to the air.

EXCHANGING HOUSE WORK

I believe since the war the price of all help soars instead of declining and if any help were available, it would be entirely beyond the farmer's purse. The situation constantly becomes more acute and, after dismissing various plans as unworkable, nothing seems to remain within the reach of the average farmer's wife but to exchange work just as the men often do. I know a neighborhood where this was done quite extensively some years ago when help was much cheaper than at present.

It worked well then altho it never seemed to be done in such a business like way as the men do it. I can see no reason why any two neighbors might not profitably exchange a day's work now and then, as the necessity of either required.

I am probably in as poor circumstances as almost anyone to be able to work outside my own home. My mother is permanently helpless and there are five of us to keep house for, but whenever the men were not too busy to look after mother I could leave for a few hours, and I believe almost all country women could do as well. During housecleaning or canning time a few hours work helps out wonderfully, the work could be planned so that one woman's busiest day would be the other woman's least busy time, and the exchange could be made mutually helpful without being especially burdensome. I'm not recommending this as a permanent plan but simply as a temporary makeshift with which to "patch up" the present labor problem until such time as the price of housework shall come within the reach of the average purse. No farm woman, who isn't sick in bed, can afford to pay 20 cents an hour for help, and the seriously sick ones would do better to employ a nurse.

A man who is fairly handy makes excellent household help and our men say that they can better afford to hire a man outside and help me themselves.—E. M. A., New York.

FISH NOT A BRAIN FOOD

Fish is no more a brain food than any other wholesome kind of food. The best brain food is that which keeps the body well nourished and in a healthy condition. No one food alone can do this, for some repair body tissues, like meat, fish, eggs, milk, cheese, and substances found in abundance in dry beans and peas; some furnish heat and energy, like starches and sugar and fats; some furnish other essential materials, like acids, fibrous substances to give bulk to food, water and body regulaters—these latter are furnished by such foods as fruits and vegetables.—Edith Allen.

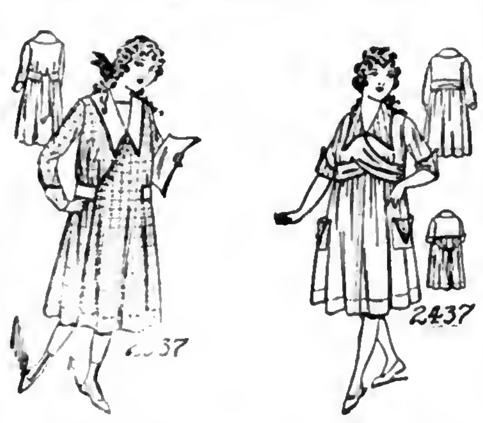
DOUBLE THE USE OF YOUR ROSE ARBOR

Double the use and beauty of your rose arbor by planting a clematis vine at each corner. This does not bloom until long after the roses have gone. Then when the masses of white filmy clouds, glorying in fragrance, cover the entire arbor, one is filled with delight and wonders why the space has not heretofore been thus utilized. As the clematis may be cut back after blooming or seedtime, the growth never interferes with the roses.—L. W. W.

PENNSYLVANIA FARMER PATTERNS

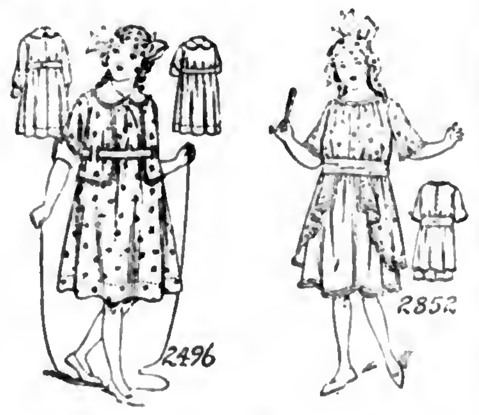
Give figures and letters of each pattern exactly as printed at beginning of each description or we will not be responsible for correct filling of orders. Give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261 S. Third Street, Philadelphia, Pa.

2337.—The fronts are reversible and overlap at the center, with the belt sections or sash ends joined to the front edges and holding the fullness over sides and back. The pattern is cut in 4 sizes: 8, 10, 12 and 14 years. Size 12 requires 4½ yards of 36-inch material, with 2 strips 36 inches long and 5 inches wide, for the sash ends. Pattern, 10 cents.



2437.—The surplice effect on the waist is very pleasing. You may finish the dress with a belt over the back or with a smart sash of ribbon, silk or material.. The pattern is cut in 5 sizes: 6, 8, 10, 12 and 14 years. Size 8 requires 3¼ yards of 44-inch material. Pattern, 10 cents.

2496.—Here is a simple, one-piece model, that may be finished with or without the jacket portion. Flouncing, embroidered batiste or voile, crepe, challie, dimity, lawn, dotted swiss, silk and gaberdine could be used for this style. White organdie would be nice with tiny frills of pale blue or pink for decorations. The pattern is cut in 4 sizes: 4, 6, 8 and 10 years. Size 6 requires 3¼ yards of 36-inch material. Pattern, 10 cents.



2852.—This design is pretty for dotted Swiss, for dimity, organdie, lawn silk, voile and batiste. As here shown, figured and plain voile are combined with "val." lace and insertion for trimming. The tunic may be omitted. This pattern is cut in 4 sizes: 6, 8, 10 and 12 years. Size 10 will require 3⅝ yards of 36-inch material. Pattern, 10 cents.

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POULTRY

AN ELECTRIC EGG PLANT

By HOWARD MITMAN

We are getting today, December 17, 1919, twenty dozen eggs from a flock only 100 birds larger than last year. This means 50 percent from the pullets and more than 40 percent from the yearlings. Last year on the same date our egg basket brought in 18 eggs, and thereby hangs a tale.

We had heard of lighting poultry houses to encourage egg production during the winter months but gave it little heed until the reason for the practice came to us; then we decided to light up. The plant was purchased in September or a little earlier, but pressure of work made it impossible to get it in operation before November. To be exact, the lights were turned on in two houses November 5th, about six weeks ago. The result, so far has been satisfactory and has fully justified the effort and outlay. We had long wanted electric light for the house and other buildings and this seemed to be the chance to have it and make it pay besides.

The reason underlying increased egg production is not one of light so much as of feed and attention; but the light makes the newer feeding method possible. It is an effort to equalize the winter light with that of summer, giving the birds longer hours for feed, water and exercise, fewer hours of darkness and the chill that goes with empty crops. Digestion in active, healthy birds, is rapid, and by midnight the fuel is exhausted and the bird sits, shivering and waiting for the day. But few birds go to the nest for an hour or two after breakfast because they are too chilly and indifferent. The long hours without food exhausts their vitality and what they get later is all needed to make up the loss. It is, then, the exceptional hen, or the hen exceptionally housed and cared for, that produces winter eggs. Making it possible, with lights, to provide a very early breakfast and thus to shorten the period of fasting, lessens the drain emptiness gives and enables good birds to pay the rent.

Possibly, and not at all unlikely, the increased hours of light, the health giver, may benefit the birds and thus help directly to fill the egg basket; but the principal advantage, we believe, lies in the shorter time between meals so that the digestion and assimilation of the feed goes on during the hours of a long summer day, tho it be mid-winter.

Since early feeding and watering does the business, we began in September, the system we expected to follow when there was light, thereby preparing the birds for what was to come. The feed, both mash and grain, usually given in the morning was given the night before after the fowls had gone to roost, thus being ready for them at earliest peep of day. Likewise the water pans were cleaned and filled. Of course these things could have been done very early in the morning, but with much work pressing we did not always get round to it. The evening feeding made it certain.

Our present method varies but little from this. Before sundown the evening feed is given, consisting exclusively of corn. The measure is liberal and generally some remains for breakfast. When night has fallen and the birds are all at roost we give them:—On the floor, all the oats they will eat up clean; in hoppers, dry mash; in covered feeding troughs, all the wet mash we believe they will clean up. The mash, both wet and dry, consists of two parts, each, of bran, and gluten; 4 parts of wheat middlings; 1 part of beef scrap. The wet mash is more properly called dampened, for just enough water is added to make the mixture of a crumbly texture. We go to this trouble because the birds really prefer it and will eat much more mash than if the dry mixture alone is used. We find we are thus able to use a larger proportion of mash, and less hard grain. We are able, also to omit wheat from the ration, for wheat is too expensive.

One of the problems most difficult to solve is the water supply. There must be water as well as feed awaiting the early birds. Many take a drink the first thing after descending from the roost. Roosting is evidently a thirsty business. With colder weather we are filling the water pans with boiling water about 10 P. M. This is still iceless when the new day begins at 3 and is all used by daylight. The supply is then replenished. This morning the mercury touched zero, but the water was all right. We realize, however, that on many of the stormy nights we must expect, when the wind drives out every atom of heat from the houses, this device will not be enough. We are trying to contrive a better way. We of course, could use a small oil stove to heat each pan but the ever-present danger of fire makes that plan inadmissible.

The lights are turned on promptly at 3 in the morning. Then there is a real "sound of revelry by night." Busy biddies are singing the lay of the egg; roosters try to out-crow one another; and presently a joyous cackling proclaims the nesting of another egg; of many eggs. At 4 the nests are full of earnest workers while there is a waiting list standing on the foot boards. This is really, to us, the most surprising part of the performance, for we had become so accustomed to the idea of daylight laying that we were slow to appreciate the hens' newer ways. The light is turned on by a switch at the bedroom window and an alarm clock gently rouses me when the time comes to perform this rite.

While other methods of lighting are in use we chose the electric light for a number of potent reasons. First, safety. When properly installed the electric light is as safe as is humanly possible. Where no high tension currents are near to cause possible trouble only gross negligence will make a farm electric system unsafe. Second, ease of distribution. It is very easy to carry the light just where it is needed. Two wires properly arranged will do the trick. Third, cleanliness. The oil or gasoline is all handled at one place, the engine and generator. Fourth, convenience. A turn of a switch turns on the lights in all the buildings at once. Then I can take another nap. That alone is worth the price of subscription. There are other reasons which any one may figure out for himself. We of course, light the house and the other farm buildings as well as the poultry houses.

The plant when in full operation costs us something over $700; but, comparing last year with this, or former years with this, more than half of this outlay will have been returned in extra eggs by January 1, 1920. In fact, the extra receipts for eggs will be close to $600. Of this at least a large part is due to lighting.

One of the factors influential in producing this result we believe to be an abundance of green feed. We have more and better succulent feed than in any former year. The very wet season made our cabbage grow to extra large heads, so much so, that people were unwilling to buy it at the prevailing prices. When a head of cabbage comes to upwards of 40 cents it is enough to make any one pause. Then many of our 10,000 plants produced loose heads not suitable for sale. We stored away some thousands of heads of all kinds and are feeding them to the hens at the te of 600 a month. They are very ond of it. None but sound cabbage fed. The outer leaves and any rts not entirely good are removed, nd so no ill effects have followed.

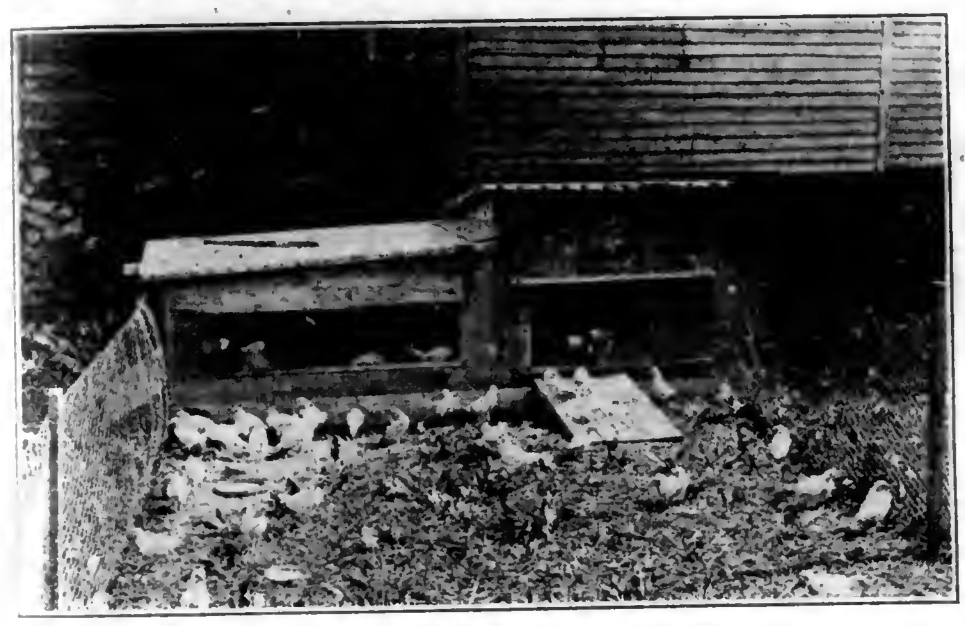
Our three houses contain 21 lights of 15 watts each. We believe this a better method than to have 1 or 2 very powerful lights in each house. Of these, one light in each house is on a separate circuit, and is used when the others are not in service. They are controlled by switches near the doors and give enough light for the nightly feeding and watering and for any other night work needed. Too much light brings the birds from the roost. These single lights are also used when, as sometimes happens we light up the houses for late evening feeds. When the bright lights are suddenly turned off a few birds may be still on the floor; the lesser light will help them get to the roost.

The principal lighting is done in the morning. Birds are early risers; they also go to bed early and do not care for an extended evening unless they are very hungry. It happens, occasionally, that we are very busy elsewhere and cannot give them their evening feed before dusk; or, on some cloudy days night falls early and suddenly. On these occasions we turn on the lights so that all may have supper; but in 15 minutes most of the birds are satisfied and back on the roost. For the laggards the single lights are used.

So far, so good. The lighting system meets our highest expectation; but what will follow? What effect will this out-of-season laying have on the health and vigor of the flock? How will it effect the total egg yield for the year? What effect will it have on fertility, on the stamina and vigor of the chicks? These and a score of other questions bob up as we go on and they insist upon answers. There are those who advise against lighting flocks intended for breeders, but no one really knows. In fact, I have noticed that some ready writers in the farm papers and elsewhere, (especially elsewhere), who discourse most learnedly about the lighting method are not themselves operating a plant, probably not even a poultry plant.

We, certainly, never had a healthier, brighter, more active bunch of birds. Their combs and coats are brilliant and glossy. One visitor remarked, when he saw the birds busy under the lights, "This is a picture." This is true of the two houses lighted longest. The third flock has been lighted about a week and the difference in its appearance compared with the other two is noticeable. There has, as yet, been no apparent result from the lights.

The next step will be to extend a circuit to the brooder house and get the chicks-to-be into the early rising habit. So it is planned.



Comfortable Home-Made Brooder and Yard

THINGS THE TRACTOR WILL NOT DO

It will not bite, balk or run away. It will not shy a a loose scrap of paper in the road. It will not kick the stall all night and keep the tired farmer and his wife awake. It will not crib the manger.

It will not break out of the barn at night, jump the fence and eat your neighbor's cabbage.

It will not lie down in a particularly moist spot in the barnyard, roll over on its back and elevate its four feet in the air.

It does not have to be curried, sponged off or treated with horse liniment.

It is not addicted to colic, cough, heaves, spavin or windgall.

It will not snort in your ear or whisk its tail in your face.

It will not "haw" when you tell it to "gee" or vice versa.

You do not have to pull the lines and holler your head off when you want it to stop.

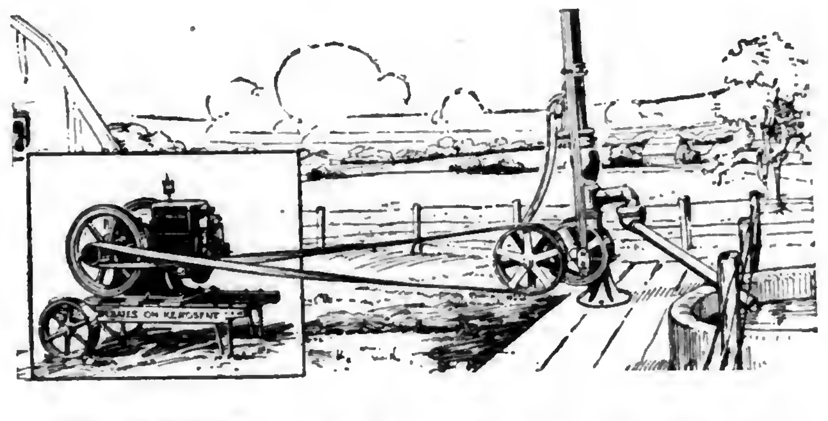
It does not "up and die" just as the spring is coming on.

—By Henry Seers.

SIMPLE ARITHMETIC

"Mah friends," said a colored preacher, "the Scriptural rule fo' givin' was one-tenth of what a man had. If you all feel you can't afford so much, jest give a sixth or a fo'th, accordin' to yo' means. We will dispense with the next hymn and take up the collection."

The Farm Drudge
" Handyman
" Chore Boy
" Burden Bearer



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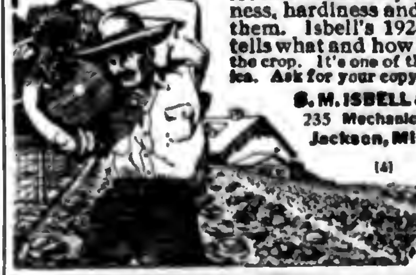

Markets

PHILADELPHIA PRODUCE

Philadelphia, January 26, 1920.

Conditions in the fruit and vegetable market remain practically unchanged. Owing to the continued cold weather that has been prevailing for the past several days and also the fact that the streets are covered with ice making hauling conditions very difficult there has been but a very light movement in all kinds of fruit and produce. The trade are buying all commodities in sufficient volumes to satisfy their immediate wants only. For this reason we again refrain from making any comment as to the market outlook on the various commodities but are simply quoting the range of prices on the various articles from the limited sales that are being made. It should be noted however that as soon as the weather moderates so that the fruits and vegetables can be moved to better advantage without danger of freezing there will undoubtedly be a strong active market in all lines. At this writing sales of the various articles are being made within the following range of prices:

Vegetables

Anise, barrel, $2@2.25; beans, green, hamper, $4@4.50; wax, hamper, $3.50@4.50; beets, crate, $2.50@2.75; bunch, 8@10c; per barrel, $3@3.25; brussel sprouts, per quart, 20@23c; drum, $10; cabbage old, per ton, $100@125; new Florida, hamper, $3.50; carrots, per barrel, $5.25@6; double headed barrel, $5.50; box, $1.25; cauliflower, crate, $1.25@1.65; celery, per bunch, 75c@$1.50; egg plants, crate, $1.50@5; Endive, barrel, $4.50@5; Escarole, barrel, $4.50@5; garlic, 20@30c; kale, barrel, $1.50@1.75; lettuce, hamper, 75c@$1.75; California, Iceberg, $1.50@2; onions, per 100-lb. sacks, $5.40@6; parsley, box, $3.25@5.50; peppers, crate, fancy, $2@2.50; choice, $1.25@1.50; Romaine, hamper, $1.50@2; rhubarb, bundle, 75c@$1; tomatoes, Nassau, crate, $1.20@2; Florida, crate, $1.25@3.50; per pound, 20@40c; potatoes, per cwt., Pennsylvania, $4.25@4.50; Maine, $4.40@4.60; New York, $4.10@4.40; East Shore Hoosiers, $6.25@6.50; Bermuda, barrel, $11@12; parsnips, barrel, $3.75@5; spinach, crate, $3; sweet potatoes, hamper, $2.15@2.25; No. 2's, $1.25; ⅝-basket, $1.35@1.65; turnips, ⅝-basket, 75@85c; per cwt., $2@2.50; Rutabagas, cwt., $1.75@2.50; barrel, $3@3.50; yams, hampers, $1.75@1.90; barrel, $4.50@5.25; watercress per 100 bunches, $1@3.

Fruits

Apples, barrels, Baldwins, $3.75; Ben Davis, $4@6.50; very small, $2.25@2.50; Black Twigs, $5@8; Greenings, (frozen), $3@5; Winesaps, $3@7; York Imperials, $4.25@7.50; 2¼-inch Stayman Winesaps, $7; various mixed off varieties, (frozen) $3@4.50; box apples, Stayman Winesaps, $2.85@3; fancy, $2.25@3; choice, $2.25@2.65; Black Bens, extra fancy, $2.65@2.85; Rome Beauties, fancy, $2.50@2.75; Black Twigs, extra fancy, $2.75; fancy, $2.50; Winesaps, $2.90@3; Oranges, Florida, $2.20@1.80 per box; grape fruit, $1.75@3.75 per box; tangerines, $1.50@3.50 per half box; cranberries, $6@8.50 per barrel; per crate, 50c@$3; strawberries, 75c@$1.10 per quart.

Poultry

The supplies of poultry have been light and under a strong active demand the market is ruling firmer and higher with the limited offerings cleaning up from day to day. At this writing sales were being made at about the following basis: Live Poultry; Heavy fowls, 39@41c; smaller sizes, 35@38c; chickens, best, 36@38c; inferior, 34@35c; broiling chickens, 42@45c; old roosters 24@25c; ducks, 30@46c; geese, 30@45c; turkeys, 45@50c; dressed poultry; turkeys, 52@60c; old toms, 45@50c; heavy fowls, 35@40c; smaller size 28@33c; nearby broiling chickens 45@60c; ducks, 37@43c.

Eggs

The egg market has remained about stationary since the decline of 5 cents per dozen which was reported in these columns last week. Supplies have not been heavy and the market has been cleaning up from day to day with occasional sales of well-known marks exceeding quotations. At this writing sales of eggs are being made at the following range of values: Pennsylvania and other nearby current receipts, 70c; Pennsylvania and other nearby firsts, 72c; Western firsts, 68@69c; Western extra firsts, 71@72c. As we reported in these columns last week the market on eggs at this period of the year is generally unsettled and irregular being more or less a weather proposition and it is hard to say just what the trend of the market may be.

LANCASTER PRODUCE MARKET

Lancaster, Pa., January 26, 1920.

Heavy fish shipments force down eggs from 85 cents to 75 cents. Chickens, young, dressed, $1.50 to $1.25. Demand slight. Other prices steady.

YORK PRODUCE MARKET

York, Pa., January 26, 1920

There is a light demand for eggs, this coupled with the increased output has greatly lowered the price. Yet the sales are not increasing. Other lines are unchanged.

Eggs.—60@70c per dozen.

Butter.—Country, 65@75c lb.; separator, 75@80c pound. Milk, 12c quart.

Poultry.—Hens, 24@26c pound; dressed, 85c@$1.75 each.

Vegetables.—Potatoes, continued slow, 15@30c ½ peck; $1.40@1.75 bushel; lettuce, 5@15c head; cabbage, 5@12c head; beets, 5c bch.; radishes, 5c bunch; onions, 5c bch.; 20@25c ½ peck; lima beans, 30@35c quart; soup beans, 25@30c quart; celery, 5@12c stalk; turnips, 15c ½ peck; spinach, 15c ½ peck; apple butter, 45@50c quart; sausage, 32@35c pound; pudding, 30c pound; steak, 40@45c pound; bone meat, 27@32c pound; lard, 30@32c pound; dressed hogs 20@25c pound.

Fruit.—Apples, Yorks, 30@50c ½ peck; other varieties, 25@50c ½ peck; Stayman, 60@80c ½ peck; pears, 25@30c ½ peck.

Retail Grain Market.—Wheat, $2.40; corn, $2; oats, $1; rye, $1.70; bran, $3 per cwt.; middlings, $3.50 per cwt.

Wholesale Grain Market.—Wheat, $2.20; corn, $1.60; oats, 80c; rye, $1.40; bran, $48@50 per ton; middlings, $54@55 per ton.

BALTIMORE PRODUCE

Baltimore, Md., January 26, 1920

Butter.—Creamery, western fancy, 64@65c; choice, 64@65c; pound prints, 65@66c. Nearby rolls, 45@46c; dairy prints, 46@47c.

Eggs.—State, Pennsylvania and nearby, 70@72c. Eastern Shore and Virginia, 70@72c. Southern, 69c.

Live Poultry.—Springers, 30c pound; old roosters, 20c; old hens, 37@38c lb.; ducks young, 28@30c; do., poor, 23@25c; guinea fowls, 50c each.

Grains.—Wheat, No. 2, red winter, $2.64; wheat, new; garlicky, $2.53; corn, $1.63; oats standard white, 94½c; rye, nearby, $1.60@1.75.

Hay.—No. 1 timothy, $36 ton; do, standard, $33@34 ton; light clover, mixed, $33 ton. Clover, mixed, $30.50@32. Tangled rye straw, $16. Wheat straw, $13.50@14. Oat straw, $12.50@13.50 ton.

Mill Feeds.—City Mills winter bran, per ton, in 100-pound sacks, $54; brown middlings, per ton, in 100-pound sacks, $54; white middlings, per ton, in 80-pound sacks, $65. Quotations on City Mills Feeds are jobbing prices.

NEW YORK PRODUCE

New York City, January 26, 1920

Butter.—Firm; receipts, 2,713; creamery, higher than extras, 64½@65c; creamery, extras (92 score), 64c; creamery, firsts, (88 to 91 score), 59½@63½c; packing stock, current make, No. 2, 42c.

Eggs.—Steady; receipts, 7,560; fresh-gathered extras, firsts, 73@74c; firsts, 71@72c; state Pennsylvania and nearby Western hennery white, firsts to extras, 78@85c; state, Pennsylvania and nearby hennery browns, extras, 77@78c; do., gathered browns and mixed colors, firsts to extras, 71@76c.

Cheese.—Easy; receipts, 753; state, whole milk flats, held, specials, 32@32½c; average run, 30½@31½c; state, whole-milk twins, held, specials, 30½@32c; do., average run, 29½@31c.

Live Poultry.—Steady; chickens, 32c; fowls, 40@42c; old roosters, 24c; turkeys, 40c. Dressed steady; chickens, 30@47c; fowls, 28@39c; old roosters, 26@26½c; turkeys, 46@53c.

Vegetables.—Potatoes, Maine, $7@7.50 per 180 lbs.; State, $6.50@7.50; Pennsylvania and Long Island, $7@8.50 per 180-lb. bags. Beets, $3.50@5 per bbl. Carrots, $3.50@5.50 bbl.; celery, state, $3@7 crate; cabbage, Danish, $75@110 ton; onions, $4@6.25 per 100-lb. bag.

Fruit.—Apples.—Twenty ounce, $4@7 bbl.; King, $4.50@7; Ben Davis, $4@5.75; Winesap, $4@8.50; Yorks, $4.50@6; Staymen, $4.50@7.50; Greenings, $5@10.

PITTSBURGH PRODUCE

Pittsburgh, Pa., January 26, 1920

Butter.—Prints, 70@70½c; tubs, 69@69½c; country roll, 58@60c.

Cheese.—New York full cream, 35@36c. Ohio, 34@34½c; Wisconsin Swiss, 54@55c; Philadelphia cream, $1.00 per dozen.

Eggs.—Fresh, select, 78@80c; Special, 58@60c; Storage, 53@55c.

Potatoes.—Round, $7.25@7.50 per 150-lb. sack. Onions, $6 sack. Cabbage, $8@9 barrel. Lettuce, 65@75c basket. Sweet potatoes, $2.50 hamper. Turnips, $2.25@2.50 bushel. Beans, wax and green, $3@4 bushel. Beets, $1.50 bushel.

Fruit.—Apples, $7.75@9.50 barrel; $3@4 box

PHILADELPHIA LIVE STOCK

Philadelphia, January 26, 1920.

Receipts of live stock for week ending January 24, were as follows:

	Beef Cattle	Sheep and Lambs	Hogs
Total for Week	2,044	6,008	10,374
Previous Week	2,592	4,994	11,353

Calves.—Receipts of calves last week were 1,086 head against 1,875 head week previous.

Beef Cattle.—The market for steers and cows was dull and lower, with offerings ample for trade requirements. Calves were in fair request and steady under moderate supplies. Steers, good to choice, $14@15.50; do., fair to good, $12@14; cows, fat, per lb., good to choice, corn fed, 9@10c; do., fair to good, 7@9c; do., common to fair, 4@7c; calves, extra choice, $22@23; fair to good, $19@21; common, $12.50@16.50; heavy and rough, $8.50@12.50; Tennessee, choice, $18@19; other southern, $9@13.

Sheep and Lambs.—Sheep ruled firm and higher, with demand absorbing the offerings of fine stock. Lamb was in moderate request and firm under light offerings. Sheared sheep, wethers, extra, $12.50@13; good to choice, $10@11; medium, $8.50@9.50; common, $5@6.50; ewes, fat, heavy, $9.50@11; spring lambs, choice, $20.75@21.25; medium, $18@19.50; culls and common, $13.50@15.50.

Hogs.—The market ruled firm, with demand fair for choice stock. Supplies were fairly liberal. Quotations for best western, $17.50, good, $15.75@16.

City Dressed Stock.—The general market ruled firm, with a fair demand that kept the offerings of fine stock under pretty good control. Steers, 17@26c; heifers, 17@22c; cows, 13@18c; calves, city dressed choice, 29@31c; country dressed, 24@26c; sheep, 14@20c; lambs, spring, 32@34c; hogs, 23c.

LIVESTOCK

Lancaster, Pa., January 26.—Receipts, 1,532 head; market, draggy, but all sold; prices steady; good to choice steers, $12.50@11.75; fair to good steers, $12@12.50; medium to fair steers, $11.25@12; common to medium steers, $10@11; smooth and fat bulls, $10@12; medium to good bulls, $9.35@10; common to medium bulls, $8.50@9.50; smooth and prime heifers, $11.50@12.50; common to medium heifers, $9@11; good to choice cows, $9@10; fair to good cows, $5.50@8.50; common to medium cows, $4@5; stock bulls, $8.50@10; good to prime calves, $21@21.85; medium to good calves, $19@20; common to medium calves, $15@18; good to choice oxen, $11@13; fair to good oxen, $9@11; common to fair oxen, $6.50@9.

Hogs.—Receipts 415 head; market active; prices steady; good to prime, $16@16.75; light to medium, $15.25@16; roughs, $13.50@14.50; stags to sows, $13@14.

East Buffalo, N. Y., January 26.—Cattle.—Receipts, 2,200; heavy, steady; others 25c higher; prime steers, $16.50@17; shipping steers, $15.50@16; butchers, $9@15.50; yearlings, $14@15.50; heifers, $6.50@11.50; cows, $5@10.75; bulls, $6@10.50; stockers and feeders, $6@10.25; fresh cows and springers steady, $65@175.

Calves.—Receipts, 1,200; 50c higher, $6@12.65.

Hogs.—Receipts, 8,800; 35@50c higher; heavy, $16.65@16.85; mixed, $16.75@16.85; yorkers, $16.85@17; light yorkers and pigs, $17; roughs, $14.50@15; stags, $10@12.50.

Sheep and Lambs.—Receipts, 6,000; lambs, 35c higher; lambs, $12@22.10; yearlings, $11@19.50; wethers, $14@14.50; ewes, $5@13; mixed sheep, $13@13.75.

New York City, January 26.—Beeves.—Receipts, 4,990; firm; steers, $9.75@14.70; bulls, $7.50@11.25; common to good cows, $4.50@10.75.

Calves.—Receipts, 1,920; firm; veals, $20@25; culls, $15@19; little calves, $15@18; fed calves, $11@13; barnyards, $9@10; yearlings, $6@8; westerns, $11.65@14.

Sheep and Lambs.—Receipts, 3,510; firm; sheep, $8@11; mixed sheep, $12; culls, $5@7; yearlings, $15@18; lambs, $18@22; culls, $14@16.

Hogs.—Receipts, 6,410; steady; medium to lightweight, $16.50; heavy, $16; pigs, $16; roughs, $13.25.

Pittsburgh, Pa., January 26.—Cattle.—Higher; supply light; prime, $15@15.50.

Sheep.—Higher; supply light; prime wethers, $13@14; culls and common, $4@6; lambs, $13@22; veal calves, $22@23.

Hogs.—Higher; supply; 25 double decks; prime heavies, $16@16.25; mediums and yorkers, $17@17.25; pigs, $16.50@16.75; roughs, $12.50@14.25.

Chicago, Ill., January 26.—Hogs.—Receipts, 47,000; estimated tomorrow, 60,000; generally 25c higher; bulk, $15.60@15.85; top, $16; heavy, $15.40@15.75; medium, $15.60@15.85; light, $15.65@15.90; light light, $11.50@15.75; heavy packing sows, smooth, $14.75@15.25; packing sows, roughs, $14.25@14.75; pigs, $13.75@14.75.

Cattle. — Receipts, 10,000; estimated tomorrow, 21,000; strong; beef steers, medium and heavyweight, choice and prime, $16.65@18.50; medium and good, $11.75@16.65; common, $9.50@11.75; lightweight, good and choice, $13.35@17.25; common and medium, $9@13.35; butcher cattle, heifers, $6.85@14; cows, $6.85@12.75; canners and cutters, $5.65@6.85; veal calves, $17.50@19.25; feeder steers, $8@12.35; stocker steers, $7.50@11.

Sheep.—Receipts, 8,000; estimated tomorrow, 10,000; strong; lambs, 84 pounds down, $19@21; culls and common, $15.50@18.50; ewes, medium, good and choice, $10.50@16; culls and common, $6.50@10.

PHILADELPHIA HAY AND GRAIN

Philadelphia, January 26, 1920

Baled Hay and Straw.—Receipts 96 tons of hay. Firm at late advances. Timothy Hay.—No. 1, $36@37; No. 2, $34@35; No. 3, $30@31; sample, $26@27; no grade, $21@24. Clover Mixed Hay.—Light mixed, $33@34; No. 1, mixed, $31@31.50. Straw, —No. 1 straight rye, $17.50@18; No. 2, do, $16@16.50; No. 1 tangled rye, $15.50@16; No. 2, do., $14.50@15; No. 1 wheat straw, $15.50@16; No. 2 do., $14@14.50; No. 1, oat straw, $16@16.50; No. 2, do., $14@14.50.

Bran.—Dull and unchanged. We quote: Car lots, to arrive, including sacks; Soft winter bran, western, in 100-pound sacks, per ton, $50@50.50; spring bran, in 100-pound sacks, per ton, $49@49.50.

Corn.—New, $1.60@1.70.

Oats.—No. 2 white, 99½@$1; No. 3, 98½@99c.

NEW YORK HAY AND GRAIN

New York City, January 26, 1920

Feed.—The interruptions to the movement of grain and grain products to the seaboard gave the feed market a slightly steadier tone, as there was some improvement in the demand from consumers who were apparently uneasy over the question of supplies.

Quotations: City feed, bran, $49; middlings, $54, in 100-pound sacks; red dog, $67, nominal, in 100-pound sacks; Western spring bran, $48.50@49; standard middlings, $49@50; flour middlings, $59; red dog, $66, all in 100-pound sacks, 30-day shipment. Oat feed, $32; rye middlings, $52; white hominy feed, $67, all in 100-pound sacks. Cottonseed oil meal, $77.50; linseed oil meal, $78.50, in 100-pound sacks.

Hay and Straw.—Market is steady at the close. Offerings are fairly liberal at 33d Street shed and demand fair, but outside quotations are very extreme at this writing. In Brooklyn supply is light and market nominal. Rye straw steady. Oat straw firm.

Hay.—No. 1 large bales ton; No. 2, $37@38 ton; No. 3, $36@38; shipping, $30@32 ton. Fancy light clover mixed, $36 ton. Clover, No. 1, mixed, $35.

Straw.—Per ton, No. 1 rye, $19; No. 1, oat $18; No. 1, wheat, $16.

Wheat.—No. 2, red, $2.36½.

Corn.—No. 2 yellow, $1.72½; No. 3 yellow, $1.69½.

Oats.—No. 2, white, $1.01½; No. 3 white, $1

Rye.—Export, $1.88.

Buckwheat.—Milling, $3.25 per 100 lbs.

PITTSBURGH HAY AND GRAIN

Pittsburgh, Pa., January 26, 1920

Hay.—Receipts inadequate to meet the demand which is actually becoming urgent. This is especially true of the better grades. Heavy clover mixed and No. 1 clover mixed hay are bringing a premium. These grades are arriving very sparingly.

No. 1 timothy, $34@34.50; standard timothy, $33@33.50; No. 2, $31.50@32.50; No. 3, $29.50@30.50; No. 1 light clover mixed, $33.50@34; No. 1 clover mixed, $36@36.50; No. 2 clover mixed, $32.50@33.50; No. 1 clover, $37@37.50.

Straw.—Receipts of straw have increased somewhat but the demand continues good which takes care of shipments at top prices.

No. 1 oat, $15@15.50; No. 2, $14.50@15; No. 1 wheat, $14.50@15; No. 2, $14@14.50; No. 1 rye, $15@15.50; No. 2, $14.50@15.

Ear Corn.—Receipts, light; demand likewise. Market dull. Yellow No. 2, $1.58@1.60; No. 3, $1.52@1.56; Mixed No. 2, $1.55@1.58.

Oats.—Receipts while light are equal to requirements. Market quiet but firm.

No. 1 white, 93¼@93½c; No. 2 white, 92¾@93c; No. 2 white, 91@92; No. 4 white, 87@88c.

PHILADELPHIA DAIRY MARKET

Philadelphia, January 26, 1920.

Butter.—Receipts, 2,286 tubs. The week closed with a fairly steady market, but, as usual on Saturday, there was very little wholesale trading. Quotations: Fresh, solid-packed creamery fancy high-scoring goods, 67@69c, the latter for jobbing sales; extra, 66c; extra firsts, 63@65c; firsts, 59@62c; seconds, 55@58c; sweet creamery, choice and fancy, 68@70c; do fair to good, 60@67c; ladle packed, as to quality, 46@48c; packing stock, 42@45c; fancy brands of nearby prints jobbing, at 74@76c; good to choice, 66@73c; fair, 63@65c.

Cheese.—Quiet and prices favored buyers, New York, whole-milk flats, held, fancy, 32@32½c; held specials higher; held, fair to good, 31@31½c; current make, nominal; Wisconsin, held, fancy, 32@32¼c; held specials higher; fair to good, 31@31½c; jobbing sales of fancy held goods, 35@36c.

NEW YORK MILK MARKET

New York City, January 26, 1920

There was an improvement in the demand last week and altho receipts are increasing, the surplus was less, and only a few of the manufacturing plants busy. The January rate is 200 mile zone for 3 percent milk is $3.69 per 100 lbs.; the rate for February will be considerably lower owing to the break in the butter and cheese market, and the price for 3 percent in the same zone has been fixed at $3.48 per 100 pounds; add 4 cents per 100 for each additional one-tenth of one percent butterfat.

Receipts of milk and cream in 40-quart cans for the week ending January 24, 1920, were as follows:—

Railroad	Milk	Cream
Erie	44,958	2,847
Susquehanna	9,222	119
West Shore	12,617	1,040
Lackawanna	56,890	1,312
N. Y. Central (long haul)	122,314	1,847
Ontario	46,703	2,098
Lehigh Valley	53,572	494
New Haven	6,570	38
Pennsylvania	12,975	498
Other Sources	6,400	300
Totals	372,221	10,593
Same week last year	187,731	6,743

FLOUR MARKET EASY

A further decline of 5c per bushel in the price of cash wheat in Minneapolis gave the flour market an easier tone and further reductions were made in the price of both spring and Kansas flours. Buyers were very indifferent about making purchases in a declining market and the volume of business was extremely small.

Advices from Minneapolis indicated that the weakness to wheat was due to the inability of mills to ship out flour, but said that the situation was weak and that mills were receiving cancellations of shipping instructions on old sales. Some points, however, were offering flour more freely at reduced figures for prompt shipment, and it was evident that mills were more inclined to seek an outlet for their flour.

CLOVERSEED

Toledo, O., January 26, 1920

Cloverseed.—Prime cash, $36.60; January, $36.60; February, $36.15; March, $36.60; April, $35.25.

Alsike.—Prime, cash, January and March, $36.25.

Timothy.—Prime cash, 1917, $6.75; cash, 1918, $6.75; cash, 1919, $6.85; January, $6.85; March, $6.95; April, $6.95; May, $6.80.

TOBACCO MARKET

There was but little change in the tobacco market situation during the week, with the single exception that the now comparatively few holders were justified in asking further advances upon their now scarce and accordingly desirable product. With prices starting last fall at $18 to $19 per cwt., at which time so many prematurely sold, they have advanced almost constantly until at present many sales are being made at around $25 to $27, with a prospect of $30 in the near future. Herein lies the old but poorly heeded lesson to not sell in a hurry before values are established. The history of the business has shown that in practically all instances such early sales are not best for sellers. It is a matter of much satisfaction that recently there has been a widespread recognition of the financial importance of the tobacco crop as compared with the more widely distributed farm products. Additional appropriations have been made to enable the needed investigations and experiments which mean so much to the tobacco grower. With a crop which depends so largely upon the quality of the product for its profits and with which so much skill is required, too much cannot be known as to the development and choice of varieties, preparation of soil, culture and the many features which contribute to results. Also, various agricultural organizations, including fairs, are apparently endeavoring to rescue tobacco from the position of obscurity which it has heretofore occupied, by offering increased premiums and otherwise encouraging exhibitors.

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arm Products, Prices and Prospects

FEED MARKETS

High Protein Feeds in Demand.—The light crop of flax and the damaging by rain of large quantities of cotton seed have resulted in light stocks of oil meal and light stocks of good quality cottonseed meal. In some sections the demand exceeds the supply causing a strong market for these feeds.

Cottonseed Meal.—The general tone of the market for cottonseed meal is stronger, due partly to the reports of the very unsatisfactory condition of the cotton seed being marketed west of the Mississippi River. It is thought that a large percentage of the meal manufactured in Louisiana, Arkansas, and Texas will be fit only for fertilizer purposes. The meal manufactured in the states east of the Mississippi is said to be of a satisfactory quality. Cottonseed cake is being offered at Atlanta at $3 per ton less than the meal of the same protein content. A better demand for meal is reported from the northeastern states. Memphis reports some export demand with but little being offered for sale.

Linseed Meal. — Wisconsin and Minnesota mills report very light stocks of linseed oil meal with the demand for prompt and immediate shipment in excess of the supply. The market is strong. Very little is being offered for shipment earlier than March.

Owing to the weak export situation the Chicago market is reported weaker with quotations slightly below those of the previous week.

Gluten Feed.—The demand for gluten feed is reported urgent from all sources, but the supply is very light. Under normal conditions at this time of the year the supply is usually hardly equal to the demand, but because of the fuel situation and the car shortage the output of the mills has been curtailed so that at present shipments can not be made earlier than one to four weeks after the receipt of the orders.

Hominy Feed.—A good demand is reported by the mills for immediate and prompt shipment. Scarcity of corn, however, has made immediate shipments difficult.

The light demand for corn products for human consumption is reported also to be one of the factors affecting the supply of hominy feed.

Alfalfa Meal.—Kansas City reports a good demand for alfalfa meal, the heaviest being from the central west, southeast, and north. Most mills are running at full capacity with their output sold well in advance.

Reports from mills at Wichita state that the car shortage continues serious and that meal can be offered for not earlier than March shipment. hicago reports receipts again about ormal.

Wheat Mill Feeds.—Eastern marets report only a fair demand for oth bran and middlings with prices lightly lower than previous quotaons. Buyers seem to be providing nly for their immediate needs. A ood local demand for bran is reorted from Atlanta but only a light emand for middlings. Richmond reorts that the stocks of mill feed in torage are in excess of the present equirements. Chicago, Kansas City, nd other markets of the Central Vest report that the demand for both ran and middlings has been less acive during the past week causing a light decline in prices. Offerings rom mills are still light however.

San Francisco reports a good demand for all mill feeds with prices slightly higher, principally because of the colder weather prevailing in that section.

DIRECT MARKETING

It is difficult for producers and consumers to agree on fair prices. Farmers have an erroneous idea of the prices that city people are willing to pay, while most city dwellers think that the farmer receives very low prices when selling locally. Farmers often ask exorbitant prices, while city purchasers often expect produce at prices which would allow no profit to the farmer. Farmers will not sell direct to consumers unless they can make a profit larger than that made by marketing by other methods, while city purchasers should make a saving or obtain a superior article. A proper understanding of this question will assist producers and consumers in agreeing on prices.

Bases For Prices

It is often difficult to decide how to determine prices. The use of the local country price or the wholesale city price as a basis often has proved satisfactory. City persons often will not accept the farmers' quotation of the country price as being correct, but few have any other means of learning country prices. When prices are rising, consumers believe that higher prices than necessary are asked. If the farmer permits the consumer to pay on the basis of the local retail city price, he often believes that the correct price is not used. Difficulty in interpreting produce quotations hinders agreement on a basis for determining prices. Produce quotations often are not reliable and entire dependence can not be placed in them.

Arranging For Payments

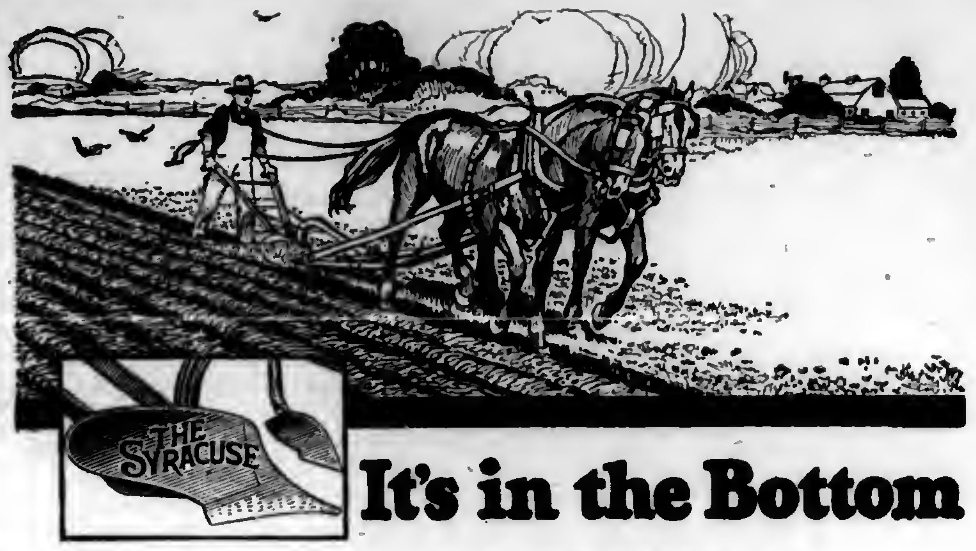
Owing to the lack of confidence between strangers, arranging for payments is difficult. The farmer desires cash in advance, for he does not wish to send produce to strangers without being sure of receiving his pay. This system is not satisfactory to many consumers, because frequent payments must be made and the exact price is not always known in advance of receipt of the shipment.

If a producer is satisfied as to the reliability of his customers, credit should be extended and periodical settlements arranged, preferably monthly. Consumers should remit promptly to avoid dissatisfaction.

Adjusting Differences

Producers must expect to receive complaints from customers. The poor appearance of produce, caused by rough handling or delay in delivery, may result in dissatisfaction. The producer may be tempted to send a discourteous reply to complaining customers, but he can not afford to do so; a courteous letter will often retain the customer. If the producer is at fault he must make prompt adjustment of the difference. If the producer becomes convinced that a customer is unfair and unreasonable he should terminate the business dealings without being discourteous.

Every person considering the establishment of a business in direct marketing should study the problems relating to his individual case. Some persons will never encounter many of the difficulties mentioned in this article, and few persons will have to solve all of the problems mentioned.



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KEZIAH COFFIN

By JOSEPH C. LINCOLN

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(Continued From Last Week.)

But it was true, and Lavinia got herself elected a delegate and went, in company with Captain Elkanah, Mrs. Mayo, and others, to the conference. She was a faithful attendant at the meetings and seemed to be having a very good time. She introduced the minister to one Caleb Pratt, a resident of Sandwich, whom she said she had known ever since she was a girl.

"Mr. Pratt's a cousin to Thankful Payne over to home," volunteered Lavinia. "You know Thankful, Mr. Ellery."

Ellery did know Mrs. Payne and said so. Mr. Pratt, who was dressed in a new suit of black which appeared to hurt him, imparted the information that he's heard tell consider'ble of Mr. Ellery.

"I enjoyed your sermon to-night fust—rate," he added solemnly. "Fust—rate, sir—yes."

"Did you, indeed? I'm glad."

"Yes, sir. You used words in that sermon that I never heard afore in my life. 'Twas grand."

Lavinia confided to her pastor that Mr. Pratt made the best shoes in Ostable County. He could fit any kind of feet, she declared, and the minis- er ought to try him sometime. She added that he had money in the bank.

The Reverend John rode home in the stage beside Miss Annabel, not from choice, but because the young lady's father insisted upon it. Miss Daniels gushed and enthused as she always did. As they drove by the Corners, the minister, who had been replying absently to Annabel's questions, suddenly stopped short in the middle of a sentence. His companion, leaning forward to look out of the window, saw Grace Van Horne entering the store. For an instant Annabel's face wore a very unpleasant expression. Then she smiled and said, in her sweetest manner:

"Why, there's the tavern girl! I haven't seen her for sometime. How old she looks! I suppose her uncle's death has aged her. Well, she'll be married soon, just as soon as Cap'n Nat gets back. They perfectly worship each other, those two. They say she writes him the longest letters. Hannah Poundberry told me. Hannah's a queer creaure and common, but devoted to the Hammonds, Mr. Ellery. However, you're not interested in Come-Outers, are you? Ha, ha!"

Ellery made some sort of an answer, but he could not have told what it was. The sight of Grace had brought back all that he was trying so hard to forget. Why couldn't one forget, when it was so painful—and so useless—to remember?

Spring once more; then summer. And now people were again speaking of Captain Nat Hammond. His ship was overdue, long overdue. Even in those days, when there were no cables and the telegraph was still something of a novelty, word of his arrival should have reached Trumet months before this. But it had not come, and did not. Before the summer was over, the wise heads of the retired skippers were shaking dubiously. Something had happened to the Sea Mist, something serious.

As the weeks and months went by without news of the missing vessel, this belief became almost a certainty. At the Come-Outer chapel, where Ezekiel Bassett now presided, prayers were offered for the son of their former leader. These prayers were not as fervent as they might have been, for Grace's nonattendance at meetings was causing much comment and a good deal of resentment. She came occasionally, but not often. "I always said she was stuck-up and thought she was too good for the rest of us," remarked "Sukey B." spitefully. "And, between you and me, pa says he thinks Nat Hammond would be one to uphold her in it. He wa'n't a bit spirituous and never experienced religion. If anything has happened to him, it's a punishment sent, that's what pa thinks."

Those were gloomy days at the parsonage. Keziah said little concerning the topic of which all the village was talking, and John Ellery forebore to mention it. The housekeeper was as faithful as ever in the performance of her household duties, but her smile had gone and she was worn and anxious. The minister longed to express his sympathy, but Keziah had not mentioned Nat's name for months, but since he, Ellery gave her the message intrusted to him by the captain before sailing. He would have liked to ask about Grace, for he knew Mrs. Coffin visited the Hammond house occasionally, but this, too, he hesitated to do. He heard from others that the girl was bearing the suspense bravely, that she refused to give up hope, and was winning the respect of all the thinking class in Trumet by her courage and patience. Even the most bigoted of the Regulars, Captain Daniels and his daughter excepted of course, had come to speak highly of her. "She's a spunky girl," declared Captain Zeb, with emphasis. "There's nothing of the milk-sop and cry-baby about her. She's fit to be a sailor's wife, and I only hope Nat's alive to come back and marry her. He was a dum good feller, too—savin' your presence, Mr. Ellery—and if he was forty times a Come-Outer I'd say the same thing. I'm 'fraid he's gone, tho, poor chap. As good a seaman as he was would have fetched port afore this if he was atop of water. As for Gracie, she's a brick, and a lady, every inch of her. My old girl went down t'other day to call on her and that's the fust Come-Outer she's been to see sense there was any. Why don' you go to see her, to,, Mr. Ellery? 'Twould be a welcome change from Zeke Bassett and his tribe. Go ahead! it would be the Almighty's own work and the society'd stand back of you, all them that's wuth considerin', anyhow."

This was surprising advice from a member of the Regular and was indicative of the changed feeling in the community, but the minister, of course, could not take it. He had plunged headlong into his church work, hoping that it and time would dull the pain of his terrible shock and disappointment. It had been dulled somewhat, but it was still there, and every mention of her name revived it.

One afternoon Keziah came into his study, where he was laboring with his next Sunday sermon, and sat down in the rocking-chair. She had been out and still wore her bonnet and shawl.

"John," she said, "I ask your pardon for disturbin' you. I know you're busy."

Ellery laid down his pen. "Never too busy to talk with you, Aunt Keziah," he observed. "What is it?"

"I wanted to ask if you knew Mrs. Prince was sick?"

"No. Is she? I'm awfully sorry. Nothing serious, I hope?"

"No, I guess not. Only she's got a cold and is kind of under the weather. I thought p'r'aps you'd like to run up and see her. She thinks the world and all of you, 'cause you was so good when she was distressed about her son. Poor old thing! she's had a hard time of it."

"I will go. I ought to go, of curse. I'm glad you reminded me of it."

"Yes. I told her you hadn't meant to neglect her, but you'd been busy fussin' with the fair and the like of that."

"That was all. I'll go right away. Have you been there to-day?"

"No I just heard that she was ailin' from Didama Rogers. Didama said she was all but dyin', so I knew she prob'ly had a little cold, or somethin'. If she was really very bad, Di would have had her buried by this time, so's to be sure her news was ahead of anbody else's. I ain't been up there, but I met her t'other mornin'."

"Didama?"

"No; Mrs. Prince. She'd come down to see Grace."

"Oh."

"Yes. The old lady's been awful kind and sympathizin' since—since this new trouble. It reminds her of the loss of her own boy, I presume likely, and so she feels for Grace. John, what do they say around town about—about him?"

"Captain Hammond?"

"Yes."

The minister hesitated. Keziah did not wait for him to answer.

"I see," she said slowly. "Do they all feel that way?"

"Why, if you mean that they've all given up hope, I should hardly say that. Captain Mayo and Captain Daniels were speaking of it in my hearing the other day and they agreed that there was still a chance."

"A pretty slim one, tho, they cal'lated, didn't they?"

"Well, they were—were doubtful, of course. There was the possibility that he had been wrecked somewhere and hadn't been picked up. They citde several such cases. The South Pacific is full of islands where vessels seldom touch, and he and his crew may be on one of these."

"Yes. They might, but I'm afraid not. Ah, hum"

She rose and was turning away. Ellery rose also and laid his hand on her arm.

"Aunt Keziah," he said. "I'm very sorry. I respected Captain Hammond, in spite of—of—in spite of everything. I've tried to realize that he was not to blame. He was a good man and I haven't forgotten that he saved my life that morning on the flats. And I'm so sorry for you."

She did not look at him.

"John," she answered, with a sigh, "sometimes I think you'd better get another housekeeper."

"What? Are you going to leave me? You?"

"Oh, 'twouldn't be because I wanted to. But it seems almost as if there was a kind of fate hangin' over me and that," she smiled faintly, "as if 'twas sort of catchin', as you might say. Everybody I ever cared for has had somethin' happen to 'em. My brother died; my—the man I married went to the dogs; then you and Grace had to be miserable and I had to help make you so; I sent Nat away and he blamed me and——"

"No, no. He didn't blame you. He sent you word that he didn't."

"Yes, but he did, all the same. He must have. I should if I'd been in his place. And now he's dead, and won't ever understand—on this earth, anyhow. I guess I'd better clear out and leave you afore I spoil your life.'"

"Aunt Keziah, you're my anchor to windward, as they say down here. If I lost you, goodness knows where I should drift. Don't you ever talk of leaving me again."

"Thank you, John. I'm glad you want me to stay. I won't leave yet awhile; never—unless I have to."

"Why should you ever have to?"

"Well, I don't know. Yes, I do know, too. John, I had another letter t'other day."

"You did? From—from that man?"

"Yup, from—". For a moment it seemed as if she were about to pronounce her husband's name, something she had never done in his presence; but if she thought of it, she changed her mind.

"From him," she said. "He wanted money, of course; he always does. But that wa'n't the worst. The letter was from England, and in it he wrote that he was gettin' sick of knockin' around and guessed he'd be for coming' to the States pretty soon and huntin' me up. Said what was the use of havin' an able-bodied wife if she couldn't give her husband a home."

"The scoundrel!"

"Yes, I know what he is, maybe full as well as you do. That's why I spoke of leavin' you. If that man comes to Trumet, I'll go, sure as death."

"No, no. Aunt Keziah, you must free yourself from him. No power on earth can compel you to longer support such a——"

"None on earth, no. But it's my punishment and I've got to put up with it. I married him with my eyes wide open, done it to spite the—the other, as much as anyhing, and I must bear the burden. But I tell you this, John; if he comes here, to this town, where I've been respected and considered a decent woman, if he comes here, I go—somewhere, anywhere that'll be out of the sight of them that know me. And wherever I go he shan't be with me. That I won't stand I'd rather die, and I hope I do. Don't talk to me any more now—don't! I can't stand it."

She hurried out of the room. Later, as the minister passed thru the dining room on his way to the door, she spoke to him again.

"John," she said, "I didn't say wha I meant to when I broke in on you just now. I meant to tell you about Grace. I knew you'd like to know and wouldn't ask. She's bearin' up well, poor girl. She thought the world of Nat, even tho she might not have loved him in the way that ———"

"What's that? What are you saying, Aunt Keziah?"

"I mean—well, I mean that he'd always been like an own brother to her and she cared a lot for him."

"But you said she didn't love him."

"Did I? That was a slip of the tongue, maybe. But she bears it well

d I don't think she gives up hope. try not to, for her sake, and I try ot to show her how I feel."

She sewed vigorously for a few moments. Then she said:

"She's goin' away, Gracie is."

"Going away?"

"Yup. She's goin' to stay with a relation of the Hammonds over in Connecticut for a spell. I coaxed her into it. Stayin' here at home with all this suspense, and with Hannah Poundberry's tongue droppin' lamenations like kernels out of a corn sheller, is enough to kill a healthy batch of kittens with nine lives apiece. She didn't want to go; felt that she must stay here and wait for news; but I told her we'd get news to her as soon as it comes, and she's goin'."

Ellery took his hat from the peg and opened the door. His foot was on the stop when Keziah spoke again.

"She—it don't mean nothin', John, except that she ain't so hard-hearted as maybe you might think—she's asked me about you 'most every time I've been there. She told me to take good care of you."

The door closed. Keziah put down her sewing and listened as the minister's step sounded on the walk. She rose, went to the window and looked after him. She was wondering if she had made a mistake in mentioning Grace's name. She had meant to cheer him with the thought that he was not entirely forgotten, that he was, at least, pitied; but perhaps it would have been better to have remained silent. Her gaze shifted and she looked out over the bay, blue and white in the sun and wind. When she was a girl the sea had been kind to her, it had brought her father home safe, and those home-comings were her pleasantest memories. But she now hated it. It was cruel and cold and wicked. It had taken the man she loved and would have loved till she died, even tho he could never have been hers, and she had given him to another; it had taken him, killed him cruelly, perhaps. And now it might be bringing to her the one who was responsible for all her sorrow, the one she could not think of without a shudder. She clung to the window sash and prayed aloud.

"Lord! Lord!" she pleaded, "don't put any more on me now. I couldn't stand it I couldn't!"

Ellery, too, was thinking deeply as he walked up the main road on his way to Mrs. Prince's. Keziah's words were repeating themselves over and over in his brain. She had asked about him. She had not forgotten him altogether. And what did the housekeeper mean by saying that she had not loved Captain Hammond in the way tha—— Not that it could make any difference. Nothing could give him back his happiness. But what did it mean?

Mrs. Prince was very glad to see him. He found her in the big armchair with the quilted back and the projecting "wings" at each side of er head She was wrapped in a "Ris- g Sun" quilt which was a patchork glory of red and crimson. A oung girl, a neighbor, who was aparently acting in the dual capacity f nurse and housekeeper, admitted im to the old lady's presence.

"Well, well!" she exclaimed deghtedly. "Then you ain't forgot me ltogether. I'm awful glad to see you. ou'll excuse me for not gettin' up; y back's got more pains in it than here is bones, a good sight. Dr. arker says it's nothin' serious, and ll I had to do was set still and take is medicine. I told him that either he aches or the medicine made setin' still serious enough, and when our only amusement is listenin' to Emeline Berry—she's the girl that's takin' care of me—when your only fun is listenin' to Emeline drop your best dishes in the kitchen sink, it's pretty nigh tragic. There! there! don't mind an old woman, Mr. Ellery. Set down and let's talk. It's a comfort to be able to say somethin' besides 'Don't, Emeline!' and 'Be sure you pick up all the pieces' "

Mrs. Prince's goods spirits were of short duration. Her conversation soon shifted to the loss of her son and she wept, using the corner of the quilt to wipe away her tears. "Eddie" had been her idol and, as she said, it was hard to believe what folks kept tellin' her, that it was God's will, and therefore all for the best.

"That's so easy to say," she sobbed. "Maybe it is best for the Lord, but how about me? I needed him more than they did up there, or I think I did. O Mr. Ellery, I don't mean to be irreverent, but why was it all for the best?"

Questions like this are hard to answer. The young minister tried, but the answers were unsatisfactory, even to him.

"And there's Nat Hammond," continued Mrs. Prince. "A fine man—no better anywhere, even tho his faher was a Come-Outer—just goin' to be married and all, now they say he's drowned—why? Why was that necessary?"

Ellery could not repl. The old lady did not wait for him to do so. The mention of Captain Nat's name reminded her of other things.

"Poor Gracie!" she said. "It's turrible hard on her. I went down to see her two or three times afore I was took with this backache. She's an awful nice girl. And pretty as a pink ,too. Don't you think so? Hey? don't you?"

"Yes."

"Yes. I've been kind of expectin' she might get up to see me. Hannah Poundberry told the Berrys that she said she was comin'. I don't care about her bein' a Come-Outer. I ain't proud, Mr. Ellery. And there's Come-Outers and Come-Outers. Proud! Lord 'a' mercy! what has an old woman, next door to the poorhouse, got to be proud over? Yes, she told Hannah she was comin', and the Berry folks thought it might be today. So I've been watchin' for her. What! you ain't agoin', Mr. Ellery?"

"I think I must, Mrs. Prince."

"Oh, don't! Do stay a spell longer. Gracie might come and I'd like for you to meet her. She needs sympathy and comfort an awful lot, and there's no tellin', you might convert her to bein' a Reg'lar. Oh, yes, you might. You've got the most persuadin' way, everybody says so. And you don't know her very well, do you? Land sakes alive! talk about angels! I snum if she ain't comin' up the road this blessed minute."

John Ellery had risen. Now he seized his hat and moved hasily toward the door. Mrs. Prince called to him to remain, but he would not. However, her good-bys delayed him for a minute, and before he reached the yard gate Grace was opening it. They were face to face for the first time since they had parted in the grove, so many months before.

She was thinner and paler, he saw that. And dressed very quietly in black. She looked at him, as he stood before her in the path, and her cheeks flushed and her eyes fell. He stepped aside and raised his hat.

She bowed gravely and murmured a "Good afternoon." Then she passed on up the path toward the door.

(Continued Next Week.)

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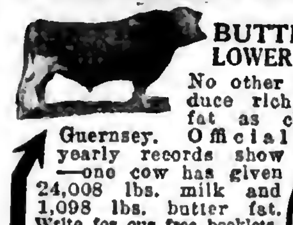

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COUNTY NOTES

Mercer County, Pa., (W).—The past season has been a good one in this section. Potatoes were fair crop—from 100 to 200 bu., per acre. Most of them sold at around $1.50 to $1.25 per bu., out of the field or at the farm with a few of the earlier ones at $2 and over. They were pretty well sold off in this section as not many were kept over as former years. Corn was the best crop this section has had in many years. No killing frosts until late in October, and even big ensilage corn got ripe enough to crip on many farms. Corn is selling at 75c to 80c per bu., on the ear. Buckwheat was also a very good crop and is selling at around $1.25 and $1.30 per bu. Wheat was also a good crop and is bringing $2.10 per bu., and rye around $2.

Oats were a very poor crop here as many were not sown last spring until June 1, and some fields did not run over 10 to 15 bushel per acre. Others were fairly good but as a whole they were a very poor crop and are selling around 80c per bu., now. Hay is about as plenty as usual and baled hay is worth here around $25 to $30 per ton and loose hay in mow around $20 per ton. Straw is around $6 to $8 per ton in the mow.

Many farms selling here now. Farm agencies have done a big business the past summer and fall. Most buyers from around Pittsburg and vicinity tho some from Western states. Farms are selling from $40 to $100 per acre. Many public sales held last fall but very few now. Butter and eggs scarce and bring around 65c at the door. Not many people making butter now as there are several cream and milk routes and the majority of farmers sell to these. Pork was plenty and sold at 17 to 19c per pound. Plenty of fall pigs but not very high, around $10 per pair and some lower. Cows are in good demand at good prices. Grades selling readily at $75 to $125 and even more in some cases. Veals are worth at present 17c per lb. Horses are very poor sale. Many sales could hardly sell them the past fall. Poultry about all sold and prices are good. The weather here has been fair so far. About the middle of December, we had some severe weather with thermometer at 10 below zero for a short time. There has been some snow all along but not a great amount.—McCullough.

Lebanon County, Pa., (SE) January 14.—We have real winter weather at present with the snow almost all gone. The wheat will probably suffer if the present cold wave continues. It had been wintering well up to this time. Butchering and harvesting ice are the most important things done at present. Stock is looking fair. Many steers were bought and are being wintered by the farmers of this and adjoining counties. The bulk of the tobacco crop had been stripped and much of it has been delivered to the buyer. Corn is $1.75, oats 95c, potatoes $1.75 per bushel. Eggs are 70c doz. The census enumerator is busy making his calls. The public sale will be the order of the day soon and every road will be full of farmers going to the vendue. Some few sales have been held and prices rule good.—Leonard F. Strickler.

Carbon County, Pa., (EC)—We have experienced some cold weather the past four weeks; one morning the thermometer registered 15 below. Most of the farmers have put up next summer's supply of ice, which was from seven to ten inches in thickness. On the 10th inst., the directors of the farm bureau met with the county agent at Mauch Chunk to map out the seasons work for 1920. He also asked the farmers of the county to send corn, potatoes, eggs and other farm products to the show at Harrisburg on the 20th. At one of the Farm Bureau meetings the county agent stated that spraying alone was responsible for an increase of over 10,000 bushels of potatoes thruout the county. In this township, at a demonstration by the farm bureau, it was found that spraying increased one farmer's yield over 40 bushels per acre. More sprayers will be used here next year. There is a good demand for rye for export at $1.75 per bushel. No farm labor on sight for the season of 1920.—Walter S. Bittner.

Broome Co., N. Y., (SE) January 12. — Severe cold weather, good sleighing and now a regular blizzard blowing today. The thermometer has been down to 26 degrees below. Good thick ice is being harvested. Food stuffs are advancing in price. Sugar has been very scarce, but can now be had at 19½c per pound. Coal can be got now, many have had to cut orchard and shade trees for fuel, because they could not get coal. Have heard of whole family staying in bed to keep warm because they had no fuel. The price of fresh pork dropped to 22 cents per pound, as soon as butchering time came on. Thus the farmers who paid high prices for feed were forced to sell at a loss. Potatoes are selling at $1.60 to $1.75 per bushel; onions, $2.75@3 a bushel Apples, $2@4.50 a bushel; Hubbard squash, 1½@2 per lb.; cabbage, 2c per pound; celery, 90c@$1 per dozen bunches; butter, 75@85c per lb.; milk brings 9 cents per quart, minus cost of drawing which runs from 12 to 20 cents per 40 quart can; eggs, 80c@$1 per dozen. Fowls, 28@32c per lb.; live weight dressed, 37 cents per lb. Turkeys, alive, 45c per lb.; dressed, 54c; squabs, 50c per pair. Hay is $23@30 per ton according to grade. Oat straw baled is $13. Rye straw, $14@15 per ton; bundled $17 per ton. The Empire Grain and Elevator Company at Binghamton, N. Y., quoted the following prices on feed by the ton: Bran, $50.40; mixed feed, $55; cow meal, $64; ground oats, $64; oats per bushel, $1.02; corn per bushel, $1.73; scratch feed for hens costs $4.20 per 100 pounds; veal brings, 25 cents per pound. Veal skins $7 to $10 apiece. Dairy cow skins, $4@5 each. Horse hides, $10 each. The cold is creeping into cellars and many are running oil or coal fires to save their potatoes.—C. H.

Mattawana, Pa., Jan. 14.—Weather the last month has been mostly cold and stormy, except a few warm days, ground lightly covered with snow, only a few days good sleighing roads very icy now for the past week, impassable with smooth horses, plenty of fine ice and most houses are filled, some farmers did not put up any ice on account of high cost of labor, farmers mostly engaged tending their stock and hauling wood, fuel has been very scarce the merchants were out of coal, and wood was hard to get from the mountain on account of the snow and ice, have coal now again. Grain prices: Wheat, $2.25; corn, $1.50; oats, 80c; rye, $1.25. Produce, butter, 65c; eggs, 72c, both very scarce. Lard, 30c; bacon and shoulder, 30c; ham, 40c; apples, $1.25; potatoes, $1.—J. H. Byler.

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Veterinary

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Bruised Hind Leg.—I have a 7-year-old horse that was kicked on hind leg just above hock joint on inside of leg, causing no lameness for one day, I worked him rather hard and he showed lameness two days later, but this lameness soon left him. He now has bunch and I would like to know what to apply. M. J. M., Syracuse, N. Y.—Apply one part iodine and ten parts fresh lard to bunch 3 times a week.

Bruised Shoulder.—One of my work horses seems to be troubled with sore swollen shoulder every time he hauls a heavy load or works hard a few days. There is no raw sore, but the bunch is tender and I would like to have you tell me what to apply. A. M. D., Meadville, Pa.—First of all you should supply him with a collar that fits properly, for unless you do he may always have a sore shoulder, following heavy pulling. Dissolve ¼ pound sugar of lead, three ounces sulphate of zinc and two ounces tannic acid in one gallon of cold water, shake and apply to tender part of shoulder 4 or 5 times a day. If you will take horse to harness' maker and have him inspect him, he can perhaps make suggestion that will be helpful. He might exchange collars with you.

Thrush.—We have a brood mare that is troubled with thrush in both hind feet. Have applied disinfectant, also salt but neither remedy seems to effect a cure. I might add that she she runs in barn yard day time and is stabled in single open stall night time. H. J., Concord, N. H.—Very often thrush is the result of keeping a horse in filth, such as standing in a wet barnyard, or in open stall that is seldom cleaned out; furthermore, standing in wet place too much of the time is another common cause of thrush. In order to remove pus drop on peroxide of hydrogen, then dust on equal parts calomel and boric acid once a day. Remember if you are conscious of what has caused her to have thrush, be sure to remove the cause. This is important.

Infected Udder. — Indigestion. — I have a cow which has imperfect udder, one quarter is almost blocked, the bag is swollen and somewhat tender. I have been applying her own milk and massaging this quarter, but it has had no perceptible effect. Do you think she is likely to go dry in this one quarter? One of our other cows had similar ailment some two months ago, she lost the quarter. Do you believe this ailment infectious? L. H. M., Tilford, Pa.—Doubtless this ailment is communicable from one cow to another and is spread by the carelessness of the milker. It now being chronic, apply iodine ointment once a day. All druggists keep on hand iodine ointment.

Light Milker.—One of my sows farrowed 10 pigs September, 1918. All died for want of milk. What is the cause of her not having milk? C. M. S., Barnes, Pa.—I am unable to say; however, her udder must have been functionless during pregnancy, or sickness might have been the cause, or lack of feeding a balanced ration.

Grease Heel.—Please give me remedy for grease heel. R. H., Chester Co., Pa.—Apply one part oxide of zinc and three parts petrolatum daily. Give 3 drams Fowler's solution at dose in drinking water three times a day.

Scratches.—Prescribe remedy for scratches. C. C. F, Pittsburgh, Pa.—Dissolve one ounce acetate of lead, 6 drams sulphate of zinc in one quart water, shake and apply twice daily. Give one dram nitrate of potash in feed every evening, until she gets well. Keep the heels dry and clean.

Barren Heifer.—For the past 12 months my 3-year-old heifer has come in heat regularly, been opened twice, bred to 4 different bulls, but fails to get with calf. W. H. C., Portage, Pa.—Sell her to butcher.

F-5

Placing the reinforcing steel of the door opening.

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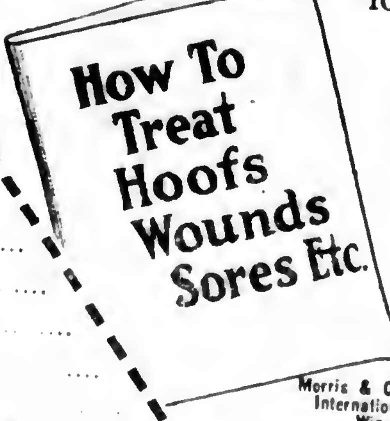
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PENNSYLVANIA FARMER

AGRICULTURE THE KEYSTONE OF NATIONAL PROSPERITY

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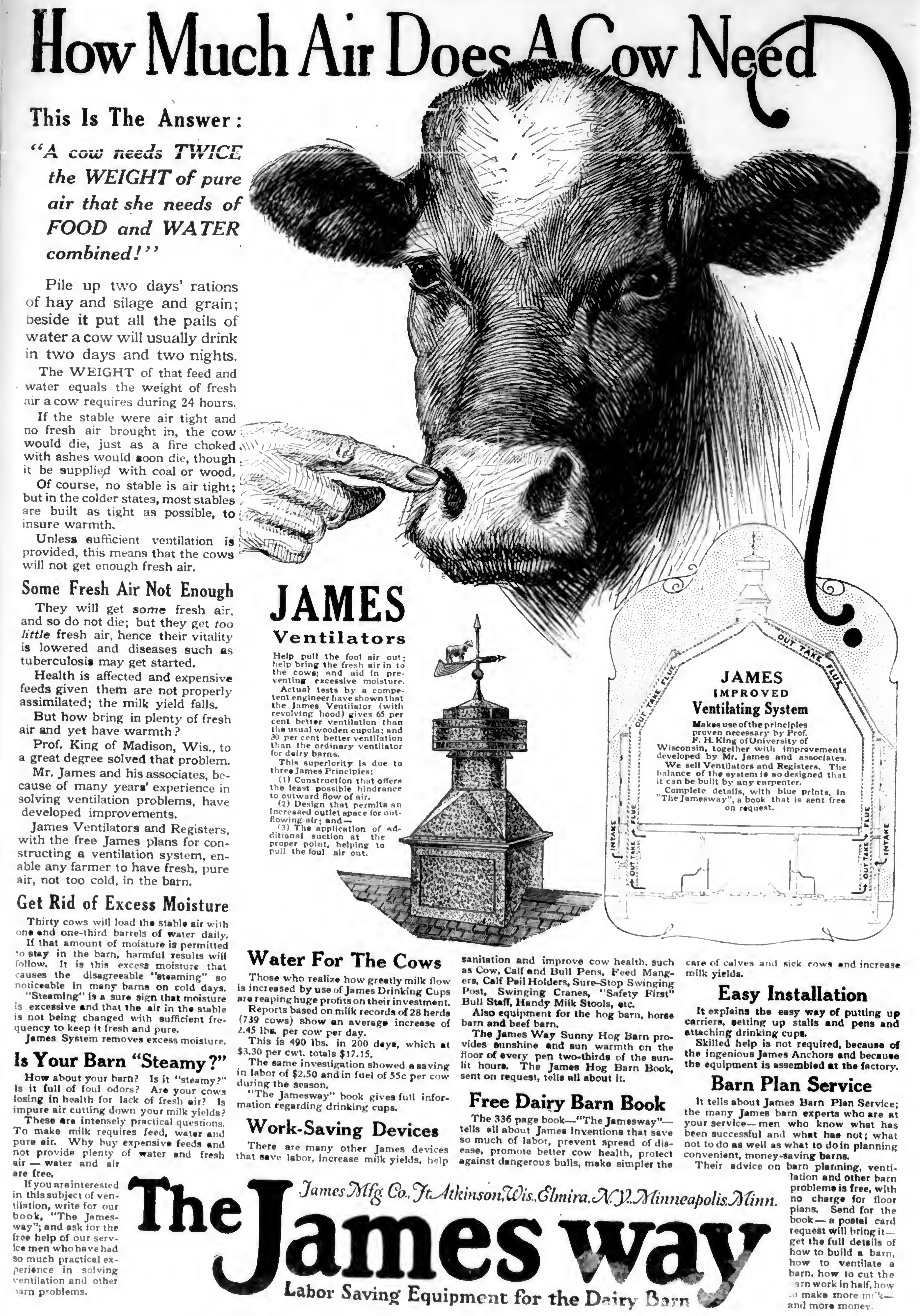

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Pile up two days' rations of hay and silage and grain; beside it put all the pails of water a cow will usually drink in two days and two nights.

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Unless sufficient ventilation is provided, this means that the cows will not get enough fresh air.

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James System removes excess moisture.

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Those who realize how greatly milk flow is increased by use of James Drinking Cups are reaping huge profits on their investment.

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There are many other James devices that save labor, increase milk yields, help sanitation and improve cow health, such as Cow, Calf and Bull Pens, Feed Mangers, Calf Pail Holders, Sure-Stop Swinging Post, Swinging Cranes, "Safety First" Bull Staff, Handy Milk Stools, etc.

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Where is Farm Help to Come From?

Articles in Which This Perplexing Problem is Well Discussed

THE PROBLEM OF FARM LABOR

Not many years ago the United States possessed a floating reserve of labor. This reserve was in large measure available for farm uses, and was constantly being replenished by immigration. As the harvest season approached much of the labor reserve was mobilized for temporary service in the grain fields, the meadows, the orchards and the gardens. The crops were gathered with relatively little waste and at a low cost. With the harvest season at an end, the men and women returned to the city, some of them to find temporary work of another sort, some of them to live in idleness until the following crop season, and some of them to migrate back to foreign countries whence so many of them had come. All these things were possible, for the cost of living in the city was still low, and the steerage rates very modest.

A destructive war has changed the current of our national life; the serious inroads made into the labor reserve by the industrial growth of the United States since the beginning of the present century were merely accentuated by the war. In bidding for labor against the mine owners, the transportation companies and the manufacurers, the farmer has come out second best. But worse still, his own sons and daughters have not always been able to withstand the lure of the city with its leisurely hours, its creature comforts, its social distractions, its glitter, is varities, and its shams. And so our cities have grown and prospered in our march toward industrial supremacy, but in spite of all his handicaps the farmer did not fail the nation. He, too, learned to adjust himself to changing conditions and by adopting labor saving machinery and devices has managed to maintain production in spite of the shrinking supply of farm help.

But the supply of farm labor is rapidly diminishing beyond the point of safety. Something should be done promptly to meet a situation that bodes ill to the greatest of our industries. To be sure the law of supply and demand will supply a partial remedy. The mounting cost of food will drive people out of the city. Many will try to become producers instead of mere consumers of food. Thus we shall have the swing of the pendulum in the market of farm labor, but no permanent solution until the farmers themselves lay the foundation for a broad and constructive farm labor program. They must recognize that a satisfactory reserve of farm labor can be maintained only when winter as well as summer employment is assured. They must recognize that in order to assure such employment they must help to establish a forest policy and to organize creameries, canneries, dehydrating plants, potato flour factories, bacon curing establishments, beet sugar factories and other plants where men and women might find winter employment. Under such conditions many families will be encouraged to acquire small farms or large gardens, to rear their children in the country and to provide extra help for the larger farms. They will thus become the labor reserve for the harvest season.—Jacob G. Lipman, Director N. J. Exp. Station.

FARM HELP SITUATION

In 1918, help was short on farms, because so many young men were drafted for training and service in the army. But thru the labor agent of the Public Safety Committee some help was secured from towns where farmers who had retired, offered their services in harvesting and corn husking. Yet, farmers were hampered in their work, tho they were admonished to produce to the limit and it was done by long hours in the field.

The Pride of Some Good Farmer

At the normal institute of the state board of Agriculture, which was then the second organization which represented farmers's interests and needs, Secretary of Labor W. B. Wilson in a speech there promised that labor or help would be furnished by releasing men from shops and mills in harvesting or busy times. But the winter never heard of it being done, and it only shows how that department fell down when needed by farmers.

During 1919 the boys were released from service, but many who had worked on farms failed to return to them, preferring the life in groups or crowds to which they had gotten accustomed. This leads one to observe that should Secretary Lane's plan to establish farms on the lands he would have drained or irrigated at public expense, would not be sought by as many soldier boys as he thinks, and it is well one hears so little about it any more.

With the demand for mill and facory products of various kinds to recover the waste of war, men and women are wanted and are finding employment at better wages and shorter hours than farmers can offer, that the help problem for 1920, is more acute than ever.

No one can blame men who work for going where they can get the best wages for the least hours, so the wages offered on farms which include boarding usually by the day or month look small compared with his pay check which he gets every two weeks, generally being nearly what he could get for a month on a farm.

Starting so many shirt factories and silk mills takes all the girls who work, so there are none left to work in homes, notwithstanding, the wages offered, including boarding.

What is the situation of farmers?

On account of the difficulty of getting and keeping satisfactory farm help, many farmers are selling their farms, or are renting them and moving to towns to work in factories, thus increasing the number of consumers.

For four miles in this neighborhood farms touching each other will change owners or tenants by April 1, and there will be the largest number of sales of farm stock and implements this spring in this section ever known. Yet, the high cost of living is the cry of the town dweller.

While butter is apparently high in price the farmer's wife, who is not restricted to 8-hour days as clerks in stores are, does not have time nor help to make butter, so the milk is all sold; and, often butter for the family is bought at creameries.

Selling milk means that the labor connected with it is reduced very much by men doing most or all of the milking, and the creamery cleans and scalds the cans, saving labor.

But, how does this effect the high cost of living?

Selling milk from farms takes more fertility than selling cream or making butter; it means that fewer calves and pigs are grown on farms, because milk helps to make pork and grow calves better than can be done without it; it means less chickens and fewer eggs in winter, as sour milk is one of the best egg producing foods for laying hens in winter and for raising little chicks.

Attorney General Palmer may make all the bluster he wishes about reducing the high cost of living thru the press, as it pertains to foods, yet in 1920 with less farm help in sight, production cannot be increased, as many farmers do not have enough help and do not know where to get it at prices they can afford to pay and have anything for their capital invested and for their time.

Again, this state is spending millions in building new roads at high [illegible] labor and materials, and this takes men who would work on farms, and they get higher wages than the tiller of the soil can pay.

Fertilizers and feeds are higher than a year ago, yet milk, beef and pork are not quite so high, nor has there been any reduction in machinery.

How then is the producer to continue production at greater cost, and take less for his products? It cannot be done long. Yet food products are the first ones mentioned in the cry of living cost.

What is the [illegible]? Farmers [illegible] dairymen [illegible] their products which will enable them to live and have in their homes the comforts and conveniences, and about barns, which town people have, and be able to pay wages which will keep enough of the young people on the farms to keep up production and make country life attractive at least to those who would just as soon live in the country and work on farms as they would in mills and shops. if the wages were nearly equal all things considered.

Until living conditions in the country on farms are made more convenient, and the prices of farm products exceed costs, so that laborers can be paid more attractive wages than at present, the exodus to the towns will continue, making more consumers and less producers. Then the law of supply and demand will begin to regulate prices, as it should, and the "man behind the plow" will come to his own; or else tillers of the soil will become serfs and tenantry will increase.

Wet weather and high price of farm labor caused the farmers of this state to cut the wheat acreage 40,000 acres, and the same conditions caused less fall plowing for corn than for many years; both of which will have their effects on the production of the two chief grain crops in 1920. —J. N Clover, Pennsylvania.

THE FARM LABOR PROBLEM

I have often wondered if many farm communities were as poorly supplied with help as my own. Recently, that question has been partly answered at least. For the last month or more almost every farm paper and magazine has something to say relative to the scarcity, inefficiency and high price paid for farm labor. One man says it takes two men now to accomplish as much as one did a few years ago. Others say that "back-to-the-landers," that is, men who have made or are making their money in town and spending it on the farm, are taking away from real farmers valuable help that they need, because they offer higher wages than the practical farmer can afford to pay.

That is the situation here. City men are located among us. They get all the available men because of high price paid for labor Furthermore, these men do not know when work is done as it should be, or how much ought to be accomplished. The men know this, hence they work accordingly. Some of these city farmers attempt to tell us that we lack business ability and the necessary capital to be successful. They start out to show by example, what can and ought to be done, and they do. At about the close of the second or third season they graduate from their farm school, much wiser, but considerably poorer. The farm changes owners, then another wiseacre from Gotham takes his place and the cycle begins again.

All this, with numerous other factors that militate against the farmer and his help, does not tend to larger crops, or cheaper food. The thought seems to be among city people, the business world, and even our federal department at Washington; that all that is necessary for the farmers is to say "sick em," and they "sic." But allow me to say that some time not far distant, this country is going to wake up ao the realization that we farmers are not going to work from 5 A. M. till 7 P. M. for half as much pay as many laboring men are receiving for one half as much work.

This condition is not going to come like the steel strike, or the coal strike. It will come gradually. In fact, it is starting now. Farmers are leaving the farms as never before. There are more public sales than I ever knew at this season of the year, and that in the face of the highest prices for farm produce the world has ever known. Why is this? When these retiring farmers are asked why they are giving up farming, the answer invariably is "I am tired of trying to farm with such poor help and the high price I must pay for it."

During the summer just past I was talking to our County Demonstrator relative to help. He recommended that we plan only what the owner or farmer can accomplish personally. With my kind of farming, that is about the poorest advise one could accept. At market gardening and fruit farming one man can not do enough work to make a modest living and pay all overhead charges. It is absolutely out of the question. Furthermore, some of us are well past our prime. We are on the sunset side of life, hence are not physically able to do the amount of hard work we did in our younger years. Yet, the world seems to think there is no end to a farmer's endurance. Personally, I can see no immediate avenue of escape. During the last month or more I have read repeatedly in my farm papers of just such conditions as we have existing in numerous places. I am prone to believe the trouble is country wide.

One threadbare solution of this problem is to supply men with good living quarters, up-to-date, with plenty of pickings from the farm, together with high wages. For this locality I can say there is nothing to that. If a farmer succeeds in hiring a married man, furnishing him a house, etc., before the season is half over, either he or his wife will cause trouble and the man leaves or the farmer is put to trouble and expense to dispossess them. I hope some reader can solve this problem I can't.—C. C. Hulsart.

THE REMEDY FOR FARM PRICES

Some time ago I read an article written to discourage the decrease in meat production, which at the time I considered held some very good views. But since giving the matter consideration I have come to the conclusion that the cutting down of production is a logical and efficient means of bringing the prices of meats as well as all other farm produce up to their proper level, so as to give the farmer a living wage which would somewhere near compare with that of his city brother. It need not be stated that supply and demand set the prices on most commodities including both farm and manufactured products. Therefore, it can easily be seen that to cut down the supply will increase the demand and thus increase the prices.

The manufacturer uses the method of cutting down production to hold prices up to their proper level either by laying off a portion of the people employed by cutting down the working hours or days, or shutting down a portion of his factories. This at once has a more telling effect on the market than any other method he can employ because there is no over supply and always a constant demand.

Now if this method will work with manufactured commodities it will certainly work with farm products. In fact if you will but look at the United States Department of Agriculture market reports for the last five or ten years you will find that our lightest crops brought us a higher total value than the heavier crops of other years. For instance, the 1916 potato crop of but 286 million bushel brought the American farmer 419 million dollars against 294 million dollars, the ten year average. This is only an illustration and will be found equally true of other farm products including live stock, i. e. when the demand is equivalent or greater than the supply the prices are up, and when the supply exceeds the demand the price is down. Therefore, I say let us limit our production so the demand will be equal or greater than the supply. This seems to be the most logical suggestion I can make under the circumstances. And I can see no reason why we American farmers cannot systematically cut down our production so as to solve the labor situation and increase our prices so as to give us pay for our time, interest on our investment, and make up for the depreciation on our livestock and machinery, which if considered on the basis of the wage received by our city brothers would bring farm prices considerably above their present level. And I cannot see why our prices should not be so as to net us a wage equivalent to that of Mr. city man, because to the price of every thing that we buy is added the extra cost of production necessitated by shorter hours and higher wages. Now, if we farmers will only cut down our hours, eliminate some of our expensive hired help, keep a few head less live stock, and produce a few acres less crops I am sure that we will commence to be recognized in our proper sphere and get prices which will pay us for our work.—Gideon T Williammee.

Our Method of Taking Rhubarb From Field to Bunching Shed

Preparing the Garden Soil

A simple test to determine when garden soil is ready for plowing or working is to take a handful of earth from the surface and close the fingers tightly on it If the earth compacted in this way is dry enough for cultivation, it will fall apart when the hand is opened. This test is applicable only to comparatively heavy soils, but it is these which receive the most injury if they are worked when wet. On such soils over-zealous gardeners not only waste their time, but frequently do actual damage by attempting to work them too early.

After plowing or working with a spade, it is usually desirable to apply some form of fertilizer. Barnyard or stable manure, which furnishes both plant food and humus, is undoubtedly the best, and applications of from 20 to 30 tons to the acre are satisfactory. The manure should be distributed evenly over the surface and later worked in with a hoe and rake. Frequently, it is advisable also to apply commercial fertilizer, especially phosphate. An application of 300 to 600 pounds of acid phosphate to the acre is usually sufficient. In order to supply potash, if this is needed, unleached wood ashes may be distributed over the garden at the rate of 1,000 pounds to the acre. Wet, or leached ashes, have less fertilizer value. Two thousand pounds of these should be used. In order to start the plants early in the spring applications of 100 pounds to the acre of nitrate of soda are sometimes used. It is important, however, to remember that no form of commercial fertilizer will yield good results unless the soil is well supplied with humus. This frequenty may be furnished in the form of sod or other vegetation which has evergrown a garden spot and may be turned under with a plow or spade.

In certain localities it is also advisable to test the soil for acidity. Naturally moist soils are likely to be sour and in such a condition are not likely to produce the most satisfactory crops. The test for acidity or sourness is a very simple one. A handful of the soil slightly moistened and a piece of blue litmus paper, which can be obtained from any drug store, are all that is necessary. When placed on sour soil the paper will turn red. To correct such a condition lime should be used The ground should be covered with a thin coat of air-slaked lime and the latter worked in well. Lime is not a plant food, but it will correct the acidity and will improve the physical condition of the soil.

Earlier Garden Crops

The hotbed and the cold frame are the gardener's greatest aids in raising earlier crops. The hotbed enables him to plant seed and produce seedlings long before the seed planted out of doors has begun to germinate. The cold frame enables him to get the seedlings produced in the hothouse gradually accustomed to outdoor conditions and to raise these into strong, sturdy

planting stock by the time the garden is ready for them. The cold frame is used in hardening the plants that have been started in the hotbed or in mild climates for starting plants before the seeds can be safely planted in the open. Resetting plants from a hotbed into the cold frame gives them a better root system and makes them stockier and more valuable for transplanting in the open ground. In the extreme South, the cold frame is much more extensively used than the hotbed, but each has its place in garden economy.

The Hotbed

Locate the hotbed in some sheltered but not shaded spot which has a southern exposure. The most convenient size is a box-like structure 6 feet wide and any multiple of 3 feet long so that standard 3 by 6 feet hotbed sash may be used. The frame should be 12 inches high in the back and 8 inches on the front. This slope is for the purpose of securing a better angle for the sun's ray and should be faced toward the South.

The hotbed not only must collect any heat it can from the sun, but also must generate heat of its own from fermentation in fresh manure. Fresh horse manure, free from stable litter, is best for generating heat.

If the hotbed is to be an annual affair, make an excavation 18 inches to 2 feet deep, about 2 feet greater in length and width than the frame carrying the sash. Line the excavation with plank or with a brick or concrete wall. A drain to carry off surplus water is essential. After a sufficient amount of fresh horse manure has been accumulated, fill the pit, and while it is being filled tramp the manure as firmly and as evenly as possible; when the ground level is reached place the frame in position and bank the sides and ends with manure. Place about 3 inches of good garden loam on top of the manure inside the frame and cover it with the sash. After the heat has reached its maximum and has subsided to between 80 degrees and 90 degrees Fahrenheit, it will be safe to plant the seeds. Select the plumpest, freshest seeds obtainable. Use standard varieties and get them from reliable seed houses.

Keep the bed partially dark until the seeds germinate.

After germination, however, the plants will need all the light possible, exclusive of the direct rays of the sun, to keep them growing rapidly. This is a crisis in plant life and ventilating and watering with great care are of prime importance. Too close planting and too much heat and water cause the plants to become spindling. Water the plants on clear days, in the morning, and ventilate immediately to dry the foliage and to prevent mildew.

The Cold Frame

The cold frame, so useful in hardening plants started in the hotbed and for starting plants in mild climates, is constructed in much the same way as the hotbed, except that no manure is used, and the frame may be covered either with glass sash, or with canvas. A cold frame may be built on the surface of the ground, but a more permanent structure suitable for holding plants over winter will require a pit 18 to 24 inches deep. The cold frame should be filled with a good potting soil. The plants should have more ventilation in the cold frame, but should not receive so much water. It is best to keep the soil rather dry.

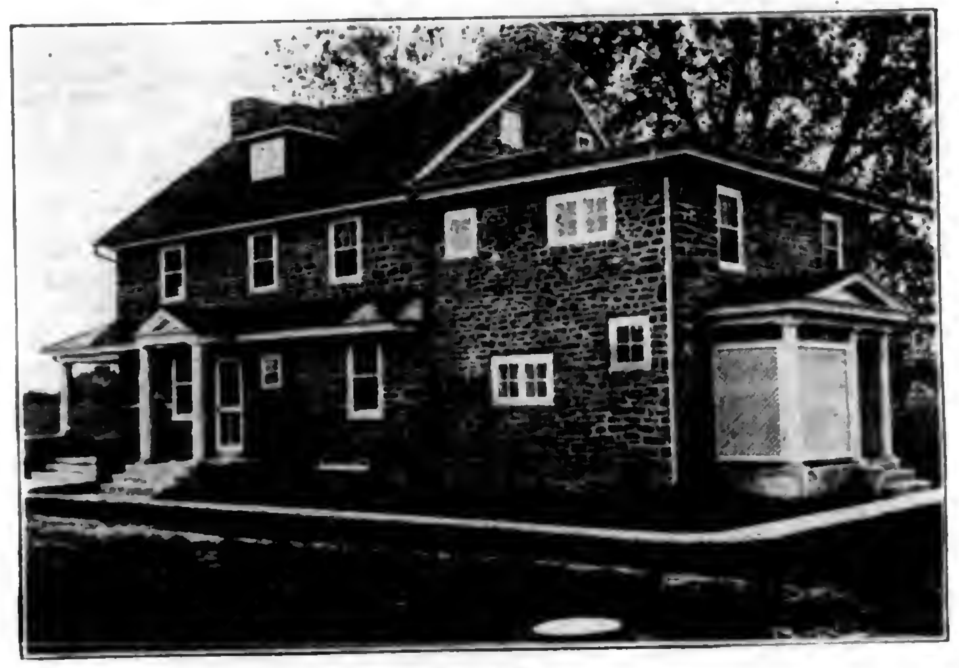
In transplanting, remember that plants usually thrive better if transplanted into ground that has been freshly cultivated. Transplanting to the open field is best done in cool, cloudy weather, and in the afternoon. This prevents the sun's rays from causing the plant to lose too much moisture thru evaporation. In transplanting, the gardener will find a child's express wagon an excellent trolley tray for bedding out his seedlings. Gardeners, large or small, will find that growing their own plants not only adds to the interest but to profits, because of better plants.

Peas, Beans and Beets

Garden peas are not easily injured by light frosts, and they may be planted as soon as the soil can be put in order in the spring. By selecting a number of varieties it is possible to have a continuous supply of peas thruout a large portion of the growing season. In order to accomplish this, plantings should be made every 10 days or 2 weeks until warm weather comes. The first plantings should be of small-growing, quick-maturing varieties, such as Alaska, First and Best, and Gradus. These kinds do not require supports. They should be followed by the large wrinkled type of peas, such as Champion of England, Telephone, and Prize Taker. These may be supported on brush, on strings attached to stakes driven in the ground, or on wire netting.

Peas should be planted about 2 to 3 inches deep in rows 3 to 4 feet apart. Some gardeners, however, follow the practice of planting in double rows 6 inches apart, with the ordinary space of 3 to 4 feet between these pairs of rows. With varieties requiring support this is a good practice, as the supports can be placed in the narrow space between the rows.

Remodeling an Old House. Before



—and After

Beans are more susceptible to cold than peas and should not be planted until danger of frost is past and the ground begins to warm up. They are, however, among the most desirable vegetables that the home gardener can raise. There are many different kinds and varieties of beans, but for garden purposes they may be divided into two classes—string and Lima. Both classes are grown commercially over the greater part of the East and adapt themselves to a wide diversity of soils and climate. They grow rapidly and, therefore, leave the area in which they have been planted free for another crop. To secure a continuous supply, it is desirable to make plantings at intervals of 10 days or 2 weeks from the time that the ground is reasonably warm until hot weather sets in.

Both string and lima beans are subdivided into pole and bush types. The pole lima bean should be planted with from 8 to 10 seeds in the hill and after the plants become established should be thinned to 3 or 4. The hills should be 4 or 5 feet apart. Bush lima beans are planted 5 or 6 inches apart in rows 30 to 36 inches apart. Bush beans of the string type may be planted somewhat closer—the plants standing 3 or 4 inches apart in rows from 20 to 24 inches apart if hand cultivation only is to be employed.

Beans of any kind should not be planted any deeper than is necessary to secure good germination. This should never be over 2 inches and on heavy soil it should not be more than 1¼ to 1½ inches.

Beets can be planted comparatively early in the season. It is not necessary to wait until the ground has become warm, if the danger of frost is past. The seed should be sown in drills 14 to 18 inches apart and covered to a depth of about 1 inch.

Outlook in Fruit Business

The outlook in all lines of the fruit industry is certainly very bright at the present time. With the possible exception of peaches I believe fruits of all kinds brought higher prices this year than ever before. Small fruits such as berries have been high for several years and will most likely continue to be so for a year or two more. Altho prohibition will greatly increase the demand for small fruits, I do not believe that the price for these fruits will remain at this level for any great length of time. Small fruits require only two to three years to bring them into bearing and we can look for heavy plantings along this line during the next few years. There is no question in my mind, however, but that small fruits will continue to be a profitable crop and I would not hesitate to continue planting them.

According to statistics, peach plantings have been very light during the last few years and the number of young peach trees in this state has certainly reached a very low point. This condition is undoubtedly due to a number of different reasons. First of all, peaches have not been abnormally high during the period of the war. True it is that the price has been fair but I do not think they have advanced in proportion to other commodities. This would have some effect upon planting. Peaches have also undoubtedly suffered more during the war than have any of our other fruits. With the great scarcity of labor which we have experienced many orchards have been necessarily neglected. This is something which a peach tree cannot stand. They must be well taken care of or the orchard deteriorates very rapidly and it is only a few years until the trees are all dead. For this reason I think we can expect to see many of the old peach orchards disappearing quite fast.

The scarcity and high price of both trees and labor have also had some effect upon the number of young trees planted. "Peach yellows" has possibly done more than any other single thing in reducing the number of peach trees in this state. Yellows have been unusually bad in Pennsylvania during the last five or six years and it has taken a tremendous toll from our peach orchards. When all of these things are considered, I cannot see anything but the brightest prospects for the man who has a young peach orchard just coming into bearing.

Even tho the fruit industry as a whole looks very promising. I think the greatest opportunities are to be found in the apple business. True, it means a long wait but the end justifies the means. When the trees have been brought into bearing we have something that is worth while, something that is permanent. If the trees are well taken care of they will last as long as the man who planted them. In my estimation there is no other line on the farm that presents as great an opportunity especially to the young man, as does the apple business. In other lines of agriculture our farms increase in value very slowly unless there should be a certain spurt in land

(Continue to Page 8.)

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Our job is to serve our readers. Whenever and wherever we can help you, write us.—The Editors.

About Buying Stocks

WE frequently receive letters asking our advice about investing in this or that company by the purchase of stocks or bonds. We have but one answer in the majority of cases and that is, "Don't." Most of the inquiries are about new or little known concerns, but which offer great inducements to suckers to "get in on the ground floor." In spite of all the warnings given and the watchfulness of the Post Office Department, fake and irresponsible companies continue to flourish simply because humanity is greedy enough to be eternally trying to get something for nothing. There are thousands of good, reliable companies which are well established and well known but which can offer only a fair rate of interest, but this class does not have to go begging for a market. Any company which goes out of the ordinary channels to sell stock, or which offers unusual returns as certain, may be set down aa a fake and should be left severely alone. If one has money to invest outside of his own business the wise thing to do is to consult a banker. They are in a position to give better advice than any one else and are usually willing to do so.

In 99 cases out of a 100 a good live farmer can find places in his own business where his surplus cash will return more in cash or satisfaction than most stocks and bonds will pay. Until the farm and the farm home are what they ought to be a farmer is foolish to risk investing money in wild-cat schemes.

"Truth in Fabric" Bill

THERE is a bill before Congress called the "Truth in Fabric" bill which would require the marking of all goods and clothing purporting to be wool with the amount of shoddy which they contain, if any. Such a law is not only in the interest of wool growers but is for the protection of the buying public as well. There is little doubt but what the public is paying wool prices for a great part of its clothing at the present time when a large percentage of it is composed of shoddy. It is claimed that a great deal of the "strictly all wool" clothing now on the market contains all the way form 20 to 80 percent shoddy, yet the buyer is charged wool prices for the goods.

The National Sheep and Wool Bureau has worked out an example of the results of this work: A suit made of shoddy goods, the cloth of which could have been sold profitably by the manufacturer for $10, could be made up and sold by the retailer for $25.60. But if the manufacturer sells the original cloth at wool prices—$15, or $5 more—by the time the suit is in the hands of the wearer the price is $38.40. In other words the suit costs the consumer $12.80 more than it should because the manufacturer of the cloth profiteered $5 by selling shoddy at wool prices.

Tremendous efforts are being made to prevent the passage of this bill, and if the public does not insist upon it it will probably be defeated. Here is where organized effort will count. But the public is so indifferent and careless about looking out for itself that it is no wonder it gets the short end in its dealings with highly organized business. Congress will pass this bill and thus aid the sheep industry and give needed protection to the consumer if the public will make a united demand upon its representatives for its passage.

The New Secretary Talks

THE opening communication of the new Secretary of Agriculture, E. T. Meredith, given out thru the newspapermen, sounds encouraging to say the least. Here is one of the paragraphs:

"I am surprised," said Mr. Meredith, "that I should have received the number of messages I have, particularly from daily papers, asking what plans I, as Secretary of Agriculture, have to reduce the high cost of living, indicating that the general feeling is that this is essentially an agricultural problem. It is, of course, related to agriculture, but no more than to many other lines of activity, and I am tempted to believe that the solution of the problem lies more in the hands of those interested in distribution and non-productive enterprises than in the hands of the farmers of the country."

Such sentiments indicate a first hand knowledge of the subject he has to handle and bespeak a sympathy which has not been so much in evidence in the Department of Agriculture as farmers have thought should exist. There is a wonderful opportunity for an official rightly disposed to set the public right in its attitude towards farming and thus help to improve the whole business of farming.

Production in 1920

MUCH wild speculation is being indulged in at this season both by farmers and city people as to what will be produced by the farmers the coming year. There is little doubt but what many of the unfavorable conditions which have existed during the past two or three years will continue to some extent during the next year or two. But because of what the farmers did in the past under strenuous circumstances, and because of their known ability and dogged purpose we predict that, barring bad climatic conditions, the farmers of this country will continue to make a good showing and that the country will not starve, providing it has the money to pay for its needs.

The city papers carried scare head lines the other day, saying that farmers were going to lay down on their job and reduce production in retalliation for imaginary grievances. This was occasioned by the presenting of a report by Fourth Assistant Postmaster General in which 40,000 answers to a questionaire farmers indicated reduced effort the coming season. The reasons given by farmers were: Scarcity of help, high costs, and lack of profit. All these conditions have obtained for some time and yet farmers have continued to surprise the world and they will continue to do so. It must be remembered that the official referred to was pleading before the Senate committee for a large appropriation for the extension of direct marketing by parcels post over truck routes, and that his arguments were probably pessimistic because of his belief in the panacea which he urges.

There is no cause for giving up. In fact, there is every reason why every effort should be made to continue even tho conditions are not satisfactory. The present situation cannot continue. There is alread indications that it is breaking and the farmer who has his farm in good running order is more certain than any other producing man to be "in the game" during the first years of the lean time which is almost sure to overtake the country sooner or later.

Our Washington Letter

Some time ago a bill was introduced in the House by an Idaho congressman, which required all dealers and manufacturers of wool products to have their goods plainly labeled, showing just how much wool they contain and the extent to which they are adulterated. It also provided that all manufacturers of these goods be registered, so that in case there was a dispute over the wool content the matter could be traced to the original makers.

Knowing that the New York State Federation of County Sheep Growers' associations had been agitating an honest fabric law, and that it was a matter in which sheep raisers in all the states are deeply interested, I made some inquiries as to the present status of this measure. I found that neither the Grange nor National Board of Farm Organizations representatives had been consulted in regard to it. Neither had their aid been requested in securing its passage. It had not gone to the committee on Agriculture, where bills in which the farmers are especially concerned are expected to go, but was in the care of another committee whose members are not supposed to be particularly interested in farm legislation.

* * *

The impression has gone, due to the efforts of certain careless writers, that the large farm organizations are opposed to organized labor. This, however, is declared by the Washington representatives of the farm organizations to be erroneous and unfair. A. M. Loomis, one of the Grange representatives, says it is unthinkable for anyone who understands the principles of the Grange to oppose a similar organization of any other individuals who have a common ground of association. The Grange is no more opposed to labor organizations, than the Masonic Lodge is opposed to the Odd Fellows.

* * *

Packer legislation is apparently at a standstill in Congress. Any proposition which effects the interests of the packing house industry is sure to meet with hard sledding, regardless of how drastic or how tame may be its provisions. The new Kenyon-Grange bill was designed to meet several of the objections made by the packers and yet retain some of the essential features demanded by the large farm organizations and the general public, for the regulation of the packers; yet it is as strenuously objected to as was the old Anderson-Kenyon bill, by the men who are opposed to any interference with the affairs of the big interests.

* * *

It is apparent that every one is waiting to see what is to be done with the League of Nations. The people are saying in no uncertain terms that they want the peace treaty settled at once. They are not so particular as to how it is done or how many reservations are made so long as it is out of the way and the Senate can devote its time and wisdom to the settlement of great national problems that concern the home folks.

* * *

The farm organizations that have declared in favor of the "anti-strike" clause in the Cummins railroad bill are strongly supported by the farmers. They insist, with National President Howard of the American Farm Bureau Federation that organized strikes must cease; that industrial disputes must be settled by compulsory arbitration." There is going to be a hard fight on this anti-strike legislation, when it comes to a show down, but the sentiment of the conservative, practical farmers seems to be emphatic in demanding that attempts to hold up commerce and coerce industry and the public into accepting the arbitrary terms of labor leaders, shall be no longer permitted in this country.

* * *

Reports that come to the Grange headquarters indicate that the farmers are strongly opposed to compulsary military training.

* * *

It is said that President Wilson has for some time been aware that farmers were not satisfied with Mr. Houston, and the resignation of Secretary Glass of the Treasury to become Senator from Virginia, gave him an opportunity to make the change. None of the farm organizations represented in Washington were consulted in regard to the appointment. In fact, the President seems to have maintained his well known policy of ignoring the farmers. Nevertheless the farmer representatives here speak highly of Mr. Meredith, as a man thoroly familiar with the needs of agriculture and in sympathy with the farmers demands for better facilities for marketing and distribution.—Elmer E. Reynolds.

HARRISBURG LETTER

Big Constitutional Questions. — Propositions which will bring about radical changes in taxation and disbursement of State subsidies in Pennsylvania are now before the State Constitutional Revision Commission, with prospects that they will be acted upon in a tentative way within the next month and then laid before the people for hearings. The commission has approved the principle of state aid to hospitals and homes not under State control, but with the idea of compensation for services rendered only, the presumption being that the community will furnish the plant and the state help pay a portion of the cost of free service. It is not believed any other proposition would have a chance of getting thru the legislature. In regard to taxation, it is now proposed to tax according to various classes and to do away with the uniformity proposition which governed in the Constitutional convention of 1873. This would enable separate methods of taxation of urban and rural property. It is proposed also that minimum sums shall be established for state aid for certain colleges, which are to supply free scholarships; for normal schools and for the general schools, the state to furnish the latter with what the local districts provide. This would mean double what the state now gives to such objects. It would also probably get the teachers' salary proposition into better shape. The chances are that these subjects will cast corporations and kindred matters into the shade in the next two weeks.

Will Give Hearings.—It is the intention of the Commission to have everything adopted in committe of the whole by the middle of February and then to have the tentative draft of the constitution sent out for criticism, a month being devoted to hearings during which time the Commission will sit here and possibly have committee hearings elsewhere, then a month or two for the filing of briefs and the reassembling to draft the final report in the autumn. The Commission is charged with the duty of reporting to the next legislature and will be ready. But the big question is whether its draft can be sent direct to the people without calling of a constitutional convention. It is thought that the legislature can submit the revised document without a convention or might designate the commission as a convention and authorize a submission in the fall of 1921.

State Revenue Huge.—Some support is lent to Auditor General Charles A. Snyder's contention that the state does not need new laws for taxation but to vigorously enforce what it has by the fact that the revenue for January was over $6,000,000. Much of this came from corporation and inheritance taxes and if the mercantile license tax is as carefully gathered in there will probably be well over $50,000,000 at the end of the year. The state now collects all its own taxes, the personal property tax being a county matter, altho some state control of it is bound to be resumed before long. In this connection it is worth while to say that the revised constitution will not permit of the raising of such questions as the test of the road bond issue, amendment which was started last week and then abandoned because it would have brought into controversy every amendment since 1909 including labor regulation and employers' liability. There will be clear statements regarding amendments and bond issues.

Fewer Horses.—Horses on the farm in Pennsylvania decreased over 42,000 in number in five years according to the latest compilation of figures on the subject made by the State Department of Agriculture. The number given as of the first of this year is 554,019. This does not include those used in city work. The figures show that the increase in use of motor vehicles on farms and in fields have materially reduced the interest in horse raising. Another interesting fact is that the average price for horses in the state is $111, with $150 as the highest and $95 the lowest county average. Lancaster has over 24,000 horses with an average value of $125, making over $3,000,000. The aggregate value of horses for the state is given as $61,480,900. Crawford County has he second highest number of horses with 20,000 but the value given is less than that of Berks with 17,000.

For Farm Labor.—State employment agencies which have been trying to get the abnormal labor situation adjusted are making efforts to secure men for farm labor next spring and summer. In many of the cities and larger towns men who have been employed in mills and who have come from the country have made inquiries as to the rural conditions and have been asked to put down their names if they think of going back to the farm for a while. It is believed that if industrial conditions do not improve next spring there will be more men available for farm work.

Ten Percent Beaten.—The ten percent increase in the number of motor vehicles owned on the farm reported a year ago has been beaten by the latest compilation of figures made by the State Department of Agriculture from reports of assessors and reporters in local districts. The total number of automobiles owned on the farm is given as 104,850, the 100,-mark having been passed last fall; trucks 10,250 and tractors 4,315 Lancaster County leads with 7,043 automobiles, 328 trucks and 287 tractors on its farms with York next with 4,399,239 and 100.

E. T. MEREDITH

Appointed by President Wilson as Secretary of Agriculture in Place of Mr. Houston Who Becomes Secretary of Treasury.

The Dog Licenses.—Secretary of Agriculture Frederik Rasmussen is getting reports from various counties as to the manner in which the dog license code is being enforced and it is likely that some of them will hear from him one of these days. The state does not intend to assume the burden of enforcing the law, but will insist that county authorities do their part. Some counties have endeavored to show that the code is unworkable, but the commonwealth will go into the courts on that proposition any time. The secretary's efforts to enforce the code have been backed up by many people interested in the effort to maintain more sheep, some of whom were here for the meetings of "Farmers' Week." Arrests of some constables and others failing to act will probably bring matters to a crisis. The State Game Commission is planning to cooperate to clear out the dogs which ruin wild life beneficial to farmers.

35,000 at Show.—According to the count of State officials there were 35,000 persons at the State Farm Products Show held here week before last and it is announced that the plans for the 1921 show have already been outlined with the object of outdoing this year's exhibition of what's raised in Pennsylvania.—Hamilton, Harrisburg, Feb. 2.

NEW YORK LETTER

Peak of Fruit and Vegetable Prices Not Reached.—At this time of year the bulk of this state's great fruit and vegetable supply is in the hands of dealers. It requires too extensive an outlay for any but the biggest operators to carry these over into the new year, and battle for prices. Despite clamor against the farmer for profiteering he has been out of the running for some time and prices are still on a gradual raise. Contrary to usual conditions there is a good midwinter demand for nearly everything. Cabbage is $100 to $110 a ton—tho most of it left the growers' hands at $20 to $30. It is keeping well due to the cold weather, but Southern cabbage is pouring in and will soon ruin our market. Two thirds of the entire country's present cabbage movements are now coming from this state, with Wisconsin next. Celery is almost cornered and has reached the point of being a luxury at $7 to $8 a crate. The growers received half or less than half of this price. Onions are still advancing, the price for No. 1 Yellow Globes being $5.50 to $5.75 per cwt, trackside. The potato movement has been held up by cold weather. Prices have advanced from $1.25 to $2.25 and there is prospect for further advance.

Maple Syrup Makers To Meet.—The only organized maple syrup association of the state, that of Cortland County, will hold its annual meeting on February 7, with a pancake and syrup dinner and addresses from experts. Men have been studying the outlook for prices in New York and Vermont and will report that day. Last year the organization was able to raise the price to farmers $1 to $1.50 a gallon in Central New York, while consumers who purchased of them paid less than they had previously for pure high grade syrup.

Farmers Pasteurize. — The farmers near Seneca Falls who have at much inconvenience heretofore shipped their milk to Syracuse, Rochester and Auburn are putting in a pasteurizing plant and will hereafter sell to home trade. Their difficulties in meeting trains the past three weeks of deep snow forced them to the departure.

Excitement at Albany.—January in the Legislature has usually been a dull month. Not so this year however, as the city is full of reporters and people who are there to hear the trial of the five Socialist members of the Assembly, who were suspended by Speaker Sweet as being a menace to the country. So far proof has been established that the platform of their party forbids them to vote for any measure to provide money for military or naval purposes or for war. A fourth effort to reseat the suspended members has failed. Secret service men are present at the trial, also members of the New York City bar. John B. Stanchfield is counsel for the Assembly Judiciary Committee.

Pure Shoe Law Advocated.—Enactment of a state "pure shoe" law is sought in a bill to require the labeling of shoes with the amount of leather substitute or synthetic compound used in their composition. There will be a battle to pass a State Prohibition Enforcement bill. also one to create a state censorship of motion pictures; which are becoming worse and worse morally. Other bills sought will require the licensing of pool and billiard rooms, with bond for observance of the law, also to stop professional baseball and motion pictures on the Sabbath, and an effort will be made to prevent the repeal of the anti-prize fight law.

State College Loses Another Valuable Worker.—Prof. K. J. Swelke of the animal husbandry department of the State Agricultural College has resigned to accept a bigger salary as eastern representative of the American Aberdeen-Angus Breeders' Association. Prof. Swelke's skill in matters pertaining to live stock was well known all over the state and they were too valuable to be lost to the state. Another instance of the folly of the state's penurious salary policy—over 150 such valuable workers having been taken away from the staff in the past 5 years—some of them at increases of $2200 per year.

Farm Help More Plentiful.—The Syracuse State Employment Bureau reports more help to work on farms than there is a demand for just now, it being the dull season. Single men ask $40 to $60 a month, and board lodging, etc., while married men, who are in greater demand, get $40 to $60, tho married men get as high as $100—getting house rent, fuel, milk and garden besides.

Farmers' Name Man.—At a conference of agricultural leaders of the State last week George R. Fitts of Tompkins County, well known dairyman and rural leader, was selected as the man farm organizations of the state will ask Governor Smith to place in the vacancy that will occur on the State Fair Commission on March 31. This is a new departure and farmers are in earnest in demanding recognition on the board which runs a fair for the state whose first industry is agriculture.—F.

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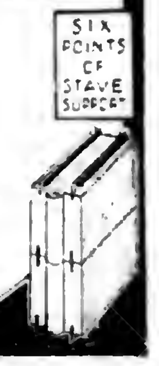
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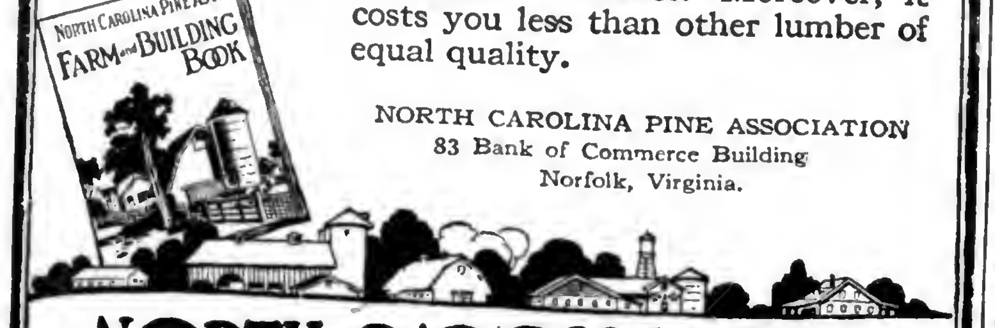

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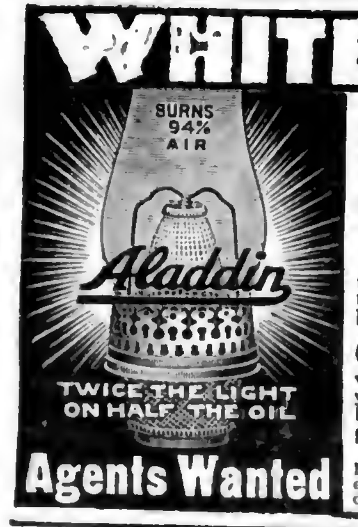
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Make big money spare or full time. Our easy selling plan makes experience unnecessary. We start you without money. Sample sent for 10 days trial and **GIVEN FREE** when you become a distributer.

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are helping their husbands to prosper—are glad they encouraged them to go where they could make a home of their own—save paying rent and reduce cost of living—where they could reach prosperity and independence by **buying on easy terms.**

Fertile Land at $15 to $30 an Acre

—land similar to that which through many years has **yielded from 20 to 45 bushels of wheat to the acre.** Hundreds of farmers in Western Canada have raised crops in a single season worth more than the whole cost of their land. With such crops come prosperity, independence, good homes, and all the comforts and conveniences which make for happy living.

Farm Gardens—Poultry—Dairying

are sources of income second only to grain growing and stock raising. Good climate, good neighbors, churches, schools, rural telephone, etc., give you the opportunities of a new land with the conveniences of old settled districts.

For illustrated literature, maps, description of farm opportunities in Manitoba, Saskatchewan, and Alberta, reduced railway rates, etc., write Department of Immigration, Ottawa, Can., or

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200 N. Second Street, Harrisburg, Pa.
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ADDITIONS TO FARM EQUIPMENT

Tractor Proves Satisfactory

The following was written by a 15-year-old boy in the competition, "What We Have Added to Our Farm Equipment."—Editor.

One of the most satisfactory and economical additions we have made to our farm equipment is the tractor. We live on a farm of 180 acres, and keep 22 Holsteins, about twelve or fifteen heifers and calves, about 200 hens and usually quite a few hogs. We are kept very busy as we hire no help except for silo filling, threshing, etc.

Last spring we had 25 acres of bottom land to plow for corn, as we did not plow it the fall before for fear of floods. It was rather late before the land was fit to plow and Dad purchased a light tractor to help along with the work. I have since done nearly all the plowing, discing, etc.

We find the tractor does its work very satisfactorily, plowing an acre per hour, under good conditions, using about two gallons of kerosene and less than one-half pint of oil for crank-case per acre.

Last June the creek overflowed and water stood on the fields for several days. Our corn field was a sorry sight—soggy and heavy. As soon as it dried off, I took the tractor and disced. The big disc cut in about five inches, and after I had covered the ground, the field was soon in fine shape. With horses, it would have taken much longer, besides it left the horses free to pull the planter.

With the tractor we can disc about 24 acres a day and under most conditions can pull a smoothing harrow behind the disc. With the help of the tractor, we got over 100 bushels of corn to the acre in spite of the late season.

Storm Shed and Concrete Floor

About six years ago we built a storm shed to the barn. The shed proper is 20 feet wide and has a "T" with a hip roof which extends out another 20 feet, and is 30 feet wide. The barn was originally 40 feet wide and has an overshoot about 8 feet wide, so this makes a fine place for the cattle in winter. In the loft there is lots of room for straw and hay. We usually keep enough straw to last a year. The shed has a row of large windows the whole length of the born which allow plenty of sunlight and ventilation.

As there is a concrete floor, no manure is wasted. We get about 400 loads per year, nearly twice as much as before we had the concrete floor, and of better quality. The increasing fertility of the land is already noticeable; and we feel, as an economical addition, the concrete floor and shed have more than paid for themselves.

Thru the time saved by the tractor and a light car, I am privileged to attend High School in a town five miles distant, spending the night at home and I am also enabled to take lessons on the violin. We all agree that the above equipment has made farming much easier and more interesting than before.—Fifteen-year-old farmer, Bedford, Pa.

OUTLOOK IN FRUIT BUSINESS

(Continued from Page 5.)

values in our particular section. In the apple business, on the other hand we have a steady increase in valuation almost as long as the trees are given good care. In other words, we can figure an increase in valuation of at least one dollar per tree every year for each first class apple tree and if a man has one thousand good apple trees on his farm it increases in value at least $1,000 each year. This is no fictitous valuation but one that will realize more than the normal rate of interest.

Altho the prices of apples have been abnormally high, plantings have not increased to any great extent excepting in a few sections. The high cost and scarcity of labor has also had its effect upon the apple business, altho the neglect has not been so serious. Prohibition will possibly be the greatest single stimulus at present. There promises to be a tremendous demand for sweet cider at very good prices which will tend to clean the market of the inferior grades of apples. This has been one of the most serious drawbacks in the past. Thousands of bushels of apples have gone onto the market which should have never left the orchard with the result that almost every year has seen a certain period during which the markets have been glutted by that class of fruit. If we can keep these apples off the market it is certain to greatly increase the demand for first class fruit.

With a better grade of fruit on the market, consumption will increase by leaps and bounds. People will not eat poor apples, but they cannot resist the temptation when good fruit is at hand.

A great many trees have been destroyed in Europe. I look for a steady increase in the exports to these countries. South America also offers a wonderful market for apples and it is gradually being developed. As far as marketing is concerned I can see no possible chance for a glut in the near future.

Possibly one of the greatest indications of the condition of the apple business is the fact that shrewd business men are today paying unheard of prices for apple orchards here in the East. When trees from five to eight years of age bring from $500 to $700 per acre, someone has a good bit of faith in the business.

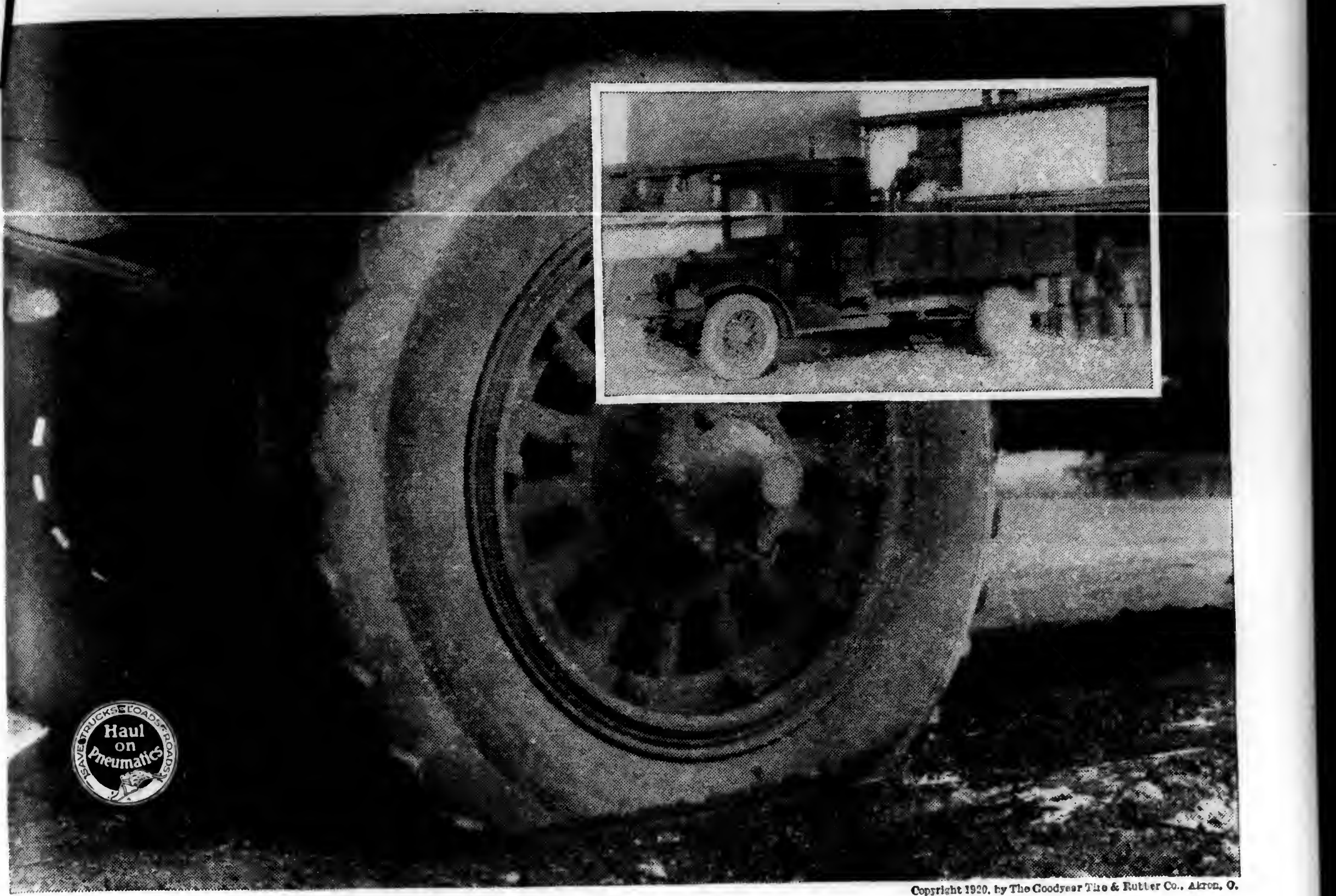
One of the greatest drawbacks to planting this season is the extreme scarcity and high prices of trees. In my own section the trees and planting cost as much as the best kind of orchard land and we should be extremely careful in getting trees true to name. With apple trees selling at from fifty cents to one dollar and fifty cents each, I am afraid some nurserymen are going to be sorely tempted to substitute in varieties.

Wherever possible, I would advise the purchaser to go direct to the nursery, select his own stock and stay there until it is shipped; you will not only get better stock but have it shipped more promptly.

There are many drawbacks to planting at present but I do not believe that anyone who intends taking care of his trees will regret ten years from now, having started his orchard in nineteen hundred and twenty.—Sheldon W. Funk.

Does moisture on the windshield bother you? Try this: One ounce of water, two ounces of glycerine, one dram of salt. Apply the solution to the glass with a piece of gauze. Use downward strokes.

With cotton goods sky-high in price, there's added reason for choosing good colors and good quality when buying new dresses this spring.



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THIS statement describes hauling conditions such as many farmers find can be counteracted most effectively with the perfected pneumatic truck tire.

Not only does the pneumatic-shod truck, as compared with the solid-tired unit, average a better rate of travel over country routes, without necessarily reaching a high maximum speed, but it does so quite smoothly.

Rural users thus note that hauling on pneumatics adds to a saving of time and brawn important protection of equipment and loads, shrinkable, perishable and breakable.

They particularly note the effect of Goodyear Cord construction, developed during recent years, which makes possible pneumatic tire mileages comparing very favorably with those of solid tires.

In addition to reporting that pneumatic-tired trucks pave the way for the general motorization of farm work, they list mileages of Goodyear Cord Tires, on trucks, as ranging from 15,000 to past 40,000 when given proper care.

Accurate information furnished by farmers and other rural haulers, showing how they improve their methods and incomes with pneumatic-tired trucks, can be obtained by writing to The Goodyear Tire & Rubber Company, at Akron, Ohio.

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Red Clover, Alsike, Mammoth, Alfalfa, Sweet Clover

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Samples free .. If you believe in good seed, write us today for samples and new Catalog. No charge....Have a full line of Seed Grains and Grasses—Oats—Corn—Peas—Beans—Potatoes, etc.—highest qualities only. Please mention this paper when writing.

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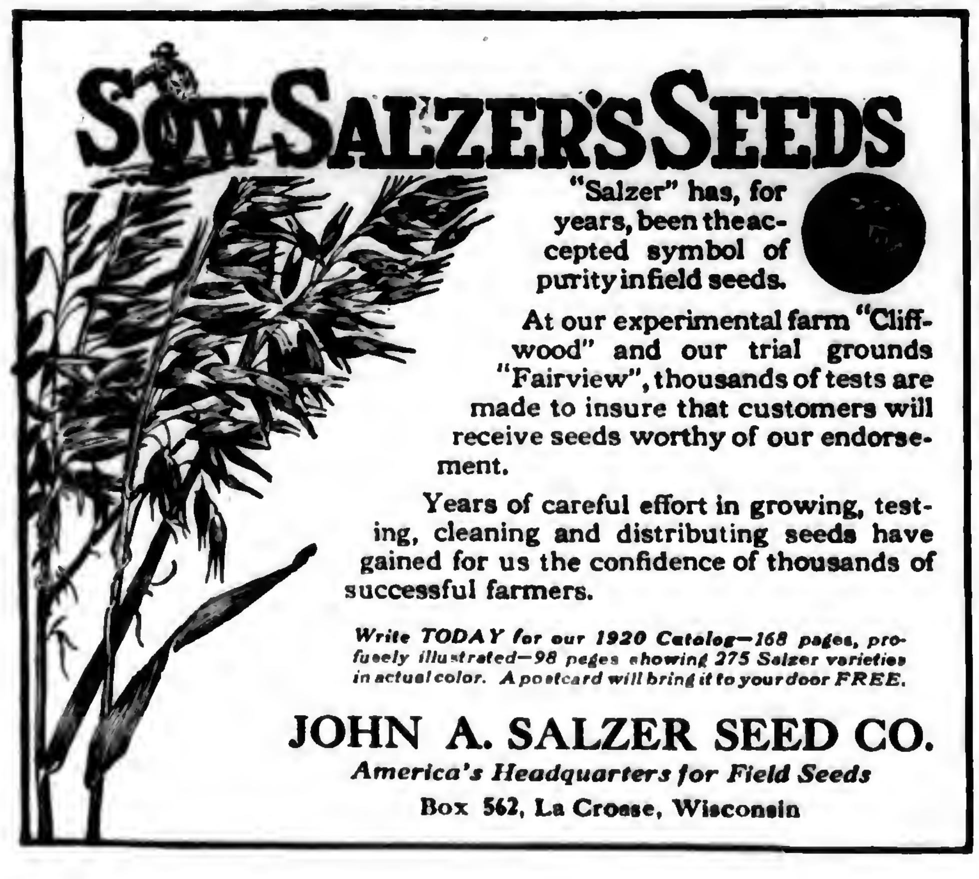

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HORTICULTURE

GOOD RESULTS FROM A SMALL ORCHARD

By J. P. STEWART

Some time ago we gave a brief account of some very interesting results that had been obtained by one of our correspondents with a small orchard of 60 Stayman Winesap apple trees planted in the southern part of the state in 1912. Those results attracted so much attention that we asked for some further details from the owner, which he has very kindly given, and we accordingly are passing them on to our readers just as received from the owner.

In this account we wish to call particular attention to three things. First, his successful use of a rather low-priced intercrop during the first five years; second, the fact that an orchard doesn't have to be large in order to be successful; third, the fact that this orchard had more than paid for itself by the close of the sixth year, and that it made a net return of 10 percent on a capitalization of nearly $5800 an acre this past year, which was the eighth year for the orchard. At the same time, the reader should not get the idea that the orchard business is a lead-pipe cinch or that anyone can succeed at it, as witness the results of the ten-acre orchard in sight of his.

Gathering Early Crop Spinach

"I am herewith enclosing statement of expense and receipts for the seven years on my little orchard of 60 Stayman apple trees. You will notice expense was high, but I spared neither time nor money to give it best of care and I believe it will pay. Anyway, I am not a bit discouraged. Looking across the fields less than a mile away, I see a 10-acre orchard planted the same year with trees from the same nursery and the owner comes to me for his winter supply of apples, with no prospect for any of his own for several years to come. The owner told me he will not waste any time or money on the orchard until it starts bearing. By that time I believe one half the trees will need no attention, and the other half will never pay him, unless he repents.

I planted my orchard to corn the first five years, with crimson clover sown at the last cultivation. If any difference, the fifth crop was the best. I made check rows and planted by hand, so I could cultivate both ways. So you see the tree rows were cultivated the same as between rows, and all fertilizer was applied broadcast. The first two years a neighbor farmed it for the half, which accounts for the smaller income, but the trees had my personal care. My time was charged against it the same as I earn in the factory where I work at spare time, making from 40 to 50 cents per hour. Horse hire is now 20 cents per hour, while 6 or 7 years ago I paid 5 cents an hour for a good horse; so, an orchard planted now would make a different showing.

I sincerely believe the Stayman the best all around apple for Southern Pennsylvana, but it is not the only paying one. I have 10 Grimes Golden trees planted the same year on a separate lot and this fall sold 60 bushel for $150 and put a barrel in the cellar for family use.

Five good ones here are Stayman, Grimes, Delicious, Jonathan, and Winter Banana. They are young in bearing, are of good quality and good sellers. My orchard, I have often said, is my only life insurance policy and I believe it is on a good standing.

Living in a small town and working in a tobacco factory for the last 25 years, you may wonder why this orchard was ever started. I will tell you. During 1910 and 1911 business was dull. I had work only two and three days a week which would barely support my family, much less lay anything by for old age. That's why, and I think it will do the trick for a rainy day.

Here is how it stands January 1st, 1920:

Year	Expense	Receipts
1912	$24.32	$17.30
1913	40.44	15.42
1914	44.15	31.28
1915	42.21	30.86
1916	38.20	37.34
1917	42.04	220.97
1918	54.33	302.34
1919	62.69	678.48
Total	$348.38	$1333.99

These trees are planted on the triangle plan, 30 feet apart, which is entirely too close, but too late to change now. It covers 170 perches of ground. 6 rows of corn were planted between each row the first two years and five rows the last 3

years. Since that nothing was planted, but cultivation has been kept up until late in July when crimson, clover and turnips are sown at last cultivation.—R. A. Knisely.

It may not be out of place to call further attention to the one important mistake which the owner admits having made in this orchard, viz: the mistake of too close planting. The triangular system which he adopted, moreover, does not admit of any systematic thinning of the trees which will leave them at a satisfactory and uniform distance. If he had chosen the rectangular system, with the trees about 32 x 20 feet at the start, it would have given him more trees to the acre during the early life of the orchard, would have permitted a regular thinning to 32 x 40 feet whenever needed, and would have been in no way inferior to the plan adopted, excepting possibly in offering slightly greater impediment to cross-cultivation when working his inter-crop. Even this objection to the latter plan is by no means certain, and in any case would probably be more than offset by the more easily followed rectangular system. At any rate, we offer the latter alternative to all future planters of orchards.

FIELD MICE

Nurserymen in New York are complaining loudly this winter of the ravages committed by the meadow mice. This menacs which at intevals visits fruit growers and nurserymen is doing much damage to the trees. It is feared by many that the present visitation of the mice will be more disastrous than when they visited the nurseries in 1902, when thousands of dollars worth of damage was done to the New York nurserymen. Examination of trees in the Geneva district shows that they have been girdled to an alarming extent.

Prof. P. J. Parrott,, of the State Experiment Station, who has made an extensive study of the meadow mouse, states there are several species, differing much in size. In the length of body some are nearly as small as the common house mouse, while others are nearly as large as the common rat. The rodents are very prolific. The female gives birth to from eight to twelve little ones three to four times a year, and they multiply so rapidly that whole districts have been seriously injured by this scourge.

Investigation of the food of the rodents is difficult because of the finel ground condition of the stomach contents, and usually the nature of the food can be determined only in a general way. In summer the principal food of the meadow mice is green vegetation and unripe seeds of grain and grasses. In winter, grain and bulbous and other roots are usually eaten, but sometimes the bark of trees becomes a staple food. It is mainly in winter that apple orchards and young forest plantations suffer from the depredation of these animals. Such attacks are not, however, always due to severe weather, which deprives them of their ordinary food for they often occur during mild, open winters. The depredations seem to result rather from the excessive numbers of the animals and the consequent scarcity of food, which renders them so voracious that they are ready to devour any vegetable substance.

Stomach investigations show that in addition to bark, green leaves and seeds of grasses and sedges, field mice eat all kinds of bulbs, tubers, roots and occasionally animal food. When a number of these mice are kept in confinement, the stronger animals usually devour the weaker. It has been calculated that each adult meadow mouse requires from twenty-four to thirty-six pounds of green vegetation each year. It is thus apparent that the total amount eaten by the hordes that ordinarily infest the meadows, swamps and forests of the country is uncalculable, and it is a steady drain upon the resources of the farmer. It is said that in a single district in France some years ago an estimated damage of $600,000 was done by these little animals.—A. H. Pulver.

FERTILIZERS BOOST TOMATOES

Results of recent fertilizer tests made by the horticultural department of the Missouri College of Agriculture in cooperation with tomato growers in various parts of the state show that the yield of tomatoes may be greatly increased by use of commercial fertilizers. In several cases the yield has been increased from one or two tons to over five tons to the acre. Also the earliness of the crop was influenced very markedly by the fertlizer, as the fertilized plants began heavy bearing from four to five weeks earlier than did the unfertilized plants. As the market price is much higher for the early fruit, the increased earliness of the crop would greatly increase its value.

In the case of tomatoes grown for canning factories, the period of heavy picking averaged six weeks on the fertilized plots, but only three weeks on the unfertilized plots. By doubling the length of the season of heavy production by means of fertilizing the crop, both growers and cannery men can handle a much larger quantity of fruit.

One of the outstanding results in these Missouri tomato tests, was the vigorous growth of the fertilized plants in the early party of the season. This resulted in a well-developed plant, full of green fruit before the season of hot, dry weather arrived. Stable manure and poultry manure proved to be excellent fertilizers for tomatoes when well rotted, and applied before plants are set. However these materials did not speed up the earliness of the crop as much as commercial ferilizers. Acid phosphate was the material which produced the most striking results, while the results as a whole from ten different tests indicate that a fertilizer analyzing 3 or 4 percent nitrogen and 12 percent phosphorus may be expected to give the most satisfactory and economical results. This fertilizer should be used at the rate of at least 200 pounds per acre, and preferably should be drilled into the row a few days before plants are set.

If the finished product always looked as good as the pictures in the seed catalog how much happier some gardeners would be. Tested and tried varieties are always safest.

The man who has a good farm record, can, with the expenditure of a few minutes each week, have a check upon his business, and can see where he is making money and where he is losing it.

The rural mail carrier hasn't the easiest job in the world when the wind blows and the snow drifts. A little more care in clearing the road to your mail box will make him thankful for your thoughtfulness.

EARLY SHIPMENT IS ESSENTIAL

THE LIME that is Actually received and Spread on the Acid Soil which needs it, will be the only lime that counts this spring. Undelivered Lime will not help and Unfilled Orders are no benefit.

Few railroad cars and many orders at one time, is a bad combination for the Lime Manufacturer. Buyers can easily assist, and for their own good should do so. ***Take Early Shipment.***

Charles Warner Company aims to give best Attention and Service to all orders for "Limoid;" but Buyer's Cooperation to get orders on the road early is Urgently Requested.

Warner's "LIMOID" is pure Hydrated Lime manufactured from the famous "Cedar Hollow" limestone. Can be stored in any dry place without loss.

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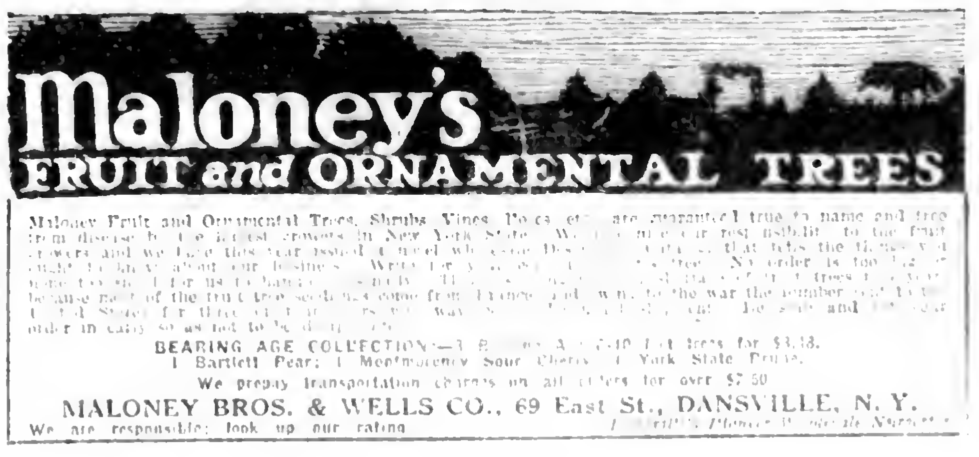

Maloney's FRUIT and ORNAMENTAL TREES

Maloney Fruit and Ornamental Trees, Shrubs, Vines, Roses, etc. are guaranteed true to name and free from disease [illegible] New York State. [illegible] fruit growers and we have this year issued [illegible] No order is too [illegible] because most of the fruit tree seedlings come from France and owing to the war the number [illegible] order in early so as not to be [illegible]

BEARING AGE COLLECTION—[illegible] trees for $3.18.
1 Bartlett Pear; 1 Montmorency Sour Cherry [illegible] York State Fruits.
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HOT AIR
COLD AIR

Sectional view showing Circulation of Heat.

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The Onepipe Furnace That NEVER Disappoints

THE "STEWART" TRADE MARK

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The STEWART is a sturdy furnace—built for life-time service. It actually weighs 100 to 300 pounds MORE than most other "Pipeless" or "Onepipe" furnaces—and most of this additional weight is in the firepot and grates where naturally the furnace has its hardest wear. This "overweight" means greater durability—longer service. Its OVERSIZE register is another reason the STEWART is so successful—produces such really remarkable results.

88 Years of successful stove and furnace-making experience is built into the STEWART ONEPIPE. Designed by Master Craftsmen—built by expert workmen—made of carefully selected and tested materials, this powerful furnace insures to every user that same dependable and satisfactory service which has made STEWART products famous since 1832.

The STEWART ONEPIPE is easily installed in old or new buildings—usually in half a day. It's EASY to buy and EASY to operate It does away with the dirt and danger of stoves in several rooms—and insures an abundance of healthy heat throughout the house. SAVES FUEL, too. Never disappoints.

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FULLER & WARREN CO., TROY, N.Y.
Since 1832, Makers of STEWART Stoves, Ranges, Furnaces

JOHN BABBIT'S ORCHARD

John's orchard is located along the Delaware Bay, near a small village in Cape May County, N. J. he purchased it about 4 years ago. It consits of about fifty trees. To the best knowledge of the natives, this orchard has not received a bit of care for the last thirty-five years. In fact, it was abused during those long years To quote a neighbor, "Whenever the grass would get any size, the horses, cows and pigs were turned in it. If a limb was in the way, the ax method was used in its removal."

A year or so after his purchase of the farm, Mr. Babbit decided to try and bring back the old orchard. After studying the proposition he decided he would have to get help from some one trained in this special kind of work, who would come to his farm and work step by step with him. All he had to start with was plenty of ambition. He wanted to take a course in fruit growing so that in a few years he would be an expert in the work as the man who taught him. He wanted to do this right on his own farm and learn on his own trees.

Scene in John Babbit's Orchard

He says: "Knowing the county had just established a Vocational School in Agriculture I decided to find out how they could help me. I learned that I would be required to attend a short course in apple culture, which took up various phrases of growing this crop in a very systematic manner. With this study I would have to agree to take care of my orchard under the supervision of the instructor for not less than six months of the year. He told me this would mean a weekly visit by him to my farm. One other requirement was, that I keep an accurate record of the entire project. This plan appealed to me and I was one of the first members of the Vocational School, which has now grown to be a large and popular institution in the County."

The first step in the handling of this orchard was to remove all the dead wood from the trees, and to cut off the stuffs of branches which had been hacked off with an ax, some of which were two feet long. He painted every cut larger than two inches in diameter with Asphalt.

The next step was to remove crossing branches, and any branch which was growing directly over another one. In a few words, he tried to give each branch "its place in the sun." If he decided to leave a branch, the idea was then to make room for it. The old bark was removed and we found scales and insects of many kinds beneath it.

Filling the old cavities in the trees was a bigger job than we expected. Some of them were so large that we had to use a wheelbarrow load of bricks and stones for fillers before they could be faced off. All decayed matter was removed. We used two materials for facing these holes. One was one part cement, and three of coarse sand. The other asphalt, to which was mixed equal parts of sand and sawdust, as much as would absorb asphalt. To date, in the large wounds, the asphalt mixture has given the best results. The cement cracked, but asphalt is pliable and gives with the bending of the tree.

There is all the difference in the world between following a spray schedule and understanding one. Our policy in the matter of spraying was, after the little apple was formed, to keep it coated with lime-sulphur and arsenate of lead, regardless of schedule, until danger of injury is past. The proper application of the materials is just as important as any other single operation. Mr. Babbit attributes his success in growing good clean apples to that more than anything else.

For fertilization, Mr. Babbit has been using various materials. This year he is using 100 pounds nitrate of soda and 400 pounds acid phosphate to the acre, applied beneath the trees out as far as the limbs spread. The cultivation of the orchard is left to the hogs. It is fenced and divided into two parts. In one-half, oats and peas are sown, in the balance cow peas are sown broadcast. Late in the fall, rye and vetch are planted to be pastured the following spring and then plowed under. While Mr. Babbit believes apple trees should be cultivated as much as corn, he doesn't think he would get enough extra apples to pay him to place pigs on other ground for the sake of clean cultivation. Last season was the driest here in many years, and I doubt whether a heavier crop of apples will ever be borne on those trees again. Our own state horticulturist said on seeing the orchard that Mr. Babbit had as fine a control of the insects and diseases, and as good growth of fruit as he had seen anywhere.

Here are the figures of what that orchard produced: Twenty-seven trees cleared $394.00. The gross receipts were $638. The apples were sold at home. A far higher return could been had if Mr. Babbit had taken them to any of our ocast resorts, one of which is only 8 miles away. The net return for the two acres of land in this orchard, adding the profit from the pigs to that of the apples, was $611.—Sylvan D. Einstein, Cape May Court House, N. J.

SOME VALENTINE SUGGESTIONS

I

Roses are high—violets too;
Sugar is costly, and so are you.

II

Dan Cupid is a merry elf
  Whom many folks do praise,
Except us who appreciate
  The rumpus he does raise.

III

I hope you'll be my valentine,
I can ask nothing more
Until my salary goes up
Or prices cease to soar.

IV

Come live with me and be my love—
  If you can stand starvation,
If you can live in a pup tent, dear,
  And dress in moderation.

Well planned time and an established routine keep the wheels of the housekeeping machinery moving steadily and with the least friction.

GOOSEBERRIES

The gooseberry when properly cared for is a valuable crop but a lot of gooseberry bushes scattered about the premises and neglected is a nuisance. The neglected gooseberry bush is a breeding place for fungus diseases and for the currant worm, while the well cared for gooseberry bush will yield heavy crops of valuable berries. Last year we received 85 cents per gallon for the gooseberries we had to spare by canning them and we also got our cans back.

When we first took charge of our farm there were a number of gooseberry bushes scattered about, but they were covered with mildew and the annual brood of currant worms stripped them of their fruit and foliage.

They produced no fruit at all. We procured some downing gooseberry bushes and set them in the garden. These were cultivated and when the worms began to appear we sprayed with bordeaux with a little paris green mixed in. This settled the worms and prevented the mildew. We give the gooseberry bushes cultivation and an annual dressing of stable manure is thrown about the roots. The result is that the worms are killed and after the first few years they did not appear in such large numbers. We get heavy crops of berries every year from them.—A. J. Legg, Albion, W. Va.

CANNERY CROP GROWERS MEET

At a meeting of the New York State Cannery Crop Growers' Association, held in Rochester, January 16th, the growers discussed the situation in regard to these crops and the price prospects for the coming season. It was decided by the growers to increase the acreage of cannery crops wherever local conditions made it advisable to do so. The members present at this meeting also decided that they should have $25 per ton for tomatoes, $82 for peas, and $27.50 for husked corn; season plants to be furnished on the same basis as last year.

The packing and preserving of fruits and vegetables, especially the latter, has become a very extensive industry in New York State. Several of the largest canning plants in the world have grown up in the truck growing and small fruit sections, requiring a vast acreage to supply the raw materials.

It is the purpose of the state association of cannery crop growers to confer with the canners collectively, and reach an agreement on prices which will be fair to all parties concerned, and hold good for all the cannery crops grown by its members. In this way it is hoped that both prices and production may be stabilized, and the growers will have assurance that they will be able to market their crops at prices which will cover cost of production and leave them a reasonable profit. There are now eight county associations affiliated with the state organization, and associations are being formed in several other counties in which cannery crops are extensively grown.—E. E. R.

Land isn't all that's necessary to make crops; brains help. A savage will ruin the best of land in a year or two, while a real farmer can persuade poor land to change its mind.

Love of home and knowledge of what the home stands for make the drudgery of daily routine a high order of social service.

You Can Bank on this Proof of Oil Quality—

You probably know someone that you fight shy of trading with because you don't feel sure you'll get a square deal.

But you would buy anything from certain other people with your eyes shut, and know cock-sure that you'd get your money's worth.

That's just what we want you to know about Crew Levick oil. You can buy it with your eyes shut, and be sure of your money's worth of quality and service.

Crew Levick Company, one of the oldest and largest oil producers have been in business for 57 years. They know what kind of oil you need to keep your machines going the best. Your dealer will see to it that you get the right grade for your make of car, tractor or truck.

You know that you get better work out of some oils than you do from others. That's because the quality and service it gives depend upon the kind of crude oil it is made from. Crew Levick Motor Oil is made from the highest priced quality crude on the American market. That's one reason why it's better.

Crew Levick refiners have been making nothing but the best kinds of oil for the past 57 years—and have learned how to refine the kind of oil you need. Crew Levick oils have stood up on every test known to laboratory or actual work. That's another reason you can be sure of Crew Levick oil.

Crew Levick Company owns its wells, pipe lines, tank cars, refineries, filling stations; can guarantee the quality of their oil because they control every step of the process from oil wells to delivery of the finished product.

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If your dealer doesn't sell Crew Levick oil, send us your name and address giving dealer's name, and we'll arrange to have you supplied. We'll also mail you our folders on lubrication of automobiles, trucks and tractors. Write us today.

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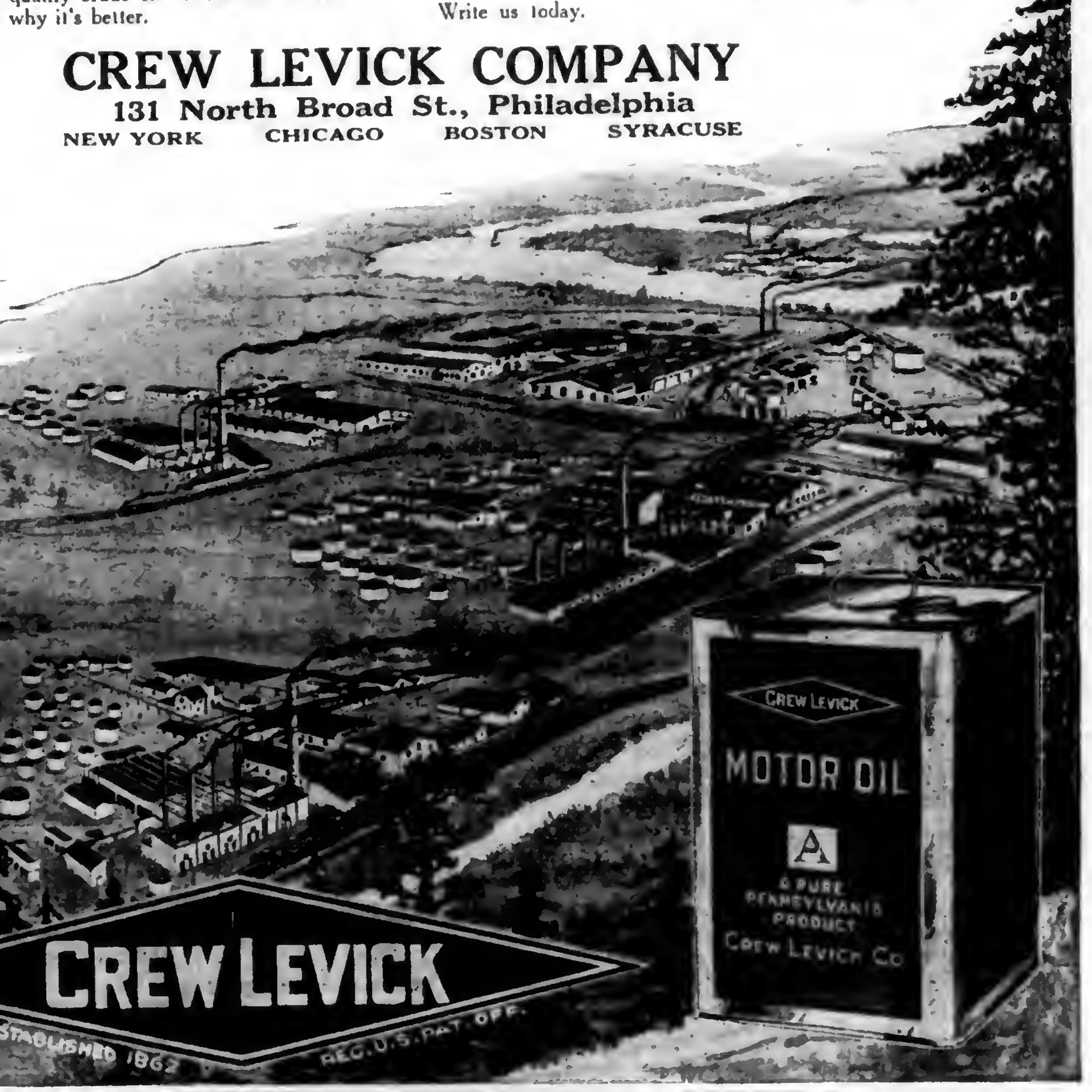

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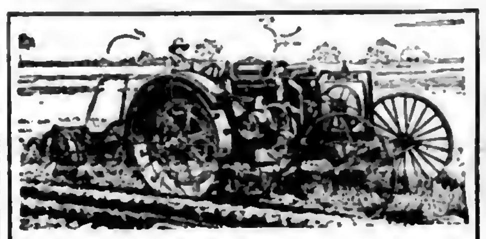

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The "Premier" is the Separator with the wonderful bowl: Patented equalizing and distributing device feeds milk evenly to all discs—insures perfect, uniform skimming and smoothness of cream. Impossible for incoming whole milk to mix with outflow of cream and skim milk. Special steel bowl is self-balancing. Bowl shaft is not attached to bowl—no danger of injuring spindle while placing bowl in position. Light, easy running. All gears of helical cut steel—for least friction, least wear, least noise. Self-oiling system. Bell-in-crank speed indicator. Sanitary—readily taken apart for quick, easy cleaning. Efficient, dependable, unsurpassed in results.

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"We want a small inexpensive Separator—one that will take care of the milkings from two or three cows. But it's got to be good—must do the job as well as the best of the big machines."

We *have* it—in this handy PREMIER No. 2. Built to exactly meet your requirements.

This remarkably capable, 200-pound per hour capacity Separator has earned an assured place in the popular PREMIER Line. It delivers the same, even quality of cream—of any percentage you wish—under all conditions and temperatures of milk, as does the biggest "Premier" of the Line. It operates as easily. It *skims clean.* It will do your work just as you want it done.

Prove this to your own satisfaction. Give PREMIER No. 2 a MONTH'S TRIAL. Test it out—thoroughly. Compare its results with those of every other good separator you can think of. We've an idea that what this wonderful little "Premier" will do, will surprise you.

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At $27—payable in small, monthly instalments—the PREMIER No. 2 is an exceptional bargain. It will pay for itself while it is working for you—with more and higher grade cream and a saving in labor. If you want the separator on a substantial four-legged steel stand, the price is $33.

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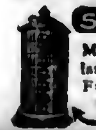

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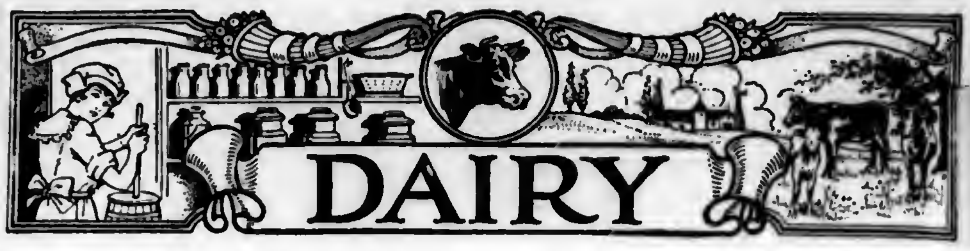

DAIRY

COOPERATIVE DAIRYING

An Address at New Jersey Farmers' Week

By FRANK P. WILLITS

There seems to be one feature of cooperative dairying which appears to me above everything else and that is cooperative selling. While there are connections with the dairy interests which can be used in a smaller way cooperatively, such as cow testing associations, bull associations, a general trend to improve the dairy herds and improve milk quality. It seems to me the main thing to be considered collectively is the selling of dairy products. Up to about five years ago, milk organizations thruout the country had been very small prices because each buyer of milk attempted to buy for the minimum dollar and the producer attempted to receive the very best he could get individually. Handlers of dairy products were organizing and were making their purchasing power stronger by that effort, and for the producers to receive their share of what was being exacted from the public, had to be done with united force of the producers because the selling power had to be as strong as the buying power. There is a great deal expected and demanded from the heads of these various milk organizations because they educate the producers to the necessity, not only the necessity, but also to have confidence that this is the only way in which a just price can be obtained. Also, it is their duty to educate the dealers in dairy

Open Shed For Dairy Cows at Beltsville Maryland

but at that time there seemed to be a spontaneous effort on the part of the dairymen from the Atlantic to the Pacific, to strengthen such associations that had been organized and to organize new ones. It is very surprising to me how this has grown, because we have now, organizations in New England, New York, Philadelphia, Baltimore, Pittsburgh, Cleveland, Detroit, St. Louis, Washington State, Oregon, California and many other places. These organizations have now a membership of over 300,000. They have been organized into a National Federation, whereby the heads of the local organizations are brought together and exchange the thoughts and experience, one with the other, and we learn what the conditions are, both milk being sold as whole milk and milk which is manufactured into milk products. We learn as to the different ways of taking care of the surplus milk, what can be done to correct it, how various associations organize, on what basis of support, whether the proper way of taking care of milk in your immediate center is thru dealers or by your own efforts of distribution or manufacture. We cannot meet these various men who are giving their best thought and effort for the benefit of the dairy interests, without being benefited thereby and in return are able to pass it on to the producers.

Now what is the purpose of all this effort? It seems to me, first, it is to get an adequate and a fair price for dairy products. There are so many different dairies situated in the open country and when they attempt to dispose of their products singly there are almost as many different products to the necessity of the producers being paid sufficient to warrant them not only to remain in the business, but to encourage their families and their children to be satisfied so that they will also remain in the business. And again, it is necessary for the organization to go beyond this and reach out to the consuming public to educate them to the necessity for their own protection, of paying what the dairy products are worth, so that the farmer and his family will be encouraged to remain in the business and to have the opportunity of all advantages which their city cousins have. They must have means whereby they can educate their family and give them the same pleasures that the city people have, or the young people will not remain in the country and if they do not remain in the country, food products not only of milk, but all food products will not be produced. We realize full well that for a number of years there have been less people living in the open country producing, and more in the centralized places consuming. If this continues it will not be many years until there will be such a shortage of dairy products as well as other foods, that it will be necessary for an exorbitant price to be paid to induce people to return to the country. Or, we will become in the same condition as the greater part of Europe is in at the present time.

Further, if you are getting farm products you may think you are doing all that is required, but a man who will produce farm products and sell even below cost of production is not always a cheap producer. In other words, if you drive all the

ight young people off the farms, ose who are left may not in the ng run be cheap producers. In arts of Europe it takes seventy per- ent of the population to produce he agricultural products, while in his country it only requires thirty-five percent, the difference being that the American farmer is at present more progressive and uses more machinery.

We also realize there may be a feeling among the masses that this idea is ridiculous and that there is no foundation for it, but I believe that the public must realize that unless they are willing to pay a fair price for food products it cannot be produced in sufficient quantity. It seems to us the public is more willing to pay an exhorbitant price for luxuries than they are willing to pay a fair price for necessities and it is necessary indeed that this be changed.

I am not a pessimist but it seems to me that I can see far enough ahead to believe that the young people will not remain in the country and work for ten or twelve hours a day at less the half that they could receive in the city for perhaps eight hours work, and miss the opportunity of pleasures and comforts to which they are entitled. I was at a farmers institute some years ago when dairy interests were being discussed and there was one dairyman in the meeting who told them he was in the dairy business solely for the dollars which he might obtain from being in that business. There was a minister of the Gospel present who took exception to such a remark and said that he would never make a success of the dairy business if he had that spirit. Now, gentle men, it seems to me that that is what we are in the dairy business for, for the dollars. There is not sufficient pleasure in it for anyone to simply spend fourteen hours a day at it unless he is a rich man and wants something for a plaything. Therefore, the thought comes to me that it behooves every dairyman to become associated with a milk producers' organization because if we expect to get what fully belongs to us we must all be a part of this organizations and not a party of the unorganized and the burden to fall on a few while many are receiving the benefit therefrom. I cannot make this too strong.

One thing I wish to remind you in this connection is, do not expect to have everything which you believe should come to you at once after you have joined an organization. There have been many things which have been improved since these organizations have organized and there are many more which will have their consideration in due time, but they cannot all be done at once. We beg of you to be patient, and not expect the impossible. One thing that cannot be too strongly mentioned is that the organization belongs to you. You are the organization, not the officers. The officers are simply those you have directed to lead it and if we can get your full cooperation as we should have, there is no reason why all these various conditions should not be adjusted in time.

"Shine yer boots, sir?"

"No!" snapped the man.

"Shine 'em so's yer can see yer face in 'em," urged the bootblack.

"No, I tell you!"

"Coward!" hissed the bootblack.

If we are going to get the things done next spring that ought to be done, we must know what those things are. Make a list now.

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DAIRY ASSOCIATION CO., Lyndonville, Vermont.

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68-Acre Pennsylvania Farm $3000, with Pair Horses

5 head of stock, sheep, hog, poultry, wagons, harness, mower, drill, plow, full line tools, near RR town. Productive machine-worked fields, spring-watered pasture; wood, timber; apples, pears, plums, other fruit. 8-room house, stock barn, horse barn, granary, poultry house, &c. Owner called away, quick buyer gets everything $3000, $1200 down, easy terms. Details page 43 Strout's Catalog Farm Bargains 23 States copy free. E. A. STROUT FARM AGENCY, 1422 B E. Land Title Bldg., Philadelphia.

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For Sale—96 Acre N. J. Dairy and Grain Farm; 4 miles to R. R. town; machine worked fields; spring watered pasture; large house; new basement barn; 5 horses; 10 head stock; complete line farm machinery, engine thresher. Price $18,000 includes all. Address Dudley, care Penna. Farmer.

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450 ACRES or more, in one body, between Chambersburg and Shippensburg. Large bldgs., spring water, $125 per acre. D. Hostetter, Shippensburg, Pa.

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PURE CANE MOLASSES.
OLD PROCESS OIL MEAL
CORN VINEGAR GRAINS
CORN GLUTEN MEAL
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The Importance of Feeding Cows

Cows can't talk. They can't tell you what kind of feed keeps them in prime condition and helps them to maintain maximum milk production. This responsibility rests solely with those who do the feeding.

Nor can everybody determine just what the essential nutrients are, or the proper proportions in which they should be fed—constant study of cow needs is necessary. Therefore, the important—most vital question of feeding can be solved only by science. And foremost among the world's leading scientific feed manufacturers stands

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After years of exhaustive study and research work he developed **H & S Dairy Feed**, a feed that is being used on thousands of farms throughout the country—and not one complaint in 12 years. Every feeder of H & S Dairy Feed is a booster.

They know that cheaper feeds can be bought, but none that costs so little per gallon of milk produced.

H & S Dairy Feed contains the following concentrates: Cotton Seed Meal, Wheat Bran, Old Process Oil Meal, Brewer's and Vinegar Grains, Pure Corn Gluten Meal, Pure Cane Molasses, and ½ of 1% salt—MIXED IN THE PROPER PROPORTIONS TO INSURE MAXIMUM MILK YIELD.

H & S Dairy Feed contains no oat hulls, no screenings, no fillers of any kind—absolutely no waste. You don't have to mix it with other feeds—feed it direct from the bag. It supplements your own home grown feeds and balances perfectly the entire ration. Good feed dealers sell H & S Dairy Feed. Send now for liberal sample free.

Dealers—Write for our attractive proposition.

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PITTSBURGH - PENNSYLVANIA
"Hamlin's Feeds are Money Feeds"

100 LBS.
DWIGHT HAMLIN
H and S
DAIRY FEED
PITTSBURGH-PA.

We will send free, to any address, a liberal sample of H & S Dairy Feed. Send for your sample today.

Sturges Milk Cans

Guaranteed Capacity

Perfectly Sanitary

CAREFULLY tinned and soldered smooth. No rivet holes or rough edges to hold germs and dirt. Easy to keep clean. Only the highest-grade steel plate used. Built true to rated capacity, they save work and time, forestall disputes and are a big advantage in daily service. Write for Catalog No. 43

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Are ABSOLUTELY PERMANENT

Every Economy Silo is equipped with the Storm Proof anchoring system that makes it permanent—it can't be blown down or warped out of shape. Ensilage from an Economy Silo is always fresh and green. The doors are self-adjusting—no need of hammer or wrench. No metallic parts inside to rust or spoil the ensilage. Hoops form easy ladder. Built to last a lifetime—of long leaf Yellow Pine or Oregon Fir. Write for free catalog and we'll prove to you that money can't buy a better Silo. We are headquarters for all sizes of Water Tanks. "Economy" means quality plus. Factories at Frederick, Md., and Roanoke, Va. Write today.

ECONOMY SILO & MFG. CO.
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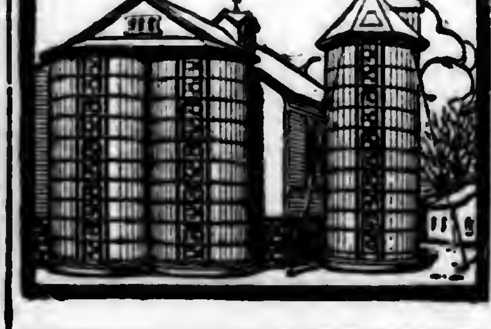

HARDER SILOS

"A Cow Needs Greens"
says Silas Low

"If you ate no greens all winter, your digestive organs wouldn't work right and you wouldn't either. It's the same way with cows. They must have silage or their milk won't pay for their keep."

"Harder Silos make the best silage, the best cows, the best milk. Uncle Sam and the State Institutions have used them for over 20 years, so I guess they're good enough for me."

Write for booklet on silos, also the story of Silas Low. FREE.

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Everywhere to ride and exhibit the new Ranger "Motorbike" completely equipped with electric light and horn, carrier, stand, tool tank, coaster-brake, mud guards and anti-skid tires. Choice of 44 other styles, colors and sizes in the "Ranger" line of bicycles.

EASY PAYMENTS if desired at a small advance over our Special wholesale cash prices.

DELIVERED FREE on approval and **30 DAYS TRIAL.**

TIRES Lamps, Wheels, Sundries, and parts—at half usual prices. **SEND NO MONEY** but tell us exactly what you need. Do not buy until you get our prices, terms and the big FREE catalog.

MEAD CYCLE COMPANY
Dept. P-78, Chicago

BROWNS BARGAIN FENCE BOOK
WRITE FOR THAT BOOK TO-DAY

FREE GET MY

LOW PRICES BEFORE YOU BUY

Don't neglect to send for my New Bargain Fence and Gate Book and see for yourself how you can SAVE BIG MONEY buying

DIRECT FROM FACTORY

Don't buy any fence until you get this book and compare my prices on BROWN'S HEAVY ACID TEST GALVANIZED WIRE FENCE—the fence that resists rust longer—that's stiffer and stronger—that outlasts all others.

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I pay the freight and save you 20% to 40%. Over 150 styles. Also Gates, Barb Wire. Write for Bargain Book today. (8)

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FULLY GUARANTEED
CREAM SEPARATOR

A Solid Proposition to send new, well made, easy running, perfect skimming separator for $19.95. Skims warm or cold milk; heavy or light cream. Different from picture, which shows larger capacity machines. See our plan of

MONTHLY PAYMENTS

Bowl a sanitary marvel easily cleaned. Whether dairy is large or small, write for free catalog and monthly payment plan. *Western orders filled from western points.*

AMERICAN SEPARATOR CO.
Box 4062 Bainbridge, N. Y.

CLINTON COUNTY, PA., REPORT

Forty-one cows in the association have exceeded the 1,000 pound mark for the month, and twenty-two have exceeded the 40 pounds of butterfat mark in thirty days. Toward the latter part of the month the cows, in most instances, fell off somewhat in production, likely due to the cold weather. One of the encouraging features of this report is the reappearance of some of the members who dropped off the honor roll list for a time.

Men with cows producing more than 40 pounds of butterfat during the thirty day period are: Roy M. Hanna, 1; T. C. Kryder, 1; George Gummo, 4; Robert Harris, 3; W. L. Strunk, 1; J. G. Nolan, 1; J. W. Kiester, 2; Harry Wentzell, 3; Clinton Stock Farm, 6.

Those names appearing on the 1,000 pounds honor roll list are: Harry Wentzell, 7; Clinton Stock Farm, 7; Roy M. Hanna, 3; Mill Brook Farm, C. D. Getz, Manager, 1; T. C. Kryder, 3; George Gummo, 5; Robert Harris, 4; W. L. Strunk, 3; J. G. Nolan, 1; J. W. Kiester, 4; Eugene Heckman, 2; J. M. Frankenberger & Son, 1.—Samuel A. Hamil, Tester.

FIRST AYRSHIRE BULL CLUB

The First Ayrshire Bull Club in America was recently organized at Coudersport, Pa., by County Agent. Bert Straw of Potter County. Four units of three farms each compose the club, the twelve members owning one hundred and seventy-head of Ayrshire cattle.

Coudersport Unit No. 1 comprises the farms of W. H. Hartwick, F. H. Hartwick and R. R. Lewis all of Coudersport, Pa., and a total of 57 head cattle. This unit will be headed by a son of Auchenbrain White Beauty 8th.

Honeoye Unit No. 2 consists of D. A. Smith of Honeoya, Pa.; B. F. Hayward and A. A. Sizer of Bolivar, N. Y. with a total of 52 head of cattle. For this unit a son of Anna Ena 48332 will be used.

Shinglehouse Unit No. 3 will use a son of Penshurst Favorite Beauty 49521. This group is made up of 35 head from the herds of G. A. Rockefeller, of Smethport, Pa.; W. W. Smith, Smethport and R. A. Mosier of Eldred, Pa.

Farmers Valley Unit No. 4 consists of N. J. Bridge, Shinglehouse, Pa.; Carl Coon and Ralph Smith both of Litle Genesse, N. Y. with 31 head to be headed by a son of Beauty's Lady White 40415.

PEQUEA COW TESTER'S REPORT FOR DECEMBER

Cows in test, 352; Quality cows, 31. Highest cow, Posch Concordia Beatrice; Reg. Holstein, owned by Ross Denlinger. Record, 1,955 lbs. milk and 56.7 pounds fat. Second highest cow, Rose Klaver Emporia; Reg. Holstein owned by H. L. Lew & Son. Record, 1,711 pounds milk, and 56.5 pounds fat. Third cow, Dinah, Grade Holstein, owned by C. H. Kendig. Record, 1589 pounds milk, 4.29 pounds butter fat.

The owners of the quality cows are as follows:

Jacob Houser, Henry R. Herr, 2; H. L. Herr & Son, 2; C. H. Kendig, 4; C. F. Landis, John H. Kauffman, Aaron P. Beiber, 4; Daniel Eby, 2; Sol. J. Stoltzfus, Enos Ranck, 3; Ross Denlinger, 6; Ira J. Book, 2; Walter J. Herr, 2.—Henry T. Murdock, tester.

SIX TESTS FOR A FARM POWER-PLANT

There are many tractors, but the *Moline* Tractor is *Universal*

It is THE ONLY FARM POWER-PLANT

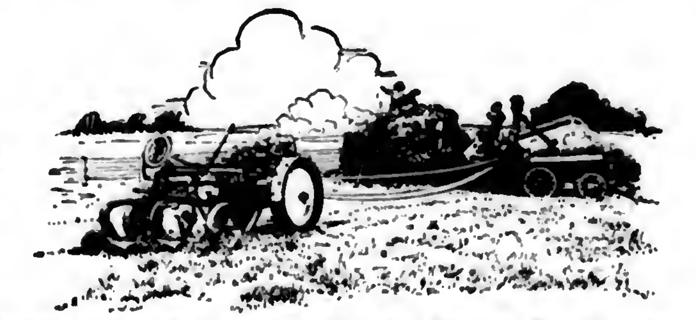
Combining

Exclusive Features	***with***	***Indispensable Results***
1. Does all field work, including cultivating, harvesting and belt work	*Means*	No duplication by horses
2. One man completely operates both tractor and all implements	*Means*	A large saving in labor
3. A single seat in the center of all controls of tractor and implement	*Means*	Great ease of operation
4. A single unit of operation—the tractor and implements form but one unit	*Means*	Can back and turn short
5. Operator sees all his work—"Foresight is better than hind sight"	*Means*	Better and faster work
6. Tractive power in front of the work with operator behind the work	*Means*	Power like horses are used

UTILITY IS NOT SACRIFICED FOR PRICE

The Power of a Correct Principle

The principle of doing all field operations with one man sitting where he can watch his work is correct, or farming has always been done backward, and the operator would always have ridden or led his horses instead of driving them.



he Moline Universal Tractor places the power of nine big horses where the orses stood—is driven just like horses are driven, from the seat of the im- lement, and hitched up to the implements just like horses are hitched.

NOTE—If desired you can use the "drag behind" or horse drawn implements you now have with the Moline Universal the same as with other types of tractors.

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All your spring needs—at money saving p es

Attractive home furnishings—distinctive clothing, modern farm implements—everything you need for your home and farm

FRESHLY decorated rooms this spring! Wouldn't your family enjoy them? Wouldn't your neighbors admire them?

Bright, new wall-papers of distinctive patterns, durable paints, varnishes and finishing materials, in a wonderful variety of pleasing color combinations—are now ready for your selection in the great Charles William Stores.

Practically every single thing you need this spring, you will find in the new Charles William catalog—every article representing a substantial money-saving opportunity.

In every line of merchandise, the 47 great Charles William Stores have anticipated the spring needs of several million families. Located right in New York—the market place of the world—they are able to obtain the pick of dependable goods for your selection.

Even when goods are so scarce—when quality is so uncertain, the big Charles William warehouses are full to overflowing—packed with honest, dependable merchandise.

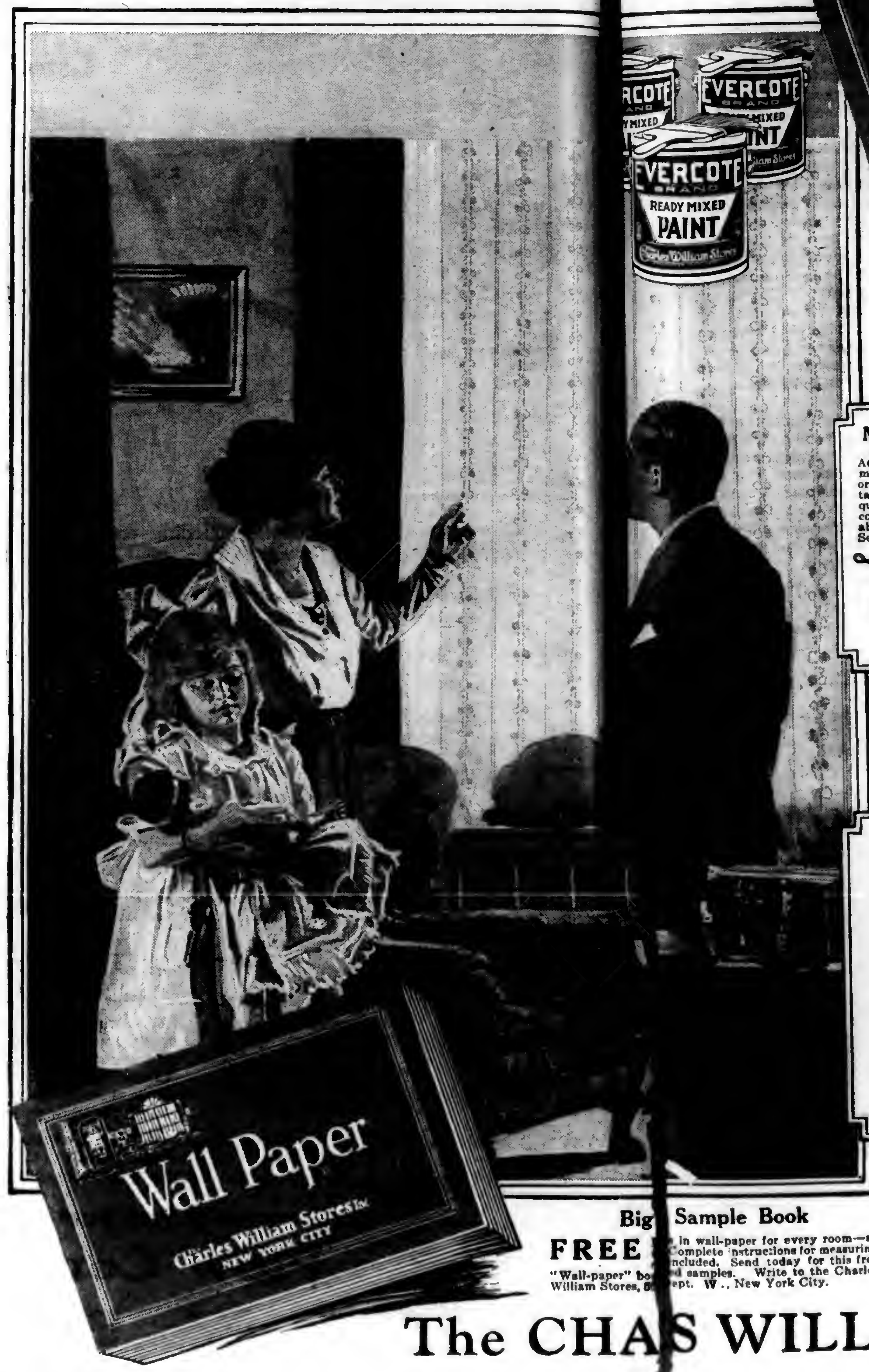
Consult the new Charles William catalog before making any of your spring purchases.

Special Sale! January and February only

January and February Special Sale
Charles William Stores Inc

CATALOG FREE

Advance spring dress fabrics and suitings—crêpes de Chine, ginghams, printed voiles, serges. Furs, coats, dresses, waists. Big values in white goods and household linens. Every purchase means a saving. Sale ends February 29 Order now. The Charles William Stores, . 564 . . . Stores Building, Dept. S . ., New York City.



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FREE in wall-paper for every room—at Complete instructions for measuring included. Send today for this free "Wall-paper" bo d samples. Write to the Charles William Stores, 5 ept. W., New York City.

Do your Spring painting early

Evercote Paints
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This Free Paint Book will save you money

Increase the value of your property by painting all the buildings this spring. Fix up inside as well as out. We want you to know "Evercote" paints. Evercote outlasts ordinary paints. The formula back of Evercote has stood the test of 32 years of continuous service. No substitutes for first-quality ingredients have ever been allowed in Evercote paints. In spite of the scarcity and the increased cost of good materials, the high quality of Evercote has remained unchanged. Send for the free book, "Evercote Paints", and you will be surprised to see how much you can save on your paints. Address the Charles William Stores, . . . 564 Stores Building, Dept. P . . . . . ., New York City.

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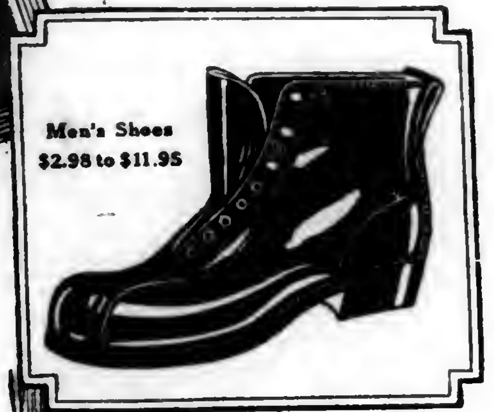
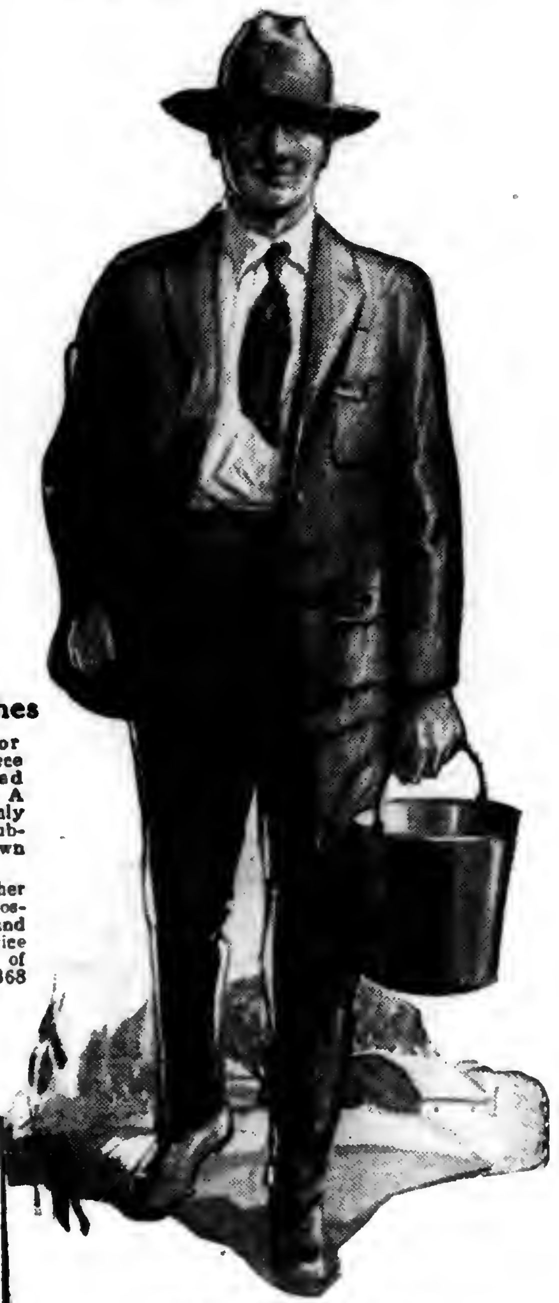
Evercote Waterproof Barn Paints
Black Elastic Carbon Roof Paint
Ready Mixed Floor Paints
Ready to Use House Paint
Evercote Wagon and Implement Paint
35 paints and varnishes in all!



Men's Shoes

Men's unlined brown leather outing shoe—chrome leather sole, reinforced cap toe. Unparalleled value at the price, $3.19. Shoes are shown on pages 265 to 306.



Heavy tinned steel *Dairy Pail*, 12 quarts capacity. Price $1.20. Other dairy supplies—pages 570 and 571.

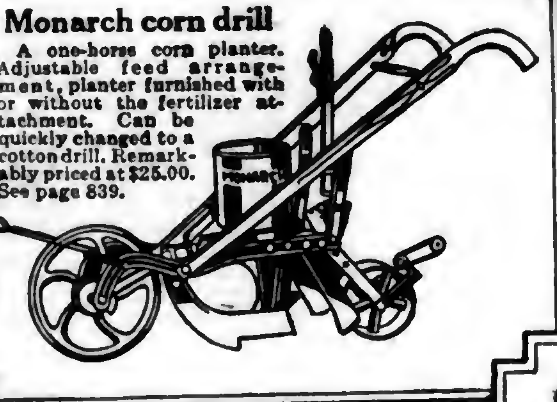
Strong work clothes

Khaki, Whipcord or Buckskin cloth, two-piece suit. Three buttoned through patch pockets. A real value at $11.98. Only one of the many good substantial work suits shown on pages 340 to 348.

Hat is a pocket crusher of genuine fur felt. Grosgrain band and bow and leather sweatband. Price $1.95. Fine showing of hats and caps, pages 368 to 370.

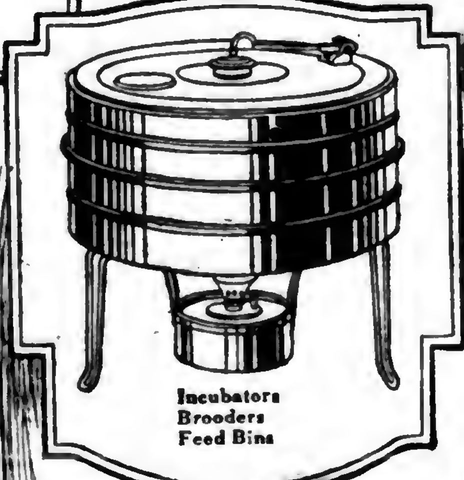
Monarch corn drill

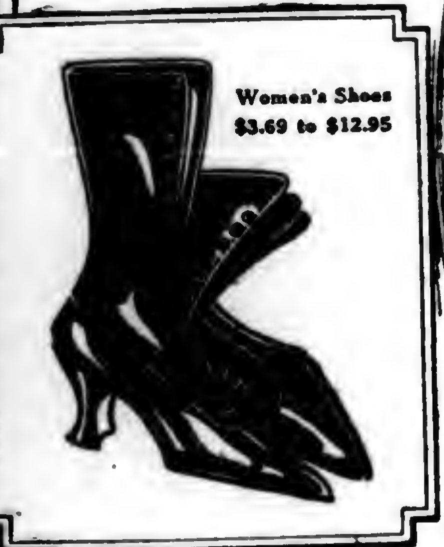
A one-horse corn planter. Adjustable feed arrangement, planter furnished with or without the fertilizer attachment. Can be quickly changed to a cotton drill. Remarkably priced at $25.00. See page 839.



Dolly Gray Incubator

A small-sized Incubator which will hatch as well as the larger machines. Built round like a hen's nest which insures an even distribution of heat. 18 inches in diameter and 15 inches high. Price, $5.00. Other poultry supplies pages 849 and 850 in new catalog.





Fashionable high boot

—in good quality black Cabretta Kid, high or low heels. Priced at $4.89. This is an example of the wonderful values you'll find in the new catalog.

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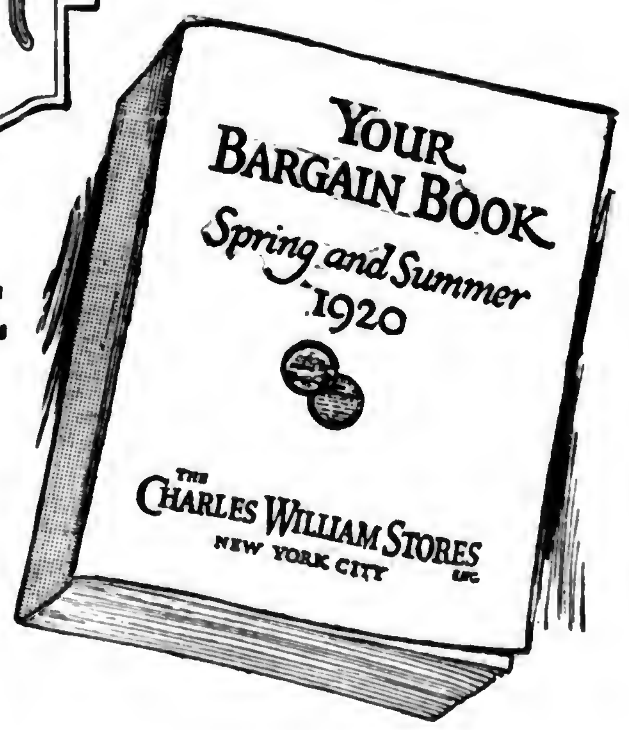
If you have not yet received your copy of the new 1920 Bargain Book send for it at once. More than 900 pages of wonderful values—spring clothing for all the family, attractive home furnishings, modern farm implements. Write today to the Charles William Stores, 564 . Stores Building, New York City.



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KNOWN AND USED FOR OVER 30 YEARS—HAMBURG PLOWS

Many farmers know that they can deped on Hamburg Plows to give years of service. Our thirty years in plow making with our well-known reputation for square dealing insures the kind of plow service that farmers can absolutely depend upon. Its material and workmanship are right and every detail is carefully looked after. It represents the best.

Every HAMBURG PLOW is sold with a guarantee to replace free al defective parts—or purchase price returned if preferred. You take nochances.

Well Adapted to Stony Soil
Iron Beam
Right Hand Series
Full Chilled
Straight Landside
Shin Piece
Durably Made---Saves Repairs

We Specialize in Plow Parts

To fit in standard make of plow as well as Hamburg Plows. No long shipping delays as our well-stocked factory is located right in your section. This means a great saving in time as prompt delivery is assured.

Always look for and insist upon our trademark (as shown in corner at bottom) on every plow and plow part. It is a safe and reliable sign and insures long service and satisfaction. Ask your dealer about Hamburg Plows and plow parts, or write us for catalogue of plows and parts.

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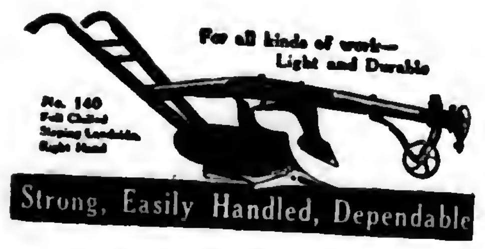

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William R. Compton Co.
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Over a Quarter Century in this Business
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Dissolves quickly and easily—especially prepared for the purpose.

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SPECIAL FARMER'S
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FARM BUREAU NEWS

During November last a meeting was held in Chicago which may prove to be an epoch-making event as viewed by the historian of the future. At the meeting representatives of the State Farm Bureau organizations of thirty-one States assembled and formed the American Farm Bureau Federation. The officers and executive committee selected are farmers of wide experience in national affairs. It looks as if the new Federation is already the most powerful influence in the country in directing the activities and looking after the interests of the farmers. The National Federation is made up of State farm bureaus, which are made up of county farm bureaus. The county farm bureaus, or county boards of agriculture, as they are called in New Jersey, are thoroly democratic in their make-up; anyone interested in farming may join at any time. Furthermore, they will soon exist in every state in the Union, so that the national Federation will be truly representative of the entire country.

J. R. HOWARD, Clemmons, Iowa

Mr. Howard, who has been recently elected President of the American Federation of Farm Bureaus, is an active Iowa farmer. He was born and reared on the farm he is now operating, somewhat more than four hundred acres in extent. For several years he has been an active leader in farmers' organization work in Iowa. He is wise to the ways of "hogs" and knows how to handle them.

Some people are objecting to the new organization on the grounds that it is just one more organization; that we are being organized to death these days. As a matter of fact, the new organization may result in reducing the number of other organizations. As an example of how it may work out, one instance may here be given. A year or two ago the livestock feeders of Madison County, Ohio, found that there was a serious shortage of freight cars at the time they were about to market their cattle. After repeated efforts individually to obtain cars they were finally forced to form an impromptu organization. Collectively they succeeded in getting the cars, but the delay resulting in the formation of the organization, caused considerable losses to the men. These men believe that if the State farm bureau had been in the field at that time it could easily have straightened out the situation without the necessity of forming a new organization for the purpose. The Ohio Farm Bureau Federation has been active in promoting the interests of the farmers during the past year. Among other things, it succeeded in defeating the tax classification movement which was submitted to popular vote last November, the object of which was to saddle an unfair tax burden upon the farmers.

Space will not permit here of a full statement of the program to be followed by the State bureaus and the national bureau, which includes educational as well as legislative features. The New Jersey organization was formed last fall and is known as the New Jersey Council of County Boards of Agriculture. Mr. H. G. Taylor, of Monmouth County, is president, and Mr. Jos. C. Barton, of our own county, is treasurer. Mr. John H. Hankinson, of Mercer County, has been employed as secretary of the organization. An excellent meeting of the Council was held at Trenton during agricultural week which was attended by delegates from most of the counties. The Council voted to affiliate with the American Farm Bureau Federation, which will require the payment of at least $1000 a year in dues. It is apparent that the county boards composing the State Council will have to raise funds among their members The amount per member need be but little, but it is highly desirable that everybody should join. Plans for a membership campaign in our County Board based on a small fee will be announced shortly.

Some of our people may be wondering what will be the relation of the farm bureau organization to other farm organizations. The aims of the two types of organizations are different, and there is no reason why any conflict of interest should result. Grange members join the farm bureaus by the hundreds.

Note.—The above article is from the Camden Co., N. J. Farm Demonstration News, and the cuts were loaned by Essex Co., N. Y. Farm Bureau.

S. L. STRIVINGS, Castile, N. Y.

Mr. Strivings, the recently elected Vice-President of the American Federation of Farm Bureaus was born and reared on a farm in Wyoming County. In addition to this important office he is also President of his county Farm Bureau Association, of the New York State Federation of Farm Bureaus and Lecturer of the State Grange. He is also associated with numerous other farm organization movements as well as an active farm operator. He has been credited by representatives of Congress as a man who "knows beans."

***Put it in Your Barn* NOW**

HOW many farmers have been unfortunate enough to hear "Sorry — but I'm all sold out." In these days, the dealer, in spite of his best efforts, cannot always foresee the demand nor keep ahead of rapidly changing conditions. If you wait until spring to get your fertilizer, it may be too late—and crops planted without fertilizer are likely to prove unprofitable. Of course, you want "A A Quality," as you always have. Don't be disappointed. Be on the safe side—see the local agent now about your supply of

A. A. C. Fertilizers

The coal shortage, transportation and labor difficulties and reduced production of many essential materials—all point to a fertilizer shortage in the spring—for the big rush is still to come.

The demand for fertilizer is unusually heavy. And the supply is limited. Even with our exceptional facilities—late orders will have to take their turn. There was a net shortage of 38,267 box cars for the week ending Jan. 7, reported by the U. S. Railroad Administration. We urge you as strongly as we know how to take no chances, but order at once. If your dealer has A. A. C. Fertilizer in stock, *go get it and put it in your own barn now.* If he is sold out, give him your order at once for the quickest possible shipment.

If you have not received a copy of our 63 page book "How to Get the Most out of Fertilizers" write for it today. Should there be no A. A. C. agent in your vicinity write for the name of our nearest agent or ask for the agency yourself.

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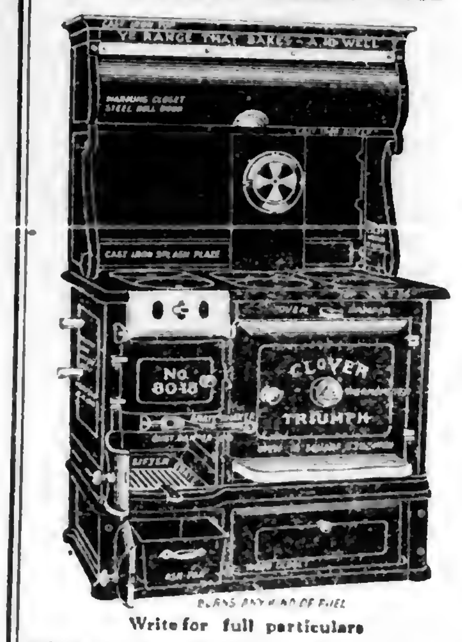
Direct from
Foundry to Farm
ON 30 DAYS' TRIAL
AT WHOLESALE DEALERS' PRICE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CLOVER TRIUMPH
No. 8048
BURNS ANY KIND OF FUEL

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RoSan
Indoor Closet
More comfortable, healthful, convenient. Takes place of all outdoor toilets, where germs breed. Be ready for a long, cold winter. Have a warm, sanitary, comfortable, odorless toilet in the house anywhere you want it. Don't go out in the cold. A boon to invalids. Endorsed by health officials everywhere.
Guaranteed Odorless
The germs are killed by a chemical in water in the container. Empty once a month as easy as ashes. The original closet. Guaranteed. THIRTY DAYS' TRIAL. Ask for catalog and price.
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2142 Rowe Bldg., Detroit, Mich.
Ask about Ro-San Washstand and Rolling Bath Tub. No Plumbing Required.

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PROTECT YOUR LOVED ONES
By
Securing LIFE INSURANCE of the Company which is loaning its MONEY on farms.
Write for rates of our SPECIAL POLICIES TODAY. TOMORROW may be TOO LATE.
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Color Sells Butter
Add a rich "June shade" to the splendid taste of your butter and get top prices. Try it! It pays!
Dandelion BRAND Butter Color
gives that even, golden shade everybody wants. *Purely vegetable.* Harmless. Meets all laws. Small bottle costs few cents at any store. Enough to color 500 lbs.

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COFFEE
FROM WHOLESALER DIRECT
In 5-lbs. Lots or Over Delivered Free within 3rd zone (300 miles) 4th zone 37c lb.—5th zone 39c lb.—6th zone 41c lb.—7th zone 43c lb.—8th zone 45c. lb.
35 c. lb. Ground Only.
We're accepting orders from families direct for this remarkable blend, used by leading N. Y. restaurants
Satisfaction Guaranteed or Money Back
Gillies Coffee Co., 233-239 Washington St., N. Y.
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LIGHT YOUR HOME LIKE DAY—Cost 1c
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SOLAR MANTLE LAMP
approved by government experts. Beats gas, gasoline or electricity. Entirely new. Every home interested. AGENTS MAKE MONEY. Weeks free trial. Write quick selling plan, territory and trial offer.
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HOUSEHOLD

MENDING AND MAKESHIFTS

I have read twice E. L. Vincent's article in Pennsylvania Farmer dated January 17, about beating the H. C. L. It is very interesting. I am glad to know there is, once in a while, a man who just hates to tell his wife there are holes in his clotnes. Some where I got the idea that they took delight in telling their wives. The buttons were never on, and there was always holes in their pockets.

When we were first married, I just loved to darn and mend and took great pride in my work; but when the babies came and began to grow—there were 5 of them—and the hired man's clothes, and often two of them. I had to work thru the everyday things so fast, in order to keep other things done up good, that now I have formed the habit of just hating to mend. A widower came to work for us and he gave my men folk a few pointers in mending. Here they are: He kept on hand various sizes of safety pins, and like the woman's hair pin he used them for every thing—the small ones for buttoning collars on, wrist bands, and fastened socks to drawer legs for garters. The heavy ones were used to hold suspenders and trousers together and trouser bands were pinned to drawer bands to hold them together. If a button came off his coat he pinned on a heavy safety and slipped the button hole over it, and it stayed.

Then the socks bought in those days at 3 pair for a quarter, were mended. When the heels were worn thru he turned the sock over, letting the hole come at the instep where it drew together beautifully and was just as comfortable as a new sock.

Well, the result was, the boys and dad began to imitate his make shifts.

I overheard him say to them one day, "Ah, don't bother your mother with trifles like that here use one of my safety's. By the time you've depended on ourself for mending for 20 years you'll be independent in many ways.

And the preacher, God bless him! They have to economize, I know for a fact, and I'll guarantee that after his trousers were mended they were carefully pressed How I know is my secret.

We farmer folk have been economizing with everything imaginable since time was, because I began to hear of economy when I was yet an infant almost and I've yet to see the first old garment that thwarted me. We mend our old gloves, and our shoes. We half-sole, and when we can't get leather we use the old soles of rubbers and tack them on. But safety pins won't mend fingers in gloves, or band mittens, nor can they be used on lumberman's sacks, or belt boots or old soft felt hats, but a coarse needle and thread will work wonders. Horse blankets, too, have to be mended and patched. The better parts of old blankets, old trousers or heavy cast-off overcoats, make good mending material for them. The old sheep skin-lined coat looks like crazy patch work, but it isn't done for yet. I have unearthed an old pair of corduroys and am going to begin on it as soon as time will permit. I am hoping the men folk will think of those grain bags that they're going to use in the spring for grass seed. And get busy and mend them now, instead of coming in some morning when the good wife has her hands into the bread dough up to her elbows and say, "Here, Miranda, hurry and patch these bags. John is hitching the team to the wagon to go for grass seed."

Not long since I was in a shop looking at some colored handkerchiefs for every day use for our men folk. But I didn't buy them. They were so thin one could almost sift meal thru them. I laid them back and came home wih my thinking cap clear down to my nose. Then I made a trip to the attic and came down with a smile, carrying about a yard and a half of navy blue calico with a small white figure that had done service on a pantry shelf. It is soft and tho faded will out wear some of the new stuff. "Handkerchiefs" did you say? Oh, yes, we've plenty, thank you. A year's supply. They haven't any fancy border, but the hemming looks like mother's.—A. K.

GOOD THINGS FROM POTATO

Potato Loaf

Ingredients: 2 Cups mashed potato, 4 tablespoons minced onion, 2 tablespoons chopped canned green pepper or pimento pepper, ½ cup canned tomato, 1 egg, 1 teaspoon salt, a dash of pepper, ⅓ cup ground peanuts.

Method:—Mix the ingredients well, and turn the mixture into a buttered baking dish. Brush it over with melted butter or drippings, and bake in a moderate oven 25 minutes.

Potato Cutlets

Ingredients: 1 Cup mashed or chopped potatoes, 1 cup ground boiled beans (soys if you have them, otherwise use navies.) 2 tablespoons canned pimento peppers minced, one cup bread crumbs, ½ cup canned tomato and salt and pepper to suit taste.

Method: Combine the ingredients, and shape the mixture into cutlets, dip them into beaten egg, roll in bread crumbs, place on a greased tin and brown in moderate oven. Serve with canned green pepper or horseradish sauce.

Curried Potatoes

Ingredients: 4 tablespoons fat, 1 tablespoon cornstarch, 2 cups milk, 1 teaspoon curry powder, salt and paprika to suit taste, 4 tablespoons grated cheese, 1 quart cooked potatoes diced, and 1 medium-sized onion minced.

Method:—Make a white sauce of the fat, starch and milk; add the curry, salt, pepper and the cheese, then pour this sauce into the diced potato, and turn the mixture into a greased baking dish, and brown in moderate oven for 25 or 30 minutes.

Delmonico Potatoes

Arrange creamed potatoes and grated cheese in alternate layers in a buttered baking dish. Cover the top with buttered bread crumbs and bake until brown.

Potato Dumplings

Ingredients: ⅔ Cup mashed potato, 1 cup flour, 4 teaspoons baking powder, 1 teaspoon salt, 2 teaspoons butter, and about ½ cup of milk.

Method: Mix the ingredients and roll out the dough as for biscuit. Place the dumplings close together in a buttered steamer, set over boiling water cover closely and steam the dumplings for 12 minutes.

These and a number of other excellent potato recipes are given in a Cornell bulletin entitled, "When Potatoes Are Plentiful," obtained free from New York State College of Agriculture Extension Service, Ithaca, N. Y.

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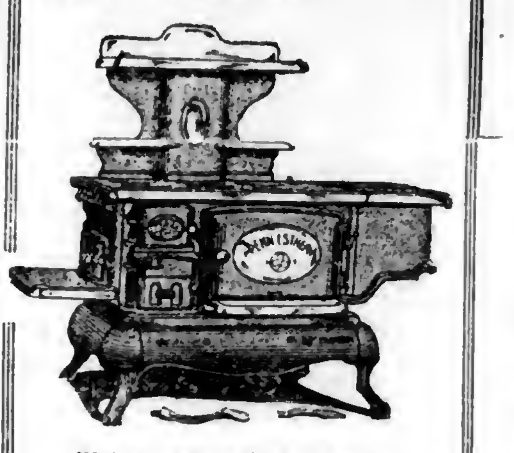

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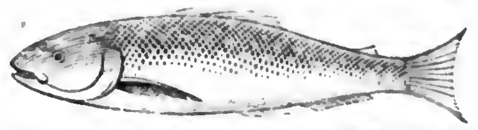
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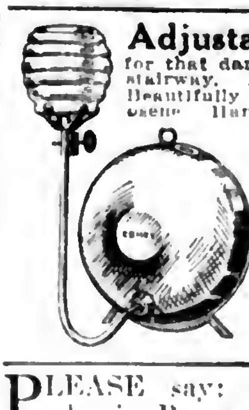
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THINGS TO MAKE WITHOUT EGGS

To us farmers' wives eggs mean income for the table and pin money so it behooves us to sell as many as we can; besides they are pretty scarce anyway this time of year. And doubtless some of you may appreciate these ways that we have found useful in getting along without so many eggs in our cooking.

Ginger Drop Cakes.—This is a good recipe for making a dough that one can keep in a crock, and make the cakes fresh for supper each evening. Following are the ingredients: 1 Cup molasses, 1 cup brown sugar, 1 cup lard, 1 teaspoon salt, 1 level tablespoon soda in 1 cup boiling water, and 5 cups flour in which you have sifted 1 tablespoon of ginger. Omit the ginger and bake in gem pans, and frost, and you get a nice cake to pass around at any little social affair.

Another Eggless Cake.—1½ Cups brown sugar, ½ cup white sugar, 1 cup sour milk, 1 cup shortening, 1 teaspoon soda and ½ teaspoon vanilla extract. Bake in gem pans, and ice any desired way. Sometimes use ground or chopped nuts in the batter, and sometimes in the icing for variety.—Mrs. Lloyd R. Shuman, Juniata County, Pa.

CATALOGUE NOTICE

Send 10 cents in silver or stamps, for our Up-to-date Spring and Summer 1920, Catalogue, containing 550 designs of Ladies', Misses' and Children's Patterns, a concise and comprehensive article on dressmaking, also some points for the needle (illustrating 30 of the various, simple stitches) all valuable hints to the home dressmaker.—Address Pennsylvania Farmer, 261 South Third St., Philadelphia, Pa.

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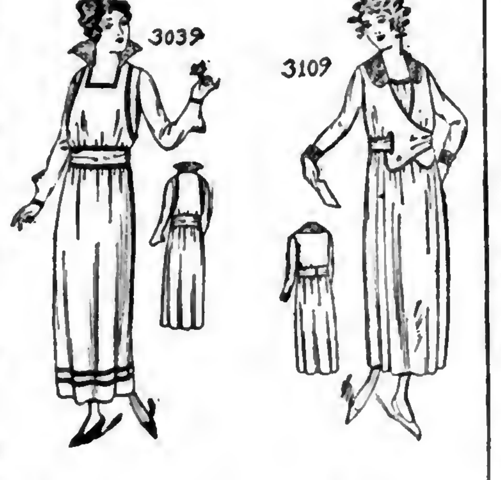
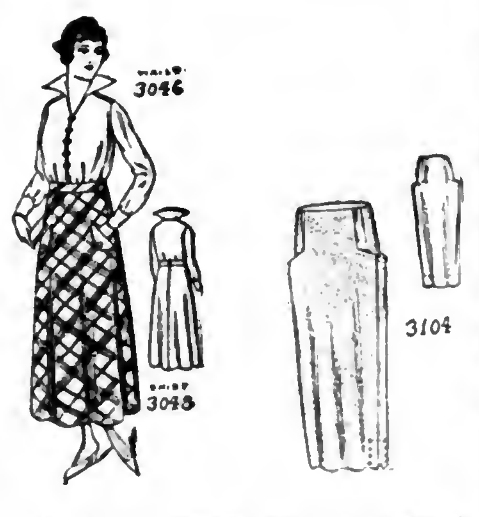
Give figures and letters of each pattern exactly as printed at beginning of each description or we will not be responsible for correct filling of orders. Give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261 S. Third Street, Philadelphia, Pa.

3039.—Overblouse Frock. — This ress could be developed in brown harmeuse and Georgette, or in black elvet and satin; figured silk and abardine, or other combinations may be used. The sleeve and collar re new style features. The pattern esign is cut in 6 sizes: 34, 36, 38, 0, 42 and 44 inches bust measure. ize 38 requires 5 yards of 36-inch aterial. Width of skirt at lower dge is 1⅞ yard. Pattern, 10 cents.

3109.—Unique "Tie On" Style.—The pattern is cut in sizes: 16, 18 and 20 years. For the 18 year size, 5⅛ yards of 44-inch material will be required. Serge, taffeta, satin, poplin, crepe and crepe de chine would be attractice for this model. Blue duvetyn with pipings of beige, and collar and cuffs embroidered in colored worsted are here shown. The width of the skirt at lower edge with plaits extended is 1⅞ yards. Pattern 10 cents.



3046, 3048.—Comfortable Business Costume.—Both designs are new and attractive. The skirt shows the latest circular style. It may be cut in one or two sections. Serge, or plaid or checked suitings are popular for its development. The pattern is cut in 7 sizes: 22, 24, 26, 28, 30, 32 and 34 inches waist measure. Size 24 requires, for a one-piece skirt, 2⅝ yards of 48-inch material if cut crosswise, and 2⅛ yards of 54-inch material if cut lengthwise. With front and back seams, 2¼ yards of 54-inch material will be required if cut with front edges straight, and 2¾ yards if front and back edges are cut bias. The waist has the new flaring collar, and pattern is cut in 6 sizes: 34, 36, 38, 40, 42 and 44 inches bust measure. Size 38 will require 2⅝ yards of 36-inch material. The skirt measures about 2¼ yards at the foot. This illustration calls for two separate patterns which costs 10 cents each.



3104.—A Stylish Skirt.—The pattern is cut in 7 sizes: 22, 24, 26, 28, 30, 32, and 34 inches waist measure. Size 24 will require 3⅛ yards of 40-inch material. Width of skirt at lower edge is about 2⅛ yards, with plaits extended. This model is finished with inserted pocket sections and has smart plaits at the sides. It is good for cloth and silk and also for wash materials. Pattern, 10 cents.

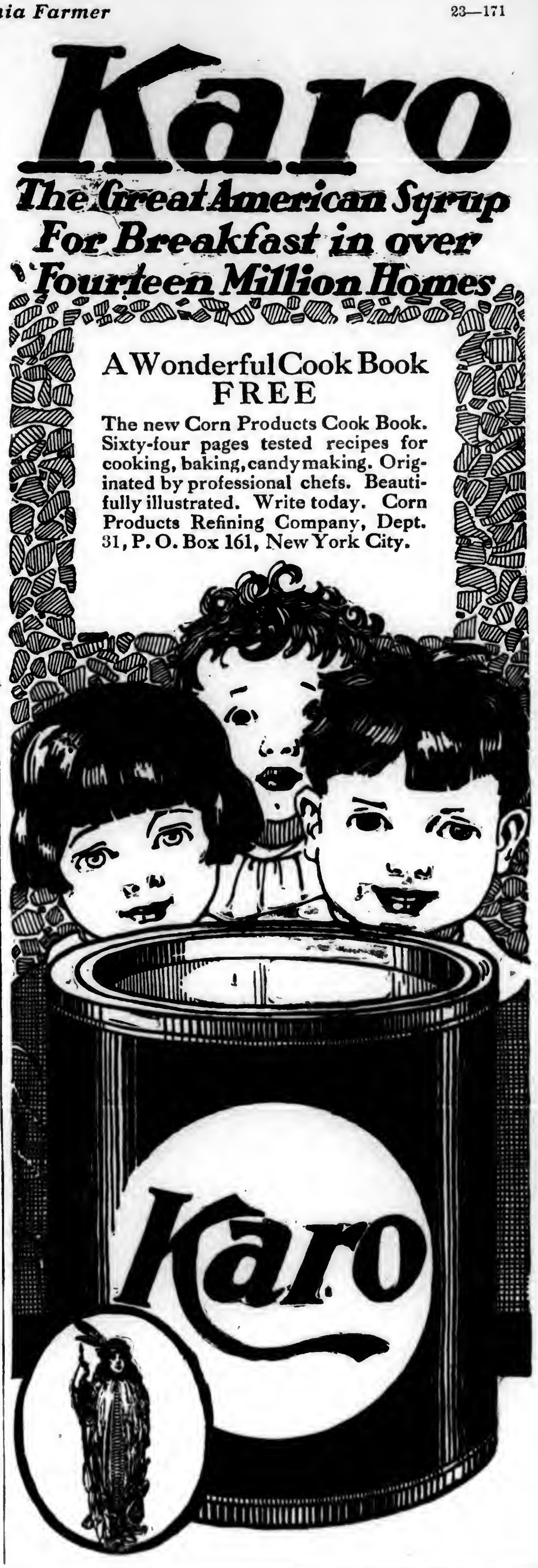
QUILT PATTERN WANTED

We have a request for a quilt pattern called, "No Man's Land." Can any of our readers supply it and describe its making?

Do you recall the costly experience of citrus growers with canker? And what chestnut blight did and is doing? Get potato wart before it gets you.

Heavy desserts are losing their popularity in many families. The light and easily-digested puddings of which milk is an important ingredient are rapidly winning their way in favor.

I sometimes wonder, observed the old-fashioned woman, if some ready-to-wear garments are not made from materials which are too poor to be sold over the counters.



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POULTRY

WHY POULTRY ON THE FARM DOES NOT PAY

I have read many articles on this subjct in your interesting and valuable paper, also in many other papers, in fact, every paper I pick up, touches on this puzzling question. Now, while I do not say they are all wrong, truly, they are all right but they do not start in the beginning.

The farmer, generally, has been raised on a farm, and thinks (and sometimes he does) he knows every thing worth knowing about a farm. And among other things he is absolutely sure that poultry does not pay, because his parents and neighbors had no profits in that line.

Chickens are on the farm simply and solely so there may be a common subject that husband and wife may "battle" over how much corn and wheat they eat. The farmer complains (and rightly so) that the chickens are eating more than they are worth. While friend wife does not care how much they eat, so she can market a few eggs and chickens and have a little money she can call her own, to do with as she pleases.

White Pekin Drake

Of course, by the unwritten law, as it were, the chickens on the farm, belong to the woman. They belong to the woman so long as there is no proceeds, but let the woman make it a paying proposition then—well, that makes things look different, and friend husband sees what he has been missing all these years, and proceeds to pocket the profits.

Now this condition exists on many of the farms today. The farmer knows there is "nothing in poultry" and the wife is very badly handicapped by his knowledge; therefore, it goes on from day to day and year to year, the same old way, getting worse if possible, especially if things go a little wrong with the dairy—then the farmer will go wild over what the chickens eat.

The farmer should "wake up" and admit that he knows absolutely nothing about poultry, but talk with wife over the prospects. In nine cases out of ten he will find a willing, and eager worker. The woman has always been interested, but got no encouragement. If the man will but give his wife his full moral support and a little material support in the way of the heaviest work, that wife will perform wonders in the poultry industry.

Such were the conditions, once, on this farm; now I have 100 pullets of the heavier breeds—40 White Wyandottes hatched April 8, 1919, started laying September 1, 1919; 60 White Plymouth Rocks, hatched May 21, 1919, started laying November 1st. Thru November the 100 birds laid 45 dozen and 5 eggs, and in December 78 dozen and 5 eggs. Thus far in January they have averaged 47 eggs per day and I have marketed 218 dozen. The cost of keeping these birds is about 1¼ cents apiece per day for feed. The price of eggs during these two months averaged 81½ cents per dozen.

You can plainly see whether this flock is paying just now. If you should be interested will explain later how they prospered and profitted from the beginning. And remember this is a farm flock on an ordinary farm in Chester County, Pennsylvania.—Wife.

FEED HOPPERS AND BINS

Dry mash hoppers should be wide enough so that more than three or four hens can eat at the same time. Otherwise there is much crowding about the hopper and pullets that are shy may not receive enough of the mash. Hoppers with wide throats insure a supply of mash at all times. Narrow throated hoppers will often clog especially if there is alfalfa in the mash.

Have the hoppers large enough to hold at least a week's supply and then the birds will seldom lack mash and the poultryman will spend less time in caring for them. Grit, oyster shell and charcoal hoppers should also be fairly large. The small hoppers on the market are all right for small backyard flocks but the farmer needs plenty of hopper room to keep a hundred to four or five hundred birds constantly supplied.

Feed bins for scratch grain can be built in each laying house. Then a load of mixed grain placed in the bins insures a ready supply without so much carrying of feed pails from the store house to the poultry.

A Monkey Faced Owl

Much larger flocks of poultry could be managed on farms without interferring with other work if the large hoppers and bins are used to cut down the time required in properly feeding the birds.—K.

Teacher.—What's your father's name, Bennie?

Bennie.—Same as mine—Watkins.

Teacher.—But what is his first name? What does your mother call him?

Bennie.—She don't call him nothin'; she likes him.

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WHAT DO EGGS COST?

In the January 17th issue of the Pennsylvania Farmer I read several articles on the cost of eggs. The first one, written by Albert P. Vogt, seems to me would have been properly named "The Cost of Raising Chickens," as his figures begin with July 5th, with 277 chicks ranging from four to six weeks old. He figures the cost of growing these chicks until they began to produce eggs. He does not speak of any losses and he says that he got 130 pullets. The cost of feed, as given is $125.57. The cockerels of course should have been worth from 50 to 60 cents each or about $75. The 130 pullets at a conservative estimate are worth $130 which would be $205 if he sold out at the date he footed up his accounts and then he would have whatever eggs they had laid. But they were just beginning to produce eggs so it was not fair to the pullets to use this data to figure the cost of eggs.

M. I. C. A. sold 15½ dozen eggs from 114 hens and pullets and used $1.58 worth during November and December and figures cost at $1.20 per dozen. For a production of only $14.60 worth of eggs the cost would be $73.20 in 61 days. I can not see how 114 hens could eat $73.20 worth of food in 61 days, unless much of it was wasted.

I can not quite agree with Arthur W. Rossiter about the Leghorns, as I have some full blood Leghorns in our flock and they go to the poultry house with the other chickens. If his Leghorns have killed apple tree limbs by roosting on them, it must be that he failed to provide comfortable roosting quarters for them or else he neglected to teach them to go to their proper roosting place. If a poultry house is infested with lice any breed of chickens will take to the apple trees rather than to stay among the lice.

The article by a subscriber shows that a flock of 365 birds produced 2,215 eggs during the month of December worth at the price received $128.50. This flock paid a 35 cent board bill for the month of December for each hen in the flock; and would have been a paying flock for that month if there had not been so many loafers. It is not fair to the flock to take the December production alone for a basis to calculate whether the flock is a paying proposition. Since most hens take a vacation during the winter season. I have nothing to boast of in egg production, as our flock is allowed free range most of the time, and a large part of the time they gather their own feed. Our flock averaged about 70 hens the last year. We got 470 dozen eggs from this flock in a year. Last August 1st, we sowed two acres of buckwheat where the hens could get free access to it. They harvested about one-half of this buckwheat and they produced 98½ dozen eggs during October, November and December, worth about $50 at prevailing prices here. We did not feed the hens anything during October and November. We feed them an average of one gallon of oats and one gallon of buckwheat, or its equivalent daily with oyster shells and an occasional feed of crushed bones during December. We are continuing this feed in January to date. We got 9 eggs today, 16 yesterday, but our average so far in January is only 6 eggs per day. The weather in January has been very unfavorable but our hens are in good condition and we expect a rapid increase in egg production thru February and March.—A. J. Legg, Albion, W. Va.

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KEZIAH COFFIN

By JOSEPH C. LINCOLN

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(Continued from Last Week.)

He watched her for an instant and then stepped quickly after her. The black gown and the tired look in her eyes touched him to the heart. He could not let her go without a word.

She turned at the sound of his step behind her.

"Er—Miss Van Horne," he stammered, "I merely wanted to tell you how deeply I—we all feel for you in your trouble. I—I—I am so sorry."

"Thank you," she said simply, and after a moment's hesitation.

"I mean it sincerely. I—I did not know Captain Hammond very well, but I respected and liked him the first time we met. I shall hope that—that—it is not so serious as they fear."

"Thank you," she said again. "We are all hoping."

"Yes. I—I—" It was dreadfully hard to get words together. "I have heard so much of the captain from ———"

"From Aunt Keziah? Yes, she was Nat's warmest friend."

"I know. Er—Mrs. Coffin tells me you are going away. I hope you may hear good news and soon. I shall think of you—of him— I want you to understand that I shall."

The door opened and Emeline Berry appeared on the threshold.

"Come right in, Grace," she called. "Mrs. Prince wants you to. She's ahollerin' for you to hurry up."

"Good-by," said the minister.

"Good-by. Thank you again. It was very kind of you to say this."

"Oh, no. I mean it."

"I know; that was why it was so kind. Goodby."

She held out her hand and he took it. He knew that his was trembling, but so, too, was hers. The hands fell apart. Grace entered the house and John Ellery went out at the gate.

That night Keziah, in the sitting room, trying to read, but finding it hard to keep her mind on the book, heard her parson pacing back and forth over the straw-matted floor of his chamber. She looked at the clock; it was nearly twelve. She shut the book and sighed. Her well-meant words of consolation has been a mistake, after all. She should not have spoken Grace Van Horne's name.

CHAPTER XVI.

In Which the Minister Boards the San Jose

Hey, Mr. Ellery!"

It was Captain Zeb Mayo who was calling. The captain sat in his antique chaise, drawn by the antique white horse, and was hailing the parsonage thru a speaking trumpet formed by holding both his big hands before his mouth. The reins he had tucked between the edge of the dashboard and the whip socket. If he had thrown them on the ground he would still have been perfectly safe, with that horse

Mr. Ellery, ahoy!" roared Captain Zeb thru his hands.

The window of Zoeth Peters's house, next door to the Regular Church, was thrown up and Mrs. Peters's head, bound with a blue-and-white handkerchief in lieu of a sweeping cap, was thrust forth into the crisp March air.

"What is it, Cap'n Mayo?" screamed Mrs. Peters. "Hey?"

"Hey?" repeated Captain Zeb, peering round the chaise curtain." "Who's that?"

"It's me. Is somebody dead?"

"Who's me? Oh! No, Hettie, nobody's dead, tho I'm likely to bust a blood vessel if I keep on yellin' much longer. Is the parson to home?"

"Hey?"

"Oh, heavens alive! I say is—Ha, there you be, Mr. Ellery. Mornin', Keziah."

The minister and Mrs. Coffin, the former with a napkin in his hand, had emerged from the side door of the parsonage and now came hurrying down to the gate.

"Land of Goshen!" exclaimed the captain, "you don't mean to tell me you ain't done breakfast yet, and it after seven o'clock. Why, we're thinkin' about dinner up to our house."

Keziah answered. "Yes," she said, "I shouldn't wonder. Your wife tells me, Zeb, that the only time you ain't thinkin' about dinner is when you think of breakfast or supper. We ain't so hungry here that we get up to eat in the middle of the night. What's the matter? Hettie Peters is hollerin' at you; did you know it?"

"Did I know it? Tut! tut! tut! I'd known it if I was a mile away, 'less I was paralyzed in my ears. Let her holler; 'twill do her good and keep her in practice for Come-Outer meetin'. Why, Mr. Ellery, I tell you: Em'lous Sparrow, the fish peddler, stepped up to our house a few minutes ago. He's just come down from the shanties over on the shore by the light—where the wreck was, you know—and he says there's a 'morphrodite brig anchored three or four mile off and she's flyin' colors ha'f mast and union down. They're gettin' a boat's crew together to go off to her and see what's the row. I'm goin' to drive over and I thought maybe you'd like to go along. I told the old lady—my wife, I mean—that I thought of pickin' you up and she said 'twas a good idee. Said my likin' to cruise with a parson in my old age was either a sign that I was hopeful or fearful, she didn't know which; and either way it ought to be encouraged. He, he, he! What do you say, Mr. Ellery? Want to go?"

The minister hesitated. "I'd like to," he said. "I'd like to very much. But I ought to work on my sermon this morning."

Keziah cut in here. "Cat's foot!" she sniffed. "Let your sermon go for this once, do. If it ain't long enough as it is, you can begin again when you've got to the end and preach it over again. Didama Rogers said, last circle day that she could set still and hear you preach right over 'n' over. I'd give her a chance, 'specially if it did keep her still. Keepin' Didama still is good Christian work, ain't it, Zeb?"

Captain Mayo slapped his knee. "He, he, he!" he chuckled. "Cal'late you're right, Keziah."

"Indeed, I am. I believe it would be Christianity and I know 'twould be work. There! there! run in and get your coat and hat, Mr. Ellery. I'll step across and ease Hettie's mind and—and lungs."

She went across the road to impart the news of the vessel in distress to the curious Mrs. Peters. A moment later the minister, having donned his hat and coat, ran down the walk and climbed into the chaise beside Captain Zeb. The white horse, stimulated into a creaky jog trot by repeated slappings of the reins and roars to "Get under way!" and "Cast off!" moved along the sandy lane.

During the drive the captain and his passenger discussed various topics of local interest, among them Captain Nat Hammond and the manner in which he might have lost his ship and his life. It was now taken for granted, in Trumet and elsewhere, that Nat was dead and would never be heard from again. The owners had given up, so Captain Zeb said, and went on to enumerate the various accidents which might have happened—typhoons, watersprouts, fires, and even attacks by Malay pirates—tho, added the captain, "Gen'rally speakin' I'd ruther not bet on any pirate gettin' away with Nat Hammond's ship, if the skipper was alive and healthy. Then there's mutiny and fevers and collisions, and land knows what all. And, speakin' of trouble, what do you cal'late ails that craft we're going to look at now?"

They found a group on the beach discussing that very question. A few fishermen, one or two lobstermen and wreckers, and the lightkeeper were gathered on the knoll by the lighthouse. They had a spyglass, and a good-sized dory was ready for launching.

"Where is she, Noah?" asked Captain Zeb of the lightkeeper. "That her off back of the spar buoy? Let me have a squint thru that glass; my eyes ain't what they used to be, when I could see a whale spout two miles t'other side of the sky line and tell how many barrels of ile he'd try out, fust look. Takes practice to keep your eyesight so's you can see round a curve like that," he added, winking at Ellery.

"She's a brigantine, Zeb," observed the keeper, handing up the spyglass. "And flyin' the British colors. Look's if she might be one of them salt boats from Turk's Islands. But what she's doin' out there, anchored, with canvas lowered and showin' distress signals in fair weather like this, is morn'n any of us can make out. She wa'n't there last evenin', tho, and she is there now."

"She ain't the only funny thing along shore this mornin', nuther," announced Theophilus Black, one of the fishermen. "Charlie Burgess just come down along and he says there's a ship's longboat hauled up on the beach, 'bout a mile 'n a half t'other side the mouth of the herrin' crick yonder. Oars in her and all. And she ain't no boat that b'longs round here, is she, Charlie?"

"No, Thoph, she ain't," was the reply. "Make anything out of her, cap'n?"

Captain Zeb, who had been inspecting the anchored vessel thru the spyglass, lowered the latter and seemed puzzled. "Not much,'" he answered. "Blessed if she don't look abandoned to me. Can't see a sign of life aboard her.'"

"We couldn't neither," said Thoph. "We was jus cal'latin' to go off to her when Charlie come and told us about the longboat. I guess likely we can go now; it's pretty nigh smooth as a pond. You'll take an oar, won't you, Noah?"

"I can't leave the light very well. My wife went over to the village last night. You and Charlie and Bill go. Want to go, too, Zeb?"

"No, I'll stay here, I guess. The old lady made me promise to keep my feet dry afore I left the house."

"You want to go, Mr. Ellery? Lots of room."

The minister was tempted. The sea always had a fascination for him and the mystery of the strange ship was appealing.

"Sure I won't be in the way?"

"No, no! 'course you won't," said Burgess. "Come right along. You set in the bow, if you don't mind gettin' sprinkled once in a while. I'll steer and Thoph and Bill'll row. That'll be enough for one dory. If we need more, we'll signal. Heave ahead."

"Humph!" grunted Charlie.

"What's the matter?" asked Thoph.

The steersman, who was staring hard in the direction they were going scowled.

"Humph!" he grunted again. "I swan to man, fellers, I believe she is abandoned!"

"Rubbish!" panted Bill, twisting his neck to look over his shoulder. "'Course she ain't! Who'd abandon's craft such weather's this, and Provincetown harbor only three hours' run or so?"

"When it comes to that," commented Burgess, "why should they anchor off here, 'stead of takin' her in by the inlet? If there's anybody aboard they ain't showed themselves yet. She might have been leakin' but she don't look it. Sets up out of water pretty well. Well, we'll know in a few minutes. Hit her up, boys!"

The rowers "hit her up" and the dory moved faster. Then Burgess, putting his hand to his mouth, hailed.

"Ship ahoy!" he roared. "Ahoy!" No reply.

"Ahoy the brig!" bellowed Burgess. "What's the matter aboard there? All hands asleep?"

Still no answer. Tholph and Bill pulled more slowly now. Burgess nodded to them.

"Stand by!" he ordered. "Easy! Way enough! Let her run.".

The dory sackened speed, turned in obedience to the steering oar, and slid under the forequarter of the anchored vessel. Ellery, looking up, saw her name in battered gilt letters above his head—the San Jose.

"Stand by, Thorph!" shouted Charlie. "S'pose you can jump and grab her forechains? Hold her steady, Bill. Now, Thoph! That's the time!"

Thoph had jumped, seized the chains, and was scrambling aboard. A moment later he appeared at the rail amidships, a rope in his hand. The dory was brought alongside and made fast; then one after the other the men in the boat climbed to the brig's deck.

"Ahoy!" yelled Burgess. "All hands on deck! tumble up, you lubbers! Humph! She is abandoned, sure and sartin."

"Yup," assented Bill. "Her boats are gone. See? Guess that explains the longboat on the beach, Charlie."

"Cal'late it does; but it don't explain why they left her. She ain't leakin' none to speak of, that's sure. Rides's light's a feather. Christmas! look at them decks; dirty hogs, whoever they was.'

The decks were dirty, and the sails, sloppily furled, were dirty likewise. The brig, as she rolled and jerked at her anchor rope, was dirty and unkempt from stem to stern. To Ellery's mind she made a lonesome picture, even under the clear, winter sky and bright sunshine.

Thoph led the way aft. The cabin companion door was open and they peered down.

"Phew!" sniffed Burgess. "She ain't no cologne bottle, is she? Well, come on below and let's see what'll we see."

The cabin was a "mess," as Bill expressed it. The floor was covered with scattered heaps of riff-raff, oilskins, coats, empty bottles, and papers. On the table a box stood, its hinged lid thrown back.

"Medicine chest," said Burgess, examining it. "And rum bottles aplenty. Somebody's been sick, I shouldn't wonder."

The minister opened the door of one of the little staterooms. The light which shone thru the dirty and tightly closed "bull's-eye" window showed a tumbled bunk, the blankets soiled and streaked. The smell was stifling.

"Say, fellers," whispered Thoph, "I don't like this much myself. I'm for gettin' on deck where the air's better. Somethin's happened aboard this craft, somethin' serious."

Charlie and Bill nodded an emphatic affirmative.

"Hadn't we better look about a little more?" asked Ellery. "There's another stateroom there."

He opened the door of it as he spoke. It was, if possible, in a worse condition than the first. And the odor was even more overpowering.

Skipper's room," observed Burgess, peeping in. "And that bunk ain't been slept in for week. See the mildew on them clothes. Phew! I'm fair sick to my stomach. Come out of this."

On deck, in the sunlight, they held another consultation.

"Queerest business ever I see," observed Charlie. "I never———"

"I see somethin' like it once," interrupted Bill. "Down in the Gulf 'twas. I was on the old Fishhawk. Eben Salters's dad from over to Bayport skippered her. We picked up a West Injy schooner, derelict, abandoned same as this one, but not anchored, of course. Yeller jack was the trouble aboard her and—Where you bound, Tholph?"

"Goin' to take a squint at the fo'castle," replied Theophilus, moving forward. The minister followed him.

The fo'castle hatchway was black and grim. Ellery knelt and peered dow.n Here there was practically no light at all and the air was fouler than that in the cabin.

"See anything, Mr. Ellery?" asked Thoph, looking over his shoulder.

"No, I don't see anything. But I thought———"

He seemed to be listening.

"What did you think?"

"Nothing. I———"

"Hold on! you ain't goin' down there, be you? I wouldn't. No tellin' what you might find. Well, all right. I ain't curious. I'll stay up here and you can report."

He stepped over and leaned against the rail. Bill came across the deck and joined him.

"Where's Charlie?" asked Thoph.

"Gone back to the cabin," was the answer. "Thought likely he might find some of her papers or somethin' to put us on the track. I told him to heave ahead; I didn't want no part of it. Too much like that yeller-jack schooner to suit me. What's become of the parson?"

Thoph pointed to the open hatch.

"Down yonder, explorin' the fo-castle," he replied. "He can have the job, for all me Phew! Say, Bill, what is this we've struck, anyhow?"

Ellery descended the almost perpendicular ladder gingerly, holding on with both hands. At its foot he stopped and tried to accustom his eyes to the darkness.

A room perhaps ten feet long, so much he could make out. The floor strewn, like that of the cabin, with heaps of clothing and odds and ends. More shapes of clothes hanging up and swaying with the roll of the brig. A little window high up at the end, black with dirt. And cavities, bunks in rows, along the walls. A horrible hole.

He took a step toward the center of the room, bending his head to avoid hitting the fo'castle lantern. Then in one of the bunks something stirred, something alive. He started violently, and controlled himself with an effort, and stumbled toward the sound.

"What is it?" he whispered. "Who is it? Is anyone there?"

"What is it?" he whispered. "Who is it? Is anyone there?"

A groan answered him. Then a voice, weak and quavering, said,

"Gimme a drink! Gimme a drink! Can't none of you God-forsaken devils give me a drink?"

He stooped over the bunk. A man was lying in it, crumpled into a dreadful heap. He stooped lower, looked, and saw the man's face.

There was a shout from the deck, or, rather, a yell. Then more yells and the sound of running feet.

"Mr. Ellery!" screamed Burgess, at the hatchway. "Mr. Ellery, for the Almighty's sake, come up here! Come out of that this minute. Quick!"

The minister knew what was coming, was sure of it as he stepped to the foot of the ladder, had known it the instant he saw that face.

"Mr. Ellery!" shrieked Burgess. "Mr. Ellery, are you there?"

"Yes, I'm here," answered the minister, slowly He was fighting with all his might to keep his nerves under control. His impulse was to leap up those steps, rush across that deck, spring into the dory and row, anywhere to get away from the horror of that forecastle.

"Come up!" called Burgess. "Hurry! It's the smallpox! The darned hooker's rotten with it. For God sakes, come quick!"

He ran to the rail, yelling order to Bill and Thoph, who were frantically busy with the dory. Ellery began to climb the ladder. His head emerged into the clean, sweet air blowing across the deck. He drew a breath to the very bottom of his lungs.

Then from behind and below him came the voice again.

"Gimme a drink!' it wailed. "Gimme a drink of water. Ain't one of you cussed swabs got decency enough to fetch me a drink? I'm dyin' for a drink; I tell you. I'm dyin'!"

The minister stood still, his feet on the ladder. The three men by the rail were working like mad, their faces livid under the sunburn and their hands trembling. They pushed each other about and swore. They were not cowards, either. Ellery knew them well enough to know that. Burgess had, that very winter, pulled a skiff thru broken ice in the face of a wicked no'theaster to rescue an old neighbor whose dory had been capsized in the bay while he was hauling lobster pots. But now Burgess was as scared as the rest.

Thoph and Bill sprang over the rail into the boat. Burgess turned and beckoned to Ellery.

"Come on!" he called. "What are you waintin' for?"

The minister remained where he was.

"Are you sure——" he faltered.

(Continued Next Week.)

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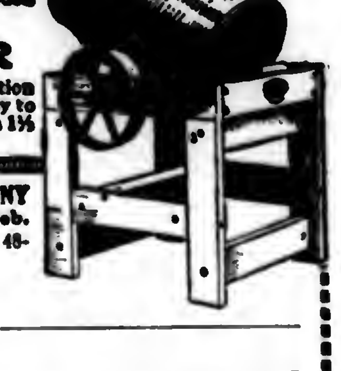
STRAWBERRY Plants, 100 early to late $1 postpaid. Catalog of plants and trees free. L. G. Tingle, Box 77, Pittsville, Md.

GARDEN SEEDS, Sure to Grow, and True to Name, Prize Packet with every order. Catalog Free.
ALLEN'S SEED HOUSE. GENEVA, OHIO.



Every Farm Needs a Concrete Mixer

Concrete improvements have saved money for so many farmers that their Sheldon Farm Concrete Mixer has become as important a piece of farm equipment as their corn sheller or cultivator. Do away with the old-fashioned, expensive, back-breaking, unsatisfactory hand and shovel method. Mix your concrete the Sheldon way and get a uniform mix every time; save labor, save time and save the cost of the Sheldon on the first job.

SHELDON CONCRETE MIXER

does the same high grade work as a $300 mixer, yet costs only a fraction as much. Solidly built to stand strain and vibration for years. Easy to operate—easy to move—mixes two wheelbarrowsful at a batch—a 1½ H. P. engine will run it.

MAIL COUPON TODAY

and get our 1920 Book on Concrete. It will tell you how you can save money on your concrete work. Shows all types of Sheldon Mixers and gives our direct-to-you low prices. It's FREE. Get your copy today.

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Box 772 NEHAWKA, NEB.

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Box 772 Nehawka, Neb.
Please send me your new 48-page Book.

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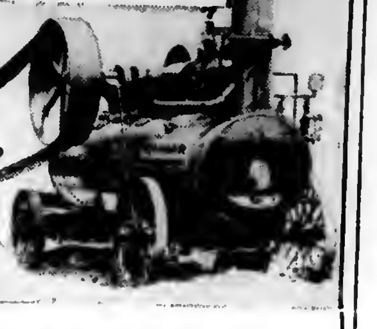

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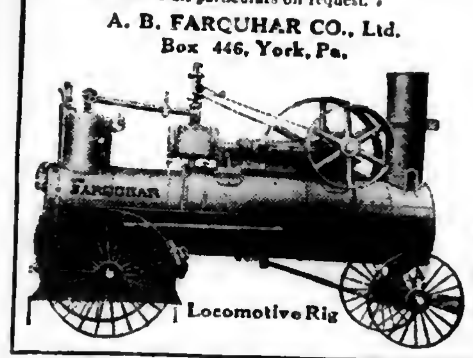
SOLVES POWER PROBLEMS

Above is a Farquhar Cornish or "Slab Burner," the economical outfit for driving Sawmills. An easy steamer, producing dependable power from off-fal lumber and sawdust.

Locomotive Rig below is a general purpose Engine, sizes 5 to 60 H. P. Built for service with minimum operating expense and up-keep. For traction power investigate our Styles K and W, also Gas Tractors. Illustrated booklet "Farquhar Engins and Boilers" sent free to power users. Write today for your copy.

The Farquhar Line includes Sawmills, Threshers, Hydraulic Cider Presses, Potato Diggers, Grain Drills, etc. Full particulars on request.

A. B. FARQUHAR CO., Ltd.
Box 446, York, Pa.



Locomotive Rig

World's Best Roofing

At Factory Prices

"Reo" Cluster Metal Shingles, V-Crimp, Corrugated, Standing Seam, Painted or Galvanized Roofings, Sidings, Wallboard, Paints, etc., direct to you at Rock-Bottom Factory Prices. Positively greatest offer ever made. At Factory Prices.

Edwards "Reo" Metal Shingles

cost less; outlast three ordinary roofs. No painting or repairs. Guaranteed rot, fire, rust, lightning proof.

Free Roofing Book

Get our wonderfully low prices and free samples. We sell direct to you and save you money. Ask for Book No. 2391.

LOW PRICED GARAGES

Lowest prices on Ready-Made Fire-Proof Steel Garages. Set up any place. Send postal for Garage Book, showing styles.

THE EDWARDS MFG. CO.,
2341-2391 Pike St., Cincinnati, O.

FREE Samples & Roofing Book

WITTE LEVER CONTROL "Arm Swing" Drag Saw

You have Absolute Control of the Saw at all times.

Push on lever to start saw—Pull to stop.
Arm Swing motion as in hand sawing.
Low Prices. Big 8-Color Folder FREE.

WITTE ENGINE WORKS
Kansas City, Mo. 204E Oakland Ave.
Pittsburgh, Pa. 204E Empire Bldg.

There is Big Money in Strawberries

and other small fruits these days. Strawberries sold as high as 50c a qt., $16 a bushel at wholesale. Are you receiving these high prices as a grower or paying them as a consumer? It makes a vast difference to your pocket book. You can grow nothing that gives handsomer returns. I know of farmers who received $1300 from ½ acre last year. If you live in a town a part of your lawn or back yard will make a fine strawberry bed. Our Everbearing plants set in April or May will bear in August and continue until November and give two crops the following season. Get our book "Farmer on the Strawberry," price 50c postpaid and you will have all the experts know. We sell Strawberries, Raspberries, Blackberries, Gooseberries, Currants, Fruit trees, Roses, Shrubs, etc.

Beautifully illustrated Catalogue free.

L. J. FARMER, Box 94, Pulaski, N. Y.

RUNS EASY No Backache
weighs only 45 lbs.
EASILY CARRIED
SAWS DOWN TREES

SAVES MONEY AND BACKACHE

FOLDS LIKE A POCKET KNIFE. ONE MAN with the FOLDING SAWING MACHINE saws down trees—saws any kind of timber on any kind of ground. One man can saw more timber with it than two men in any other way, and do it easier. Send for free illustrated catalog No. D106, showing Low Price and latest improvements. In use 30 years. First order gets agency.

Folding Sawing Machine Co., 161 West Harrison St., Chicago, Ill.

The Voice of the People

This department is reserved for the use of our readers to discuss all problems and matters of general interest. Write your views and comments briefly on any question of social, economic or educational importance and thus share them with others. It will be necessary to limit such articles to 200 or 300 words. Publication of an article in this department does not signify editorial endorsement.

A BOOST FOR CLEARFIELD COUNTY

I was greatly inspired by the request on your editorial page, for boosting our counties. If you are not over run with replies from Clearfieldiers it will be for some reason other than lack of material on the subject.

Our county is the richest in the world for fire clay, famous for timber, embedded with coal, besides having good farm land and excellent markets.

The best brick made anywhere are manufactured in our refractories. Immense brick plants dot the county over. They afford occupation for men, women and boys. Some virgin timber is yet standing in our county. Most of our farms are enriched with timber, which if properly utilized, is a source of wealth.

Coal, hard and soft, underlies the whole county with an exception of probably 1,000 acres. Great quantities are shipped. Nearly every farm has it in it to make the owner rich.

Thus, we see that it is possible for men starting out on a farm here that he may rely on mineral and timber, besides having a chance to make good with stock and other branches of farming which he may choose. Why should they not be able to earn a livelihood for themselves and their children?

Roads out from towns are not all permanent yet but are not so bad and are fast being improved. Help is scarce. But does it not seem that farmers here should be able to pay good wages? Some of them are setting good examples of what can be done in this way. Our rural schools cannot be boasted of but we believe they are as good as in any rural communities.—M. G., Clearfield Co., Pa.

FOR THE CAPPER-HERSHMAN BILL

Representatives of the Dairymen's League are petitioning members of Congress to favor the passage of the Capper-Hersman, providing for the legalization of collective bargaining for farmers.

The campaign is led by R. D. Cooper, president of the League, which is an incorporated organization of milk producers with offices in New York. The argument outlined by the League is as follows:

"Before the Sherman Anti-Trust Law was enacted, farmers thru their organizations, and other industries thru the agency of the corporation, were lawfully engaged in making collective sales and purchases. The effect of the Sherman Law was that those engaged in other industries could still lawfully continue to bargain collectively, while the farm organizations were outlawed.

"Section 6 of the Clayton Law evidently designed by Congress to remove this discrimination against farmers, but farm organizations are advised that there is a difference of opinion among able lawyers as to the effect of this section, and the Capper-Hersman Bill is designed to clarify the law and thus clearly restore to farmers the right to cooperatively market their product, which right was taken from them by the original Sherman law.

"The present uncertainty is impairing the efficiency of farmers' selling organizations, which uncertainty should be removed, so that the right of cooperative marketing may go unchallenged.

"Farmers' selling organizations have in at least three states been investigated by Federal authorities, the result of which investigations are yet to be determined. Such organizations have been prosecuted in five states under State-Anti-Trust Laws. In four of these cases the defendants were acquitted by the jury, while in the fifth the indictment was dismissed by motion of the prosecuting attorney. Farm organizations, however, cannot do efficient work if they must continually exhaust their energies and spend their money to defend their right to live.

"Several of the states have already amended their Anti-Trust Laws so as to clearly restore this right to farmers.

"We earnestly urge your support of this measure and shall be pleased to hear from you in relation to it."—

Dairymen's League, Inc.,
R. D. Cooper,
President.

TWENTY YEARS AGO

Nobody swatted the fly
Nobody had appendicities.
Nobody wore white shoes.
Nobody sprayed orchards.
You never heard of a "tin Lizzie."
Advertisers did not tell the truth.
Farmers came to town for their mail.
The hired girl drew one--fifty a week.
The butcher threw in a chunk of liver.
Nobody "listened in" on a telephone.
Strawstaks were burned instead of baled.
Windows were left closed at night.
There were no sleeping porches.
Tuberculosis was called consumption and believed to be hereditary.

THE OPTIMIST

"I'd rather be a booster
Than a knocker any day;
I'd rather tinge with hope than doubt
The words I have to say;
I'd rather miss my guess
Of another man's success
Than to view his bitter struggle
And prophesy his fall.
I would rather say "He's coming,"
Than "He's going" when I's summing
Up the labors of my brothers,
I would rather boost them all."

—Exchange.

Palmer, aged 8, was visiting Uncle Joe on the dairy farm. The help was short, so Uncle Joe appealed to his little guest.

"I don't suppose I could get you to help me milk today?"

"Why, yes, you could."

"What would you charge?"

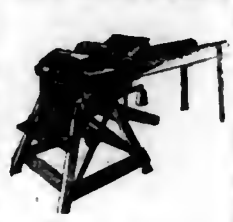
"Fifty cents an hour," was the somewhat startling reply.

"Nonsense," laughed Uncle Joe; "I could get a great, strong man for 25 cents."

"Well, it's twice as hard for a little boy!"

Peerless Feed Mill

Double crusher roll, machine-cut plates. Grinds better quality feed with less power, grinds green ear corn, small grains and alfalfa. Also furnished with cast plates. Sizes 1½ to 20 H. P. Write for prices and catalog.



Peerless Fodder Shredder

If you have 3 H. P. engine you can run this 14-inch machine successfully. Will pay for itself in one year's use. Will not pulverize blades and tops. Sold on thirty days free trial. Write for price and catalog.

A. M. DELLINGER, Lancaster, Pa.

We Buy Empty
BAGS

We pay higher prices than most dealers and give quick returns. Deal with old established and reliable house. In business 30 years. Send for our price list today and get more for your bags than ever.

References, Union Nat'l Bank, Phila.

DAVID N. KNOTT'S SONS
104 Callowhill St., Philadelphia, Pa.

Absolute Closing Out Sale of Wakpala Guernsey Herd at Wakpala Farms, Bloomsburg, Pa.

Thursday, February 26, 1920, 1 P. M. Sharp

Guernseys of Quality, several A. R. Cows with records up to 640 lbs. fat. Bred heifers, heifer calves, and bull calves out of A. R. Cows. A Son of Minn. State Champion Guernsey Cow Starlight's Contest, 811 lbs. fat, are in the sale. Also a State Champion heifer, 11 head of horses, 75 bred ewes, Poland China Hogs.

J. S. WILLIAMS & SON, Auctioneers

For Catalog address C. K. McDONALD, Manager
BLOOMSBURG, PA.

Seed Corn Selected seed of the following varieties testing 90 percent or better. Early Butler, Pride of the North, Leaming, White Cap Yellow Dent, Mammoth White Dent. Price $3.00 per bushel. Bags extra at 60 cents each. Sample ears at 25 cents each.
THE HORN BROS. CO., MONROEVILLE, OHIO

FARM HELP WANTED

Between February and April 1st. Teamsters, married or single. Good wages, all year employment. No milking.
ALLAMUCHY FARMS,
Arthur Danks, Mgr. Allamuchy, N. J.

BARN PAINT $1.22 PER GALLON

Get factory prices on all paints. We guarantee quality. We pay the freight.
Franklin Color Works, Dept. 16 Franklin, Ind.

STRAWBERRY PLANTS

At wholesale prices including the Everbearing. The best old and new varieties. Price list free.
M. S. PRYOR, Route 4. SALISBURY, MD.

Seed Oats Choice Swedish Select and Big Four Seed Oats testing 40 to 43 pounds. Price $1.50 per bu., bags extra at 20c each.
THE HORN BROS. CO., MONROEVILLE, OHIO

Cherry, Pear, Plum and Apple Trees, 20 cents each postpaid. Write for special prices of Strawberry and Raspberry plants. Send for 1920 catalog. ALLENS NURSERIES, GENEVA, OHIO

Wanted: Single man to take charge of, and work in orchard. Give reference and state wages expected. PINEY CREEK FARM, NORTH EAST, MARYLAND.

WANTED—On a small farm two miles from Wilmington, Del., an experienced farmer. Good horseman. Work on salary. State experience and reference. Address: A. L. FOSTER, Montchanin, P. O., Delaware.

HAY Ship To The Old Reliable House
Daniel McCaffrey's Sons
623-625 Wabash Bldg., Pittsburgh, Pa.

Seed OATS, BARLEY, WHEAT, POTATOES. New kinds. Largest yielders. SURE. Catalog Free. G. A. Read, Read's Exp. Farms, Charlotte, Vt.

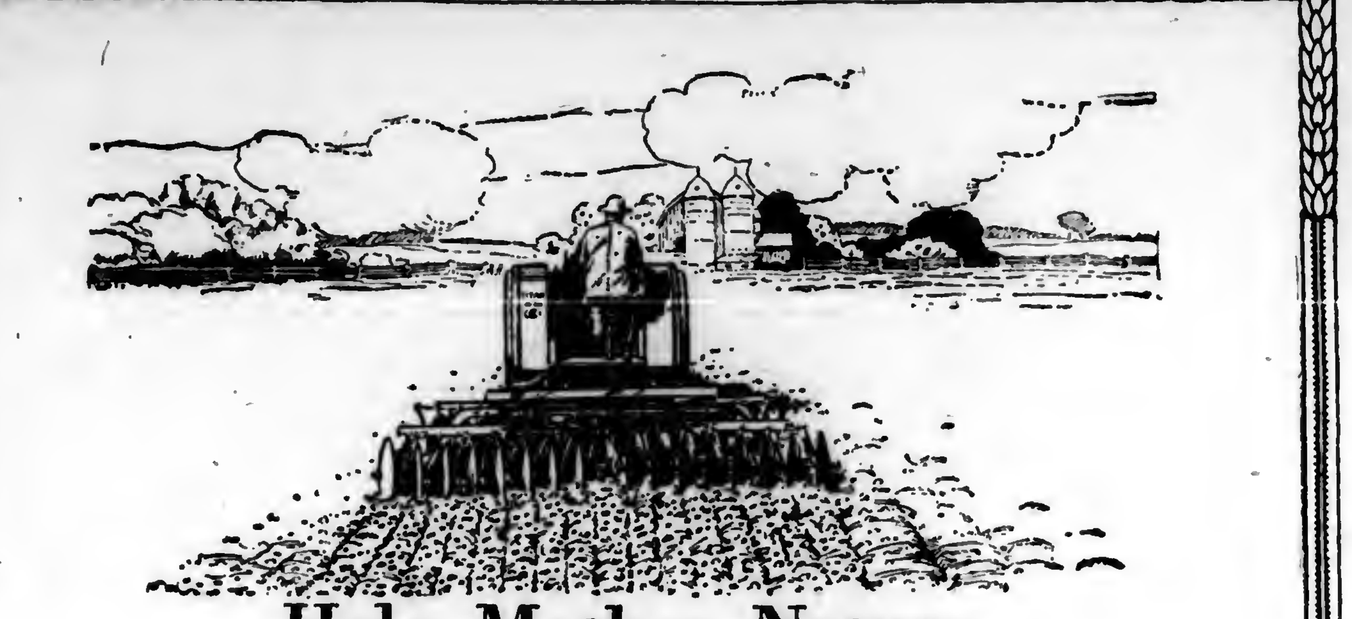
TELL the advertiser you saw adv. in Pennsylvania Farmer.

INEFFICIENT FARM LEADERS

The fact that the efficiency of farm organizations is ruined by politics has been a foregone conclusion for so long that it causes a jolt of surprise, to say the least, when one sees the point questioned. If anyone can offer a single logical argument to prove the contrary it will surely be warmly welcomed. The present situation is a most deplorable and discouraging one and desperately in need of something to brighten the outlook.

The charge that the farmer's leaders form "office-holding cliques" does not apply locally, I believe, at least not in our own grange, but these offices are too far down the line to receive the attention of the politicians. We elect them ourselves, supposedly from our best available material, and the honors are as well distributed as possible in view of the fact that not all members are capable of handling them well. Some one may take exception to the last statement but, frankly, I am judging by myself.

However, the state and national departments indicate no such utopian condition as one finds in his own little country organization. The home officers often protest against the unfit and wholly unsuited representatives who are farmers in name only and whose interests are exclusively elsewhere, but I have yet to hear of one instance where the protest received any consideration whatever. I am not aware that these observations are more applicable to granges than other organizations, but we have held for some years that the grange has no right to be called a farmer's fraternity. If it were, it is large enough to make itself heard, but does it? If it ever does it is speaking for big business, not for the farmer. Following the line to the top we find it no better. What is our Secretary of Agriculture doing for us, and what has he done? Who is he, anyway, that he should presume to head the nation as a farmer's leader? If a leader in any branch does honestly and efficiently defend the farmer's right he is jailed; could this happen if even a fair percentage were doing the same thing? Today, when legislation passes a lemon to any class it is always the farmer, he is invariably the goat. Why? Because his organizations are so full of traitors that agriculture easily permits all other business to usurp its honors, steal its profits, and ruin its reputation. This is accomplished in a variety of ways, but the entering wedge is usually the admission of members into farmer's organizations who are not farmers and whose interests are wholly antagonistic to those of the real working tiller of the soil. There is a vast difference between a farmer whose living is made from his farm and who has no her consequential source of income, nd the "farmer" who simply lives in e country—often not all the year, her and whose business is elsehere, his living derived exclusively om sources unrelated to the soil, nd his interests in no way whatever dentical with those of the actual armer. Obviously, such a man has o business with a membership in ny farm organization but he may e an educated man, perhaps in some rominent business or in some way n influential citizen, and some silly armer feels that he would be an onor to the fraternity. For that atter most farmers in these days re educated men but too many of hem have an undue and unhealthy espect for lawyers and politicians.
—E. M. A.



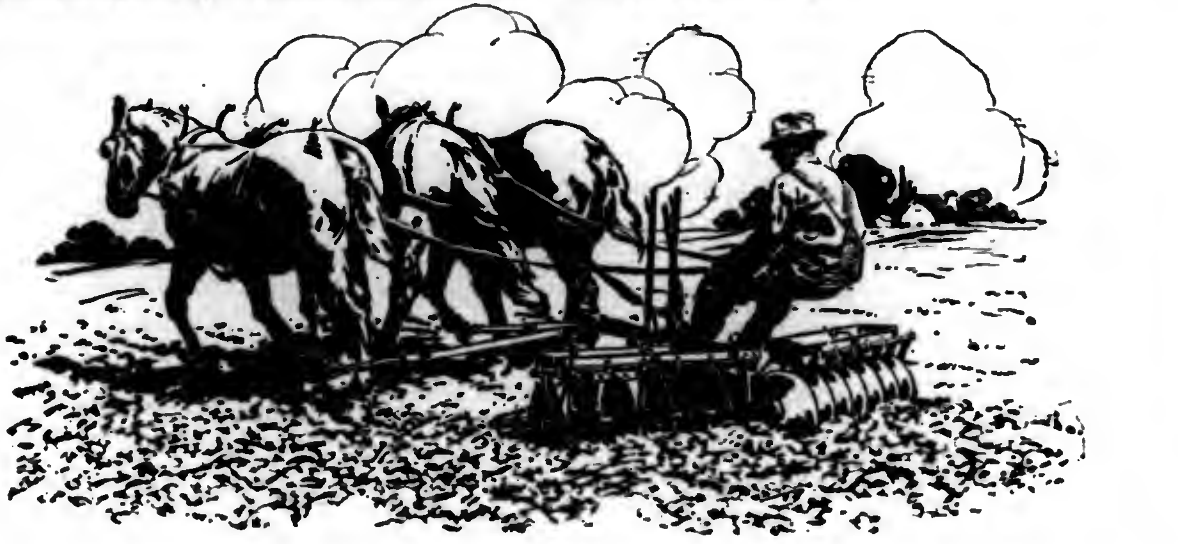
Help Mother Nature

NATURE does her share in seed bed building by providing fertile soil, moisture, and healthy seed. There Nature's obligation ends. The rest is up to you.

And the preparation of a mellow, thoroughly pulverized seed bed is almost as important as fertile soil and moisture. Upon it depends the healthy germination of the seed and a sturdy growth of the plant.

A seed bed prepared with **International Tillage Tools — disk harrows, spring and peg-tooth harrows, combination harrows and culti-packers** — will form a solid foundation for a bumper crop because these implements are thorough in their work. And they are not only efficient but also very durable, being made of high-grade material throughout. The name "International" is a guarantee of unquestioned worth.

Let us mail you descriptive folders of these tillage implements so that you will know just a bit more about the preparing of Spring seed beds. With every implement goes an alert, responsive and intelligent service. The International dealer will serve you direct.



INTERNATIONAL HARVESTER COMPANY
OF AMERICA INC.
CHICAGO USA

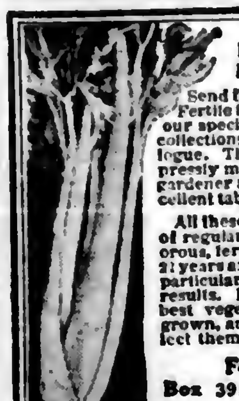
Burpee's Seeds Grow

Burpee's Annual
SEEDS 1920
W. Atlee Burpee Co.

BURPEE'S ANNUAL
THE LEADING AMERICAN SEED CATALOG

Burpee's Annual is a complete guide to the vegetable and flower garden. It fully describes the Burpee Quality Seeds, with a hundred of the finest vegetables and flowers illustrated in the colors of nature. If you are interested in gardening, Burpee's Annual will be mailed to you free. Write for your copy today.

W. ATLEE BURPEE CO., Seed Growers, Philadelphia



BEST VEGETABLES EASIEST GROWN

Send for catalogue of Forrest's Fertile Seeds. Then order one of our special 25c, 50c or $1.00 seed collections described in the catalogue. These collections are expressly made up to give the home gardener a bountiful yield and excellent table quality.

All these collections are made up of regular full size packets of vigorous, fertile seeds, backed by our 21 years experience in selecting the particular sorts that will give best results. Remember, some of the best vegetables are most easily grown, and you can trust us to select them for you.

Forrest Seed Co.
Box 39. Cortland, N. Y.

FREE Special Book of Plants that Grow

WRITE NOW!

Order your 1920 ornamental fruits and trees and plants now.

Your order reserved at present prices, and shipped in time for spring planting.

For 75 years we have been known for "Plants That Grow," and fair dealing.

Express or freight paid anywhere east of Miss. River on order of $3 or more.

Peter Bohlender & Sons
SPRING HILL NURSERIES
TIPPECANOE CITY (MIAMI COUNTY) OHIO

The Most Successful Gardeners

Use **Harris' Seeds.** That's one reason they are successful. Another is that, to succeed, a gardener must be a shrewd man and he knows where to buy seeds to the best advantage.

Harris' seeds are **grown in the North** and produce earlier and better crops than seeds grown further South. They are raised with modern scientific methods of breeding which keeps them up to the highest possible standard for quality and yield.

Harris' seeds are **sold direct to the grower at wholesale prices.** We do not sell to dealers at a lower price.

There is a label on every lot of seed telling just how many seed out of 100 will grow.

We raise Vegetable seed, Flower seed and Farm seed, all of the very highest quality.

Catalogue free. If you raise vegetables for market ask for our Market Gardeners' price list also.

JOSEPH HARRIS CO., Box 24, Coldwater, N. Y.

PLUNGER TREE PRUNER THE MISSING LINK IN THE ORCHARD PRUNING EQUIPMENT

Three times as speedy as the saw. Makes smooth cuts. Operator stands on ground to perform most of his work. Easy to keep sharp.

Write for circulars and prices. D. H. WATTS, Kerrmoor, Pa.

Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., February 2, 1920

With more open weather conditions there has been a better movement in all kinds of fruits and vegetables. The fresh arrivals of potatoes, however, are quite a little heavier than was expected, and altho some potatoes are selling up as high as they were last week there is an easier feeling to the market and prices will probably average 5@10c per cwt. lower than a week ago. At this writing Pennsylvania potatoes are selling mostly from $4.25@4.50 per cwt., with some showing the effects of the past cold weather down to $4 per cwt. New York state potatoes are selling mostly around $4.25 per cwt., with an occasional car up to $4.40, and poor ones showing effects of cold weather down to $4. Maine potatoes likewise are selling around $4.40 for best with poorer lower as to condition.

Sweet potatoes were in light supply and towards the last part of last week prices advanced to $2.65 per hamper for No. 1 stock. Today, however, under heavier supplies, there being twelve cars offered, prices eased off and most No. 1 stock was being sold at $2.25@2.40 per hamper with one or two cars bringing $2.50, and one rather poor one down at $2. No. 2 sweet potatoes sold today at $1.10@1.40 per hamper. Yams are very dull and hard to move at $1.75@1.85 per hamper and $4@4.50 per barrel. Some of the barrel yams are arriving badly frozen and chilled and these sell at low and irregular prices ranging on down as to condition to as low as $2 per barrel.

Vegetables

There are a few artichokes arriving from California which are selling at $8@10 per box. Green beans are in light supply, the only ones here being express receipts which are selling at $4@6 per hamper. Wax beans are also very scarce and bring about the same prices as the green beans. Old beets from nearby Pennsylvania and New Jersey points seem to be a little draggy at mostly $3@3.25 per barrel, altho now and then some sell around $3.50 per barrel. The new beets from the southern states are about steady at $2.25@2.50 per crate, or 8@10c per bunch. Brussel sprouts are in light supply but show a wide range in condition and therefore sales are being made at the wide range of 17@28c per quart. Some brussel sprouts from California are arriving and selling around $8 per drum. Old cabbage from New York State appears to be easing off a trifle, probably caused by increasing supplies of the new crop cabbage from the South and California. At this writing, most old cabbage is selling at $90@100 per ton, with some poor and wasty and frozen stock lower. Three cars of new Florida cabbage sold here this morning at $2.75@3 per hamper and two cars of California new cabbage sold at $5 per crate.

Good Pennsylvania grown carrots remain practically unchanged at $6 per barrel. There are some poorer grades selling down to $5.25@5.50. California cauliflower is selling mostly at $1.65@1.90 per crate with some as low at $1.25, while the Florida cauliflower brings $1.50@1.75. Two cars of Florida celery sold here this morning at $5.50@5.75 per crate. Washed and bunched celery brings from 90c@$1.50 per bunch of a dozen stalks. There has been no Norfolk Kale here in several days. Lettuce is very plentiful and selling at very low prices. Goff Florida lettuce brings from $1@1.50 with poor and ordinary 50@90c.

Onions are not quite so active selling mostly at $5.75@6 per 100-lb sacks. Mushrooms remain about steady at around 50@75c per pound. Parsley is in light supply and steady at $14@15 per drum, or $7 per box. Admiral peas bring $7 per drum while the telephones bring $8.50. Peppers remain practically unchanged at mostly $2@2.50 per crate. Romaine is lower at $1.25@1.50 per hamper. Hot house radishes remain practically unchanged at $4@5 per 100 bunches.

Tomatoes are mostly poor and selling at the wide range of $1@3.25 per crate with a few being good enough to reach top prices. Pennsylvania grown parsnips remain firm and practically unchanged at $4@5 per barrel. Spinach is selling generally from $3@3.25 per crate and $1.75@2 per bushel. Turnips are in light supply and firm at 75@90c per ⅝ basket for the whites with the yellows bringing $2@2.50 per cwt. Watercress is in light supply and selling at $3@3.50 per 100 bunches.

Fruits

With the more open weather prevailing there is a good demand and movement in apples. The trade is buying fancy apples in both barrels and boxes at good prices but the ordinary and poor quality of fruit showing the effect of cold weather is working out slowly according to condition.

Best strawberries are now selling around 60@65c per quart, but some of the berries are arriving in weak condition and selling at lower prices accordingly. Cranberries are showing no change in price but leading a very dull market. At this writing the various varieties of apples and other fruits are being sold at about the following range of prices:

Barreled Apples.—Baldwins, $3.50@9.50; Ben Davis, $4@6; Black Twigs, $5@8; Stayman Winesaps, $5.50@9; York Imperials, $5@7; Greenings, $5.50@9; Starks, $6@8; Limber twigs, $5.50@6; Smiths Cider, $5@7; Russets, $5@6.50; other odd varieties, $4@6. Box apples—Stayman Winesaps, $2.50@3.50; Delicious, $3.25@3.50; Rome Beauty, $2.50@3; Cranberries, $6@8.50 per barrel, $1.50@3 per crate.

Poultry

The supplies of poultry have ben light and there has been a strong active demand which raised the market to advance and high prices are prevailing. At this writing, sales are being made at about the following range of prices: Live Poultry: Heavy fowls, 42@44c; smaller sizes, 37@40c; chickens av. best, 37@38c; inferior, 35@36c; broiling chickens, 42@45c; old roosters, 24@25c; ducks, 30@46c; geese, 30@45c; turkeys, 50@52c.

Dressed Poultry.—Turkeys, 52@60c; old toms, 45@50c; [illegible] 12c; [illegible] chickens, roosters 40 [illegible] 37 [illegible]

Eggs

There was a sharp decline of about 7 cents per dozen in the egg market this morning. Sales are now being made on about the following basis: Pennsylvania and other nearby current receipts, 55c; Pennsylvania and other nearby firsts, 57c; Western Firsts, 55c; Western extra firsts, 57c. As we reported in these columns last week the market on eggs at this period of the year is very unsettled and the above quotations prove these remarks to be justified as the market today is just about 15c per dozen lower than it was a week ago.

LANCASTER PRODUCE MARKET

Lancaster, Pa., February 2, 1920

With three big fish dealers still warring for trade, and prices at the lowest ebb in years, this city continues on fish diet at the expense of the produce market, and another slash in egg prices was necessary today to move them. Eggs that sold for 80 cents two weeks ago fell as low as 65c this morning, and poultry also scored another slight decline.

Butter and Eggs.—Creamery butter, 80@85c per lb.; country butter, 70@75c. Fresh eggs, 65@72c per dozen; duck eggs, 90c; goose eggs, 10c each.

Poultry.—Dressed young chickens, $1.25@1.50 each; dressed old chickens, $1.75@2 each. No live fowls offered.

Vegetables and Fruit.—Parsnips, 5 cents per box; spinach 25c ½ peck; turnips, 15c ½ peck; potatoes, 30@35c ½ peck; do., $2.25 bu.; sweet potatoes, 35c ½ peck; cabbage, 15@30c head; cauliflower, 20@30c head; lima beans, 20c quart; onions, 5c bunch; lettuce, 15@30c head; oyster plant, 10c bunch; celery, 10@25c bunch; apples, 35@50c ½ peck.

Grain Market.—Wheat, $2.20 per bu.; corn, $1.25; oats, 85c. Timothy hay, $31 per ton; mixed hay, $30; wheat straw, $15.

YORK PRODUCE MARKET

York, Pa., February 2, 1920.

On account of the icy condition of the roads and streets the markets were not as well attended as usual. The supply of home-grown produce with the exception of potatoes is about exhausted. There is considerable country butchering done this winter. Butter is still holding the holiday price. Eggs, are not as plentiful as usual at the 1st of February, yet there are many storage eggs on hand and this cuts the price of the fresh product quite a little.

Eggs.—65@75c per dozen.

Butter.—Country, 65@75c pound; separator, 75@85c pound. Milk, 12c quart.

Poultry.—Hens, 25@27c pound; dressed, 75c@$1.75 each.

Vegetables.—Potatoes, 15@30c ½ peck; $1.25@2 per bu.; cabbage, 5@12c head; lettuce, 5@15c head; onions, 5c bunch; 25@30c ½ peck; radishes, 5c bunch; lima beans, 30@40c quart; soup beans, 25@30c quart; celery, 5@15c stalk; turnips, 15@18c ½ peck; spinach, 15c ½ peck; apple butter, 45@50c quart; sausage, 30@38c lb.; pudding, 30c pound; steak, 40@45c lb.; bone-meat, 25@32c lb.; lard, 30@32c lb.; dressed hogs, 20@21c.

Fruit.—Apples, Yorks, 30@50c ½ peck; other varieties, 25@50c ½ peck; Stayman, 60@80c ½ peck; pears, 15c box; 30c ½ peck.

Retail Grain Market.—Wheat, $2.40; corn, $2; rye, $1.75; oats, $1; bran, $3 per cwt.; middlings, $3.50 cwt.

Wholesale Grain Market.—Wheat, $2.20; corn, $1.60; oats, 85c; rye, $1.45; bran, $50 per ton; middlings, $54@65 ton.

NEW YORK PRODUCE

New York City, February 2, 1920

Butter.—Strong; receipts, 3,473 tubs; creamery, higher than extras, 66½@67c; creamery, extra (92 score), 66c; creamery, firsts (88 to 91 score), 62@65½c; packing stock, current make, No. 2, 42c.

Eggs.—Unsettled; receipts, 7,777 cases; fresh gathered, extra firsts, 58½@59c; firsts, 56½@58c; state, Pennsylvania and nearby western hennery whites, firsts to extras, 63@70c; state, Pennsylvania and nearby hennery browns, extras, 60@63c; do., gathered browns and mixed colors, firsts to extras, 57@61c.

Cheese.—Steady; receipts, 1,304 boxes; state, whole-milk flats, held, specials, 31½@32c; do., average run, 30@31c; state, whole-milk flats, twins, specials, 30@31¼c; do., average run, 29½@30½c.

Live Poultry.—Steady; chickens, 33@35c; fowls, 40@44c; old roosters, 24c; turkeys, 40c. Dressed steady; chickens, 30@47c; fowls, 28@39c; old roosters, 26@26½c; turkeys, 46@53c. Capons, 45@60c.

Vegetables. — Potatoes, Maine, $7@7.60 per 150 lbs.; State, $6.50@7.25. Pennsylvania and Long Island, $7@8.50 per 180-lb. bags. Beets, $3.50@5 per bbl. Carrots, $3.50@5.50 bbl.; cabbage, Danish, $75@100 ton; onions, $4@6.25 per 100-lb. bag.

Fruit.—Apples, King, $4.50@7 bbl.; Ben Davis, $4@5.75; Winesaps, $4@8; Yorks, $4@7; Staymen, $4.50@7.50; Greenings, $5@11.

PITTSBURGH PRODUCE

Pittsburgh, Pa., February 2, 1920

Butter.—Prints, 70@70½c; tubs, 69@69½c; country roll, 58@60c.

Cheese.—New York full cream, 35@36c. Ohio, 34@34½c; Wisconsin Swiss, 54@55c; Philadelphia cream, $1.00 per dozen.

Eggs.—Fresh, select, 78@80c; Special, 58@60c; Storage, 53@55c.

Potatoes.—Round, $7.25@7.50 per 150-lb. sack. Onions, $6 sack. Cabbage, $8@9 barrel. Lettuce, 65@75c basket. Sweet potatoes, $2.50 hamper. Turnips, $2.25@2.60 bushel. Beans, wax and green, $3@4 bushel. Beets, $1.50 bushel.

Fruit.—Apples, $7.75@9.50 barrel; $3@4 box.

PHILADELPHIA LIVE STOCK

Philadelphia, Pa., February 2, 1920

Receipts of live stock for week ending January 31, were as follows:

	Beef Cattle	Sheep and Lambs	Hogs
Total for Week	1,689	4,737	7,996
Previous Week	2,044	6,008	10,474

Calves.—Receipts of calves last week were 799 head against 1,086 head week previous.

Beef Cattle.—Steers and cows sold slowly, with moderate but ample offerings at former rates. Calves of fine quality were firm and higher, but the under grades were quiet and irregular, with prices covering a wide range, according to quality. Quotations: Steers, good to choice, $14@15.50; fair to good, $12@14; cows, per lb., good to choice, corn fed, 9@10¼c; do., fair to good, 7@9c; common to fair, 4@7c; calves, extra to choice, $23@23.50; do., fair to good, 20@22c; do., common, 14@18c; do., heavy and rough, $8.50@12.50; do., Tennessee, choice, 19@20c; other Southern, 10@15c.

Sheep and Lambs.—The market for fine grades of both sheep and lamb ruled firm and higher, due to light supplies and a fair demand. Offerings were largely of medium and poor stock, which was dull and irregular in value. Quotations: Sheared sheep, wethers, extra, at $13.50@14; do., good to choice, $11@12; do., medium, $8.50@9.50; do., common, $5@6.50; heavy, fat, $9.50@11; lambs, spring, choice, $21.50@22; do. medium grades, $19@21; do., culls and common, $13.50@15.50.

Hogs.—Demand was fair for fine stock and the market ruled firm under light offerings. Quotations: Best Western, $18 per 100 lbs.; hogs, nearby good, $16.50@16.75.

City Dressed Stock.—The market for steers, heifers and cows was dull and unchanged. Sheep and veal ruled firm, with demand absorbing the offerings of choice stock. Lamb was strong and higher, but trade was quiet, as buyers were operating only in a small way to cover immediate needs. We quote: Steers, 18@25c; heifers, 17@22c; cows, 13@18c; calves, city dressed, choice, 29@31c; do. country, 24@25c; sheep, choice, 14@22c; lambs, choice, 33@35c; hogs, 23½c.

◆

LIVESTOCK

Lancaster, February 2.—Cattle.—Receipts, 1,311 head, against 1,532 head last Monday; market very dull; many unsold; prices lower; good to choice steers, $12.25@14.35; fair to good steers, $12@12.65; medium to fair steers, $11.50@12; common to medium steers, $10.10@11; smooth and fat bulls, $10.50@12.15; medium to good bulls, $9.35@9.75; common to medium bulls, $8.25@9.25; smooth and fat bulls, $10.50@12.15; medium to good bulls, $9.35@9.75; common to medium bulls, $8.25@9.25; smooth and prime heifers, $11.25@12.25; common to medium heifers, $9.25@10.75; stock bulls, $9.35@9.75; good to prime calves, $21@22; medium to good calves, $18.50@19.75; common to medium calves, $15@16; good to choice oxen, $11@13; fair to good oxen, $9@11; common to medium oxen, $6.25@8.75.

Hogs.—Receipts, 322 head; market quiet; prices steady; good to prime, $16.25@17; light to medium, $13.50@15.50; roughs, $13@15; stags to sows, $13@14.

Pittsburgh, Pa., February 2.—Cattle.—Steady; supply, 87 cars; prime, $14.50@15.

Sheep.—Steady; supply light; prime wethers, $13.50@14.50; culls and common, $4@6; lambs, $12@21; veal calves, $21@22.

Hogs.—Strong; supply, 50 double decks; prime heavies, $15.75@16; mediums yorkers and pigs, $16.65; roughs, $12@14.25.

East Buffalo, N. Y., February 2.—Cattle.—Receipts, 3,000; heavy, 50 clower; others steady; prime sters, $14.50@15.50; shipping steers, $13@14; butchers, $9@13; yearlings, $13@15; heifers, $6@11; cows, $4.50@10.50; bulls, $6@11.25; stockers and feeders, $6@10.25; fresh cows and springers, $65@$175.

Calves.—Receipts, 1,800; $1 lower, $6@22.50.

Hogs.—Receipts, 12,800; heavy, light, 15c to 25c lower; heavy, $16@16.25; mixed, $16.25@16.35; yorkers, $16.25@16.40; light yorkers and pigs, $16@16.25; roughs, $14@14.25; stags, $10@11.50.

Sheep and Lambs.—Receipts, 14,000; lambs, $1 lower; others steady to 50c lower; lambs, $12@20.50; yearlings, $11@19; wethers, $14@14.50; ewes, $5@15; mixed sheep, $13@13.75.

Chicago, Ill., February 2.—Hogs.—Receipts, 44,000; estimated tomorrow, 45,000; steady to 10c higher; bulk, $15.10@15.60; top, $15.65; heavy, $14.75@15.30; medium, $15.10@15.50; light, $15.15@15.50; light lights, $14.85@15.35; heavy packing sows, smooth, $14@14.50; packing sows, rough, $13.65@14; pigs, $14@14.85.

PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., February 2, 1920

Baled Hay and Straw.—Receipts 96 tons of hay. Firm at late advances. Timothy Hay.—No. 1, $37; No. 2, $34@35; No. 3, $31@32; sample, $26@27, no grade, $21@24. Clover Mixed Hay.—Light mixed, $34@35; No. 1, mixed, $32@32.50. Straw.—No. 1 straight rye, $17.50@18; No. 2, do., $16@16.50; No. 1 tangled rye, $15.50@16; No. 2, do., $14.50@15; No. 1 wheat straw, $15.50@16; No. 2 do., $14@14.50; No. 1, oat straw, $16@16.50; No. 2, $14@14.50.

Bran.—Scarce and firm. We quote: Car lots, to arrive, including sacks: soft winter bran, western in 100-pound sacks, per ton, $51@51.50; spring bran in 100-pound sacks, per ton, $50@50.50.

Corn.—New, $1.65@1.72.

Oats.—No. 2 white, $1.02@1.02½; No. 3, $1.01@1.01½; No. 4 white, $1@1.00½.

NEW YORK HAY AND GRAIN

New York City, February 2, 1920

Feed.—The market for mill feed was slightly firmer owing to small offers by the mills and a disposition on the part of jobbers to cover their contracts. The consuming demand, however, was still poor and the volume of business was limited.

Quotations: City feed, bran, $49; middlings, $52, in 100-pound sacks; red dog, $64, nominal, in 100-pound sacks; Western spring bran, $50; standard middlings, $53; flour middlings, $62.50; red dog, $68, all in 100-pound sacks, 30 day shipment. Oat feed, $32; rye middlings, $52; white hominy feed, $67.50, all in 100-pound sacks. Cottonseed oil meal, $78; linseed oil meal, $77, in 100-pound sacks.

Hay and Straw.—Supplies are rather light at all larger points, trade fair and market holds steady and unchanged. Rye straw holding about steady. Oat straw scarce and firm.

Hay.—No. 1 large bales ton; No. 2 $37@38 ton; No. 3, $33@35; shipping, $31@34 ton. Fancy light clover mixed, $36 ton. Clover, No. 1, mixed, $33@35.

Straw.—Per ton, No. 1 rye, $18@19; No. 1, oat $18; No. 1, wheat, $16.

Wheat.—No. 2, red, $2.36½.

Corn.—No. 2 yellow, $1.72¼; No. 3 white, $1.01.

Rye.—Export, $1.86.

Buckwheat.—Milling, $3.25 per 100 lbs.

PITTSBURGH HAY AND GRAIN

Pittsburgh, Pa., February 2, 1920

Hay.—Receipts extremely light owing to the inability to get cars. Unable to supply the demand which is absolutely urgent. Arrivals are readily being taken care of at top quotations. All grades wanted.

No. 1 Timothy, $34.50@35; Standard timothy, $33.50@34; No. 2, $32@33; No. 3, $30@31; No. 1 light clover mixed, $34.50@35; No. 1 clover mixed, $36.50@37; No. 2 clover mixed, $33@35; No. 1 clover, $37.50@38.

Straw.—Receipts of wheat show an increase while the demand is a trifle lax. Market for this commodity is still a little easier. Oat straw continues strong and in demand.

No. 1 oat, $15@15.50; No. 2 $14.50@15; No. 1 wheat, $14.50@15; No. 2, $14@14.50; No. 1 rye, $15@15.50; No. 2, $14.50@15.

Ear Corn.—Demand about fair. Receipts fully equal to same. Market a little quiet. Yellow No. 2 $1.60@1.62; No. 3 $1.54@1.58; Mixed No. 2, $1.57@1.60.

Oats.—Receipts light while the demand is improved. Market shows an advance.

No. 1 white, 95¾@96c; No. 2, 95¼@95½c; No. 3 white, 93½@94½c.

PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., February 2, 1920

Butter.—Receipts, 1,403 tubs. The Produce Exchange was closed and there was very little wholesale trading on the street. Prices showed no important change. Quotations: Fresh, solid-packed creamery, fancy high-scoring goods, 65@67c, the latter for jobbing sales; extra, 64c; extra firsts, 61@63c; firsts, 57@59c; seconds, 52@56c; sweet creamery, choice and fancy, 66@68c; do., fair to good, 57@65c; ladle packed as to quality, 46@48c; packing stock, 4[illegible]@45c; fancy brands of nearby prints jobbing at 72@74c; good to choice, 64@71c; fair 61@63c.

Cheese.—Quiet and barely steady. New York, whole-milk flats, held, fancy, 31[illegible]32c; held specials higher; held, fair to good, 30½@31c; current make nominal; Wisconsin, held, fancy, 31½@32c; held specials higher, fair to good, 30½@32c; jobbing sales of fancy held goods, 34@35c.

NEW YORK MILK MARKET

New York City, February 2, 1920

There was a fair demand last week but surplus considerably heavier and more milk going to manufacturers. The retail price to consumer is 1 cent per quart less on bottled milk, which makes grade A 19c per quart and grade B 17c. The rate for February to the shipper in 200 mile zone is $3.48 per 100 pounds for 3 percent milk; 3.06 percent milk is $3.72, and 4 percent milk $3.88.

Receipts of milk and cream in 40-quart cans for the week ending January 31, 1920 were as follows:

Railroad	Milk	Cream
Erie	46,425	2,[illegible]
Susquehanna	9,213	127
West Shore	13,742	1,[illegible]
Lackawanna	55,910	1,248
N. Y Central (long haul)	126,584	1,[illegible]
Ontario	46,844	2,11[illegible]
Lehigh Valley	55,901	73[illegible]
New Haven	7,043	21
Pennsylvania	12,940	482
Other Sources	6,500	25[illegible]
Totals	381,102	10,4[illegible]4
Same Week Last Year	351,209	10,333

CLOVERSEED

Toledo, Ohio, February 2, 1920

Cloverseed.—Prime, cash, $36.40; February, $35.95; March, $35.42; April, $35.10; October, $26.

Alsike.—Prime, cash, $36.25; March, $36.25.

Timothy, Prime, cash, 1917, $6.65; 1918, $6.67; 1919, $6.75; March, April and May, $6.87.

Note.—It is well to remember that these are wholesale prices paid by jobbers.

TOBACCO MARKET

Buyers claimed a recession of some $2 per cwt in cigar tobacco market valuations during the week. However, sales were so scattered that it is was impossible to confirm or deny the claim which was that crops formerly salable at $22 to $25 per cwt. were sold at $20 to $23. It has developed that there is yet unsold ''nests'' in out-of-the-way places and it is to such that buyers are scurrying at present. Sellers will probably do well to sell when a suitable opportunity is presented. At the recent State Farm Products Show the exhibit of tobacco was quite extensive about 125 growers entering the competition. It is encouraging that such exhibits have shown improvement from time to time, indicating an increased value of such shows. One of the first prizes was carried off by Mr. J. H. Hostetter by samples from his sixty-eight crop. He is probably the oldest tobacco grower in the state, having grown his first crop in 1857. His crop last year consisted of three acres, grown from start to finish without assistance, a truly remarkable accomplishment for a man of eighty years. Attention is now turning to the preliminary operations of the present year. There is an unusual demand for improved seed and advanced information as to fertilization and cultivation all indicating an effort to get better results. It is to be hoped that growers will not attempt an acreage so great as to preclude attention. One of the great features of success in tobacco culture is a moderate acreage well attended

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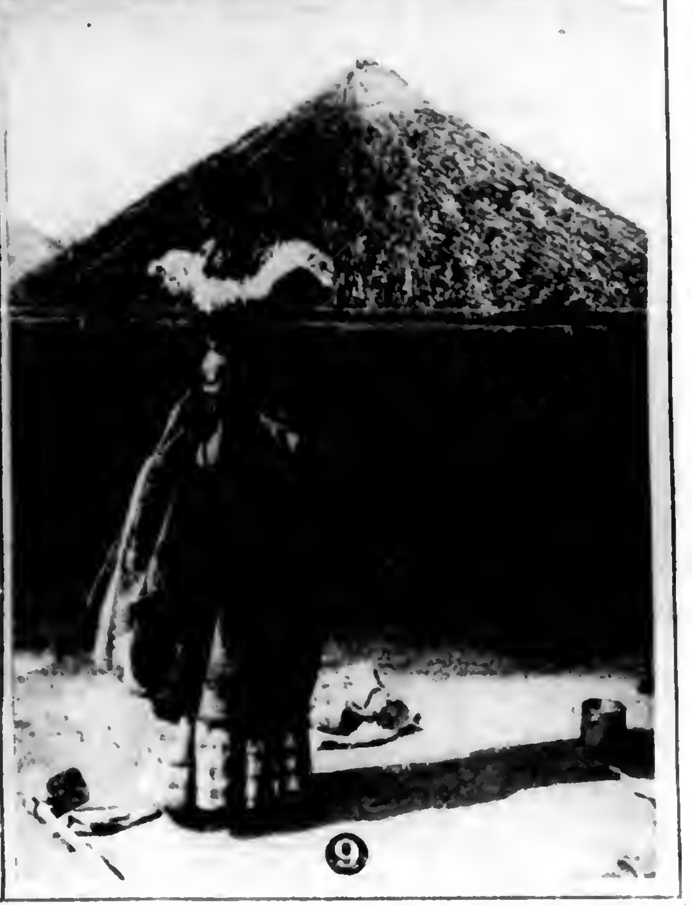
PASSING EVENTS IN PICTURES



Photo, Copyright by Underwood & Underwood)

1.—Two Women taken in the Raids on the Reds in Boston, Imprisoned at Deer Island.

2.—Saloon in Passaic, N. J., in which Six Men Died From Drinking Wood Alcohol.

3.—Senator Hiram Johnson of California, and His Two Grandchildren.

4.—Sir Arthur Conan Doyle, Author of Sherlock Holmes and Convert to Spiritualism.

5.—Mrs. Emma C. Bergdoll, Mother of the Notorious Draft Dodger Grover C. Bergdoll.

6.—Cornelius Ford, Public Printer for the United States, Washington, D. C.

7.—William J. Bryan, Again a Presidential Possibility Since the Jefferson Dinner.

8.—New Jersey Liquor Locked in Jail Cells After Raids Following Alcohol Deaths.

9.—This South African Woman Carries Her Baby in Her Hat—A Racial Custom.

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The production of almost three million bushels with a value of over four billion dollars gives the 1919 corn crop undisputed leadership. This great crop is not sufficient for the demands of a hungry world. The available acreage cannot be greatly increased.

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In early Spring, just as growth starts, sow a strip across your alfalfa or clover field or across your white clover blue grass lawn and let it tell its own story. Rate of application 200 to 400 pounds per acre. Get a supply of Agricultural Gypsum from your nearest building supply dealer. Write us for free information on various uses of Agricultural Gypsum as an efficient and economical soil builder.

Fig. 1 shows root system of alfalfa fertilized with GYPSUM. Fig. 2 shows root system without GYPSUM. From Bulletin 163 of Oregon Ag. Experiment Station

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GRADING ASPARAGUS FOR MARKET

Blanched asparagus or that grown in ridged beds to whiten it, is graded in three grades; the very large or fancy requiring from twelve to fifteen spears to a bunch; the prime with spears running not smaller than three-quarter of an inch at the base and larger; and culls. The spears are arranged in a patent buncher with the heads even and are tied with rafia or palm or cotton tape, and cut off at the base with a sharp knife. The average length of such a bunch is seven inches. They may run longer and even a trifle shorter, according to the length of the spears, but a very long bunch with an uneven or carelessly trimmed base will not compete favorably with a shorter bunch having the base well-filled. It is a mistake to stuff the bases with butt ends to get this well-filled appearance as this faking will injure the reputation of asparagus so packed.

Keeping the beds well ridged up will insure spears of good length and a good pack.

No. 1 shows two bunches of cull asparagus on the left and three bunches of primes at the right.

No. 2 shows the base and heads of bunches.—M. R. C.

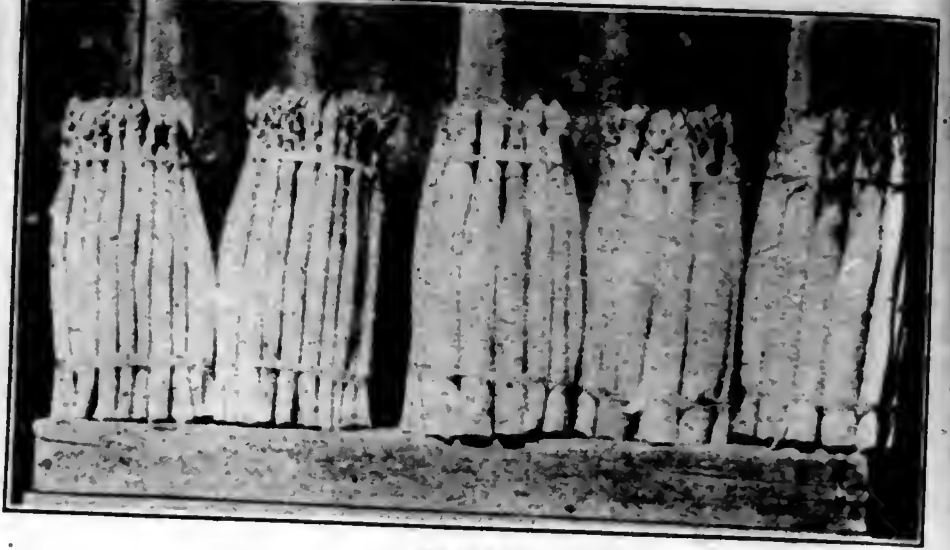


Figure 1.

MULCHING TOMATOES

For several years my tomatoes were badly affected with blossom-end rot. This is a very destructive disease in many gardens. The blossom ends of half grown and larger fruits become black and more or less sunken, and are worthless for the table or canning.

I appealed to the experiment stations, but they failed to give any aid. Every remedial measure they suggested failed to give results. One authority who has written a book on practical gardening and plant disease, said that the rot may be combatted by pruning the foliage back, admitting more air and sunlight, and destroying all diseased fruit. I followed his advice very thoroly, bu without success.

Another garden specialist advi me to change varieties. I did so. found a number of English varieti from imported seed that seemed be immune to the blossom-end r but every American variety w badly affected.

A plant pathologist suggested th various soil conditions, including sudden decrease in water supply, favored it. Acting upon this hint two years ago, after a thoro cultivation just as the plants were beginning to blossom, I mulched the tomatoes to the depth of three or four inches with coarse, strawy manure. This held the moisture in the ground and prevented any sudden checking of the water supply. I have followed this method two seasons and have seen little evidences of the rot. In addition, I have had very satisfactory yields of fine fruit.

My tomato vines are tied to stakes. In larger plantings where the plants are not staked, it is possible that a mulch of straw would give good results, and the fruit would be much cleaner than when allowed to ripen on the ground.—E. E. R.

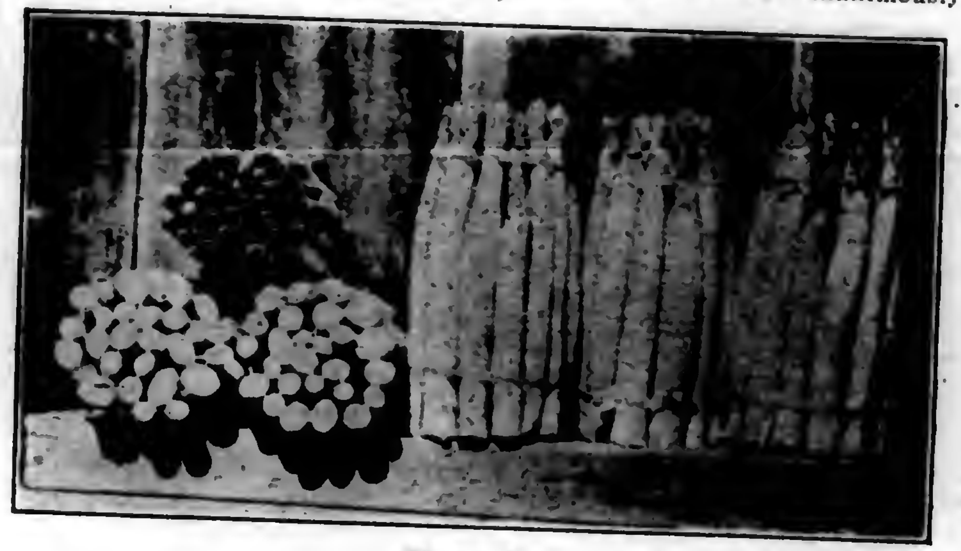


Figure 2.

TOMATO GROWERS MEET

The tomato growers of Cumberland County, N. J. held their annual meeting recently and voted to extend the sphere of their activities. The results of cooperation have been so satisfactory that the members are most enthusiastic for continued organization and voted unanimously to federate with the South Jersey Federation of Tomato Growers.

The only way to know the exact value of a cow is to know how many pounds of milk and butter she produces in a year. Keeping a record is not as much work as you think.

"Do you suppose I could get this check cashed?"

"Sure. Nobody knows you."

NEW IDEAS AT NEW YORK'S FARMERS' WEEK

The State College at Ithaca is pre-aring for the biggest attendance on ecord for its thirteenth annual armers' Week Meeting on February to 13 inclusive. Valuable new fea-ures have been added to the list of ectures on the usual general phases f agricultural work. There will be 5 different exhibits covering all hases of expert rural work, covering uch things as journalism, rural chool, vegetable growing, homology, ll kinds of dairy exhibits, poultry exhibits, and a variety of farm crop exhibits, beside a variety of exhibits along home economics subjects.

The newest feature and one that promises most of interest and effective help to rural people is that of a series of training schools for rural leaders, to continue several hours each day and evening of the week. Their topics, each having a fine corps of instructors, are rural recreation, nutrition classes, civics, junior projects in homemaking, clothing projects, and training for girl scout leaders. The teachers have been chosen with great care and no rural man or woman with leadership qualities undeveloped can afford to miss this. Every home improvement or young people's club in the state will do well to send a representative to farmers week to take some, or several of the courses.

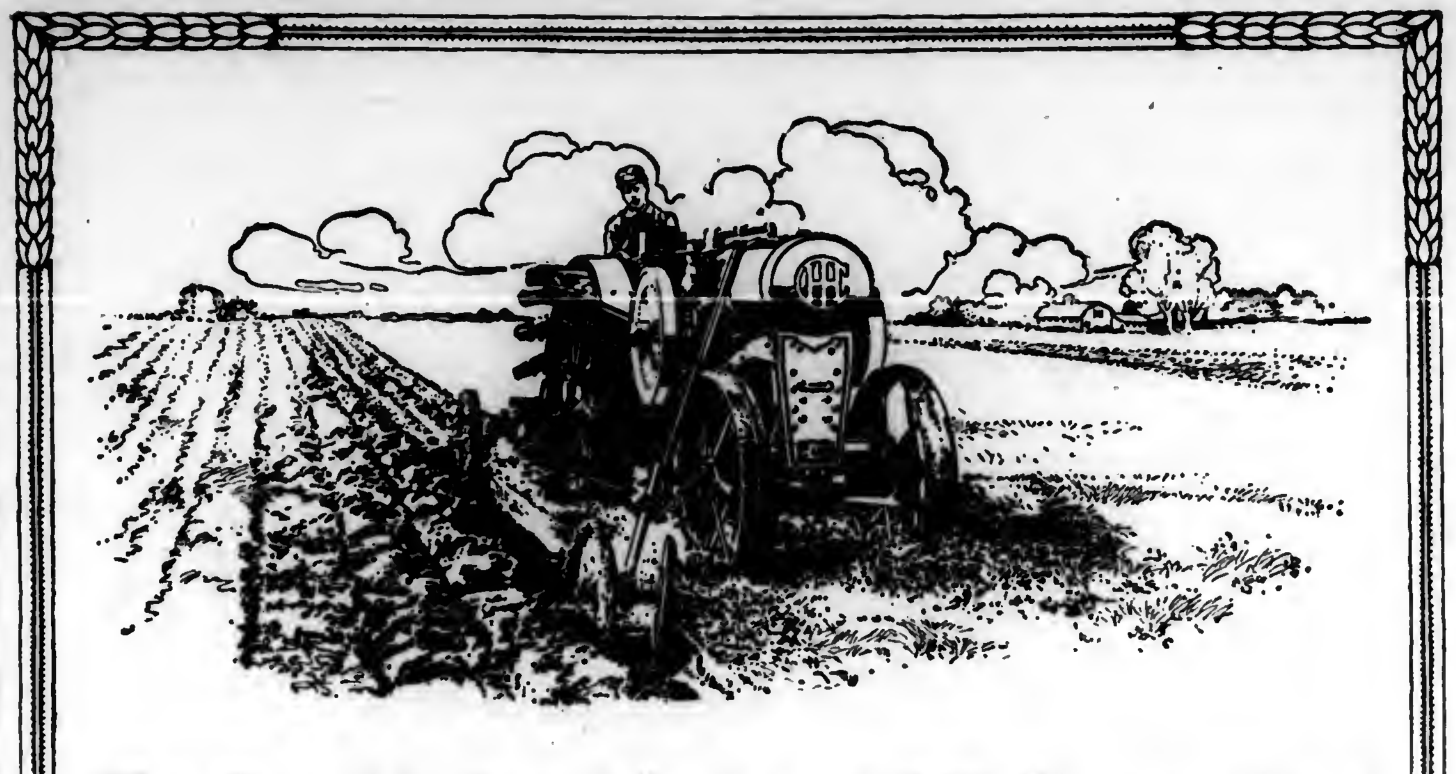
One whole day will be given to the discussion of rural newspapers, their functions, farmers' advertising, etc., with round table discussions by editors and patrons.

The rural school conference puts on three days full of interesting events. Americanization, thrift, improved marketing methods for farmers, are some of the subjects to be presented in addition to talks on better methods of production.—F.

COUNTY NOTES

Binghamton, Broome Co., N. Y., anuary 22.—Unusually severe eather conditions the past two eeks. January 21st, it was 30 de- ees below zero in the morning. ts of snow with high winds have led the roads with drifts. Stores e getting short on potatoes and are ying $2 per bushel for them. Ice getting so thick it is hard to ndle it where they are filling ice uses.—C. H.

Cumberland County, N. J., Janu- 20.—The weather is cold tho newhat variable. Ice houses at dgeton, Greenwich and Shiloh e been filled with 6 and 7 in ice. re are a number of farm sales. s bring big prices. Farmers are lling fertilizers for this year's ps. January 15th, about 7.30 lock in the morning, the barn of Hoover Harris was discovered to afire. Barn, wagon house, two rses, a cow and calf, chickens, hay, n, farm machinery, etc., were rned. The origin is unknown. The iloh and Bridgeton fire department sponded and saved the residence. ople with large auto trucks are ying up potatoes and hauling them the Philadelphia market. This unty has a new farm demonstra- r, Elton R. Wagner, of Youngs- wn, N. Y. He is a graduate of Cor- ll University. He started work nuary 12th. Our former superin- ndent of Farm Demonstration, W. . Oley resigned to take charge of e orchards of the Seabrook Farm mpany. Many of those who raise ine have lost them with the cho- ra—and it is still in evidence.—C. . S.



The Sensible Leader of the 1920 Tractor Field

NOWADAYS the chug-chug of the farm tractor is heard in every corner of the land. Tractors are at work in the fields of many thousands of farms and if you look them over you will find them a mixed lot.

Tractor farming is still in its youth. Novelty is still in the surge toward power farming.

The impractical theorists are still in the ring, limping but not out of the running. Adventurers who swarmed into what they termed the "game" are still "playing." The hazards facing the farmer in search of reliable power are many.

In all this turmoil, one tractor like a steady star has lighted the way. That tractor bears the trusted name—**Titan 10-20.** It has led because it is the product of practical builders of good farm machines; because it is backed by many years of experience and unquestioned reputation.

Today **Titan 10-20** is the standard-setter among all tractors. During the past year it has been the topic of conversation on the tongues of farmers and tractor makers the nation over.

Selling at the popular low price—**$1000 cash f. o. b. factory—Titan 10-20** faced a sensational demand. A few months ago this desire for Titan ownership had flooded the factory with thousands of orders which could not be filled at once, though a new Titan was being turned out every few minutes.

Every effort is being directed to greater production and to continued Titan 10-20 pre-eminence during 1920. In view of manufacturing difficulties however, this is earnest advice to the intending purchaser: **Orders for Titan 10-20—and also for International 15-30 and International 8-16—must be placed far in advance. No other course will assure delivery.**

INTERNATIONAL HARVESTER COMPANY
OF AMERICA INC.
CHICAGO USA

Allwork KEROSENE TRACTORS

Wonderful Power Built Into This Light Tractor

For All Kinds of Field and Belt Work

HERE is a lightweight tractor with a big four-cylinder 5 x 6 motor which gives you a substantial margin of reserve power for pulling three plows easily through the toughest kind of soil. The *Allwork* also furnishes sufficient belt power for a 24-in. separator, 16-in. ensilage cutter, etc.

Guaranteed to Burn Kerosene Successfully

This reliable tractor is a safe investment which will pay you big returns, and its excellent past performance insures satisfactory service and long life. During the six years the *Allwork* Tractor has been in actual use on thousands of farms in all parts of the country, it has retained the same sturdy design, while numerous improvements and refinements have been added from time to time, most of them being prompted by the farmers using this tractor.

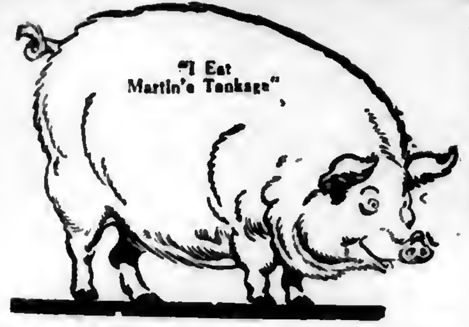
Write for illustrated catalog

ELECTRIC WHEEL COMPANY, Box 68A, Quincy, Illinois

PIPE second hand. Large stock all sizes furnished with new threads & couplings. Prompt shipment. J. F. Griffith, 416 Moyer St., Phila

HAY
W. D. POWER & CO. 601 W. 33 St., New York, are the largest handlers of commission hay in greater New York; if you have hay to dispose of communicate with them.

INSYDE TYRES —genuine inner armor for auto tires. Double mileage; prevent punctures and blowouts. Easily applied without tools. Agents wanted. Details free. American Accessories Company Dept. 218 Cincinnati, Ohio



MARTIN'S TANKAGE
Produces the Big Ones

It takes just as much time to feed good, wholesome tankage as it does the poor kind. And it costs *less* in the end. You can always depend on Martin's Tankage. Only the best of meat scraps, carefully sterilized, are used. Sold with a guarantee. Write for feeding directions and prices.

D. B. MARTIN CO.
36th and Grays Ferry Ave., PHILA.

BERKSHIRES
Registered sons and daughters of the Grand Champions Longfellow's Double and Baron's Successor. Splendid individuals. Prices from $75 to $250.
Registered grandsons and granddaughters of the Grand Champion Longfellow's Double. Prices from $25 to $100.
This is the blood that produced the winners at the International this year. Absolute satisfaction guaranteed.
INDERKILL FARMS
S. O. Stevenson, Supt. Staatsburg, N. Y.

Reg. Berkshire Swine Bred gilts $80. Open gilts $60. Sow pigs $20 and up. Immediate delivery. G. NORMAN ACKER, West Chester, Pa. R. 2

REG. P. CHINAS, BERKSHIRES, C. WHITES, large strains, all ages, mated, not akin; 8-wk. pigs, br. sows, service boars. Beagles and Collies. Write for circ. P. F. HAMILTON, COCHRANVILLE, PA.

TARRYMOOR BERKSHIRES
Quality Growthiness Prolificacy
We guarantee satisfaction.
Robt. E. Atkinson, Wrightstown, Pa. Bell Phone.

Berkshire Bargain. Three year old Shenandoah "O" Delchester Prince 4th and 2 bred sows $200. All reg. L. C. TOMKINS, ELLENTON, PA.

REG. O. I. C.'S ALL AGES. Booking orders for September, October and November Pigs. BLACK DIAMOND MINORCA FARM, MT. BETHEL, PA.

Large Berkshire Swine Registered High Grade. Prices reasonable. Write HOME FARM, CENTER VALLEY, PA.

Durocs.—Boars ready for service. Spring gilts, bred for March, April and May litters. Fall pigs, either sex. All immuned. J. D. Jackson, Van Wert, Ohio.

Chester Whites Boar and Sow Pigs. Bred Sows. Collie dogs. ARCADIA FARM, BOX D, BALLY, PA.

CHESHIRES The best white hog on earth. 6 mo. sows and boars at $20. Bred sows at fair prices. R. D. Button, Canastota, N. Y.

DUROC JERSEY GILTS bred for spring farrow, July and fall pigs. Col. and Orion Cherry King breeding. Priced to sell. Geo. W. Crim, Uhrichsville, Ohio.

Reg. O. I. C.'s Booking orders for Spring pigs. Silver strain breeding. BRUBAKER BROS., Star R., Cocolamus, Pa.

BERKSHIRES AND CHESTER WHITES All ages, for sale; write your wants; we can please you. TWIN BROOK FARM, NEWVILLE, PA.

For Sale—1 Reg. O. I. C. Boar, 18 mos. old. 1 Reg. O. I. C. Sow, 2 yrs. old, with pig. 1 Grade Sow, 3 yrs. old, with pig. B. A. Corkran, Midlothian, Va.

O. I. C.'s Gilts, fall yrs., tried sows for Mar. and Apr. farrow. Summer and fall pigs, either sex. G. P. ANDREWS, Dansville, Mich.

Chester Whites Pigs for sale. Special price on boar pigs. All stock registered. ALLAN R. MORTON, ASHVILLE, N. Y.

Large Berkshires Registered. May farrow, also October pigs. Both sexes. Prices reasonable. C. H. TOLAND, FREEPORT, OHIO.

CHESHIRES.—The high-quality home-market and home-table breed. Our type pleases. Pigs and service boars. Morningside Farm, Sylvania, Pa.

Large Type Duroc Service Boars and Gilts. Aug. and Sept. pigs. Orion Cherry King Breeding. D. H. Sager, Basil, Ohio

Reg. Big Type SPOTTED POLAND-CHINA pigs, bred from a son of O. K.'s Pride No. 80. H. C. KYMER R. 4, Shippensburg, Penn'a.

O. I. C. Swine Breeders' Guide, Box H, Montpelier, Indiana. Learn more about the breed. Four month's subscription, trial 10 cents.

BERKSHIRES Superior, Epocal, Rival Champion Blood. Pigs $15 and up. G. D. BARNES, R. D. H. Grove City, Pa.

Chester White Hogs. All Ages
Shorthorn Bulls R. 1 MUNCE, Canonsburg, Pa

For Sale: Registered C. W. gilts and serviceable boars and pigs. Also Jersey Bulls, all ages. J. A. BOAK, NEW CASTLE, PA. R. 4.

LIVE STOCK

The Farm Draft Horse

Before attempting to breed draft horses one should have the ideal type of the horse he wishes to produce clearly in mind, and it should be the type which the best knowledge of the time indicates is correct. This ideal type is the pattern by which he must work. The type of horse best adapted to the requirements of eastern agriculture at the present time weighs about 1400 pounds and stands 16 hands high. The most careful reasoning, together with the experience of the best farmers indicate that the active, rangy draft horse of this type has greater endurance and can cover more miles in a day than one carrying too much weight. Weight alone will not accomplish results any more than will speed alone. Farm horses to be efficient must combine size with symmetrical proportions and activity. The varied demands of the diversified eastern farm give preference to the horse that can make good time hauling a smoothing harrow, weeder, cultivator, roller and other light implements as well as the heavy gang plow or big load of produce to market.

A few years ago the demand for heavy farm implements created a corresponding demand for heavy horses to haul them, but the present tendency is to use farm tractors for heavy hauling; hence the demand is for active, prompt-walking horses to supplement the tractor on the farm. Feed is high-priced, horses are high-priced, farm labor is increasingly scarce and tractors are successfully hauling heavy farm implements. All of these factors emphasize the importance of active, prompt-walking and enduring farm horses.

Practical farm experiments show that instead of successfully replacing horses at farm work, the modern tractor merely broadens the farmer's cultural operations and leaves more light work for the teams to do. The tendency to plow more acres, plow deeper and conduct the farming along more extensive and intensive lines means more harrowing, planting, cultivating, harvesting and marketing. Such work requires all of the able-bodied horses one can muster into service during rush seasons. Many farmers, who have purchased tractors and disposed of a few work horses, have been left in the lurch when the rush of spring and early summer work came around. There is much work on a farm that the tractor can never do; likewise, there is much work that horses should never be compelled to do. Probably, the use of a tractor as a supplement to the supply of available horsepower is the ideal toward which eastern farmers should work. On a large farm such a combination will save sufficient time and horseflesh each year to pay substantial dividends; besides increasing the efficiency of the labor force and crop growing system.

There are two features of this kind of farm management which deserve comment. The use of a farm tractor means better plowing than can be done without keeping more horses on the farm than can be given profitable employment at other times during the year. It provides steady and profitable employment for the brood mares and young horses. This is a phase of farm management that is sure to attract attention among owners of large farms as soon as they understand its numerous advantages.

In order to produce the type of draft horses adapted to the requirements of eastern agriculture one should have good mares, with a cross of draft blood, weighing from 1200 to 1300 pounds. Mares of this type, possessing good conformation and particularly large and roomy should, if bred to a high-class stallion weighing from 1,700 to 1,900 pounds, produce an active, prompt-walking horse weighing 1,400 pounds, and possessing enough endurance to stand heavy work on the farm.

The Belgians are rapidly gaining in favor where extreme size is desired. The most common colors are red, roan and sorrel—rather a light sorrel at that, and a few grays. Some of the characteristics of the breed are well-risen, rather heavy neck and high crest; eyes a little small, but bright; back rather short and strong and quarters round and heavy and well-covered out to the root of the tail. Rather sloping rumps should be avoided in selecting a stallion to breed to. Deep, well-sprung ribs and short strong legs are common. Not so good walkers as the other breeds and a bit too clumsy to produce the class of horses needed on our eastern farms.

(To Be Continued Next Week.)

TRI-STATE SHEEP GROWERS' ASSOCIATION

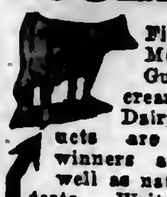
The annual meeting of the Tri-State Sheep & Wool Growers' Association will be held in Wheeling, February 13th and 14th, at the McLure House. The program this year promises to be one of the best yet. The central topic of interest of course will be wool marketing for the coming year. One entire afternoon will be given over to the discussion of last year's marketing and suggestions for marketing the coming clip, opportunity being given for discussion by men in all phases of the business, growers, dealers, etc. In addition to this, the matter of feeding out sheep, commercial grading, pure fabric law, use of roughage in feeding sheep, tariff discussion, world wool supply, etc., will be presented and discussed. Some of the ablest or anizers in the sheep business as well as men connected with experimental and governmental work, will be in attendance. The sessions will run from Friday 10.00 A. M. until Saturday 2 P. M. including evening sessions, so come prepared to stay over night. Accommodations can be had at the McLure House.—Chas. E. Crothers, Taylerstown, Pa., Secretary.

The boy or girl who is wise saves money for a definite goal—for a better education, and for the start in life on the farm or in [illegible]iness. The older members of the [illegible]amily can make it easier for the boys and girls to save.

Facts in BLACK & WHI

The Dairy Division a
Washington Says:

"As the production of a co
doubled profits increase three ti
As production is trebled profits
crease six times.
"The average cow in the Un
States yields 1823 quarts of
yielding 207 pounds of butter a y
Average profit per cow $20 over
of feed."
The average production of
purebred Holsteins that have
officially tested for a year is
pounds of butter from more t
7000 quarts of milk.
In yielding more than three ti
as much as the scrub cow, the p
bred Holstein yields six times
profits.
As production is tripled profits
crease six times.
Send for free illustrated bookl
THE HOLSTEIN-FRIESIAN ASSOCIA
218 Hudson Street
Brattleboro, Vermont



GUERNSEYS
First Prizes and Gold Medals were awarded to Guernsey milk and Guernsey cream at the 1919 National Dairy Show. Guernsey products are consistent winners at local as well as national contests. Write for our free booklets.
THE AMERICAN GUERNSEY CATTLE CLUB
Box M 38 Peterboro, N. H.
QUALITY ECONOMY QUANTITY

MAPLE LAWN HOLSTEINS
BEST in High grades and Registered Holsteins. Elegant grade calves $25 each. With calves will give choice registered bull free. Will accept Liberty Bonds and W. S. S. at par. Guarantee safe arrival and gladly ship C. O. D. Write your wants. C. W. ELLIS, JR., Cortland, N.

REAL BARGAIN
Pure Bred Ayrshire Bull Calves. We offer four handsome bull calves, large, heavy-boned and of show caliber. Big A. R. Records on both sides or now in the making. We can refer you to our satisfied customers. It will pay to get our prices.
CRESTMONT FARM, SUNBURY, PA.

STEVENS' HOLSTEIN FARM
OF CORTLAND, N. Y.
King Korndyke Sadie Vale Jr., No. 20301, two nearest dams averaging 36 pounds of butter in 7 days heads my herd. Butter records from 17 pounds two-year-olds to 34 pounds at full age. Also high grade Holstein calves, either sex, $15.00 each. Write your wants. PAUL H. STEVENS, Prop.

King Cornucopia Dekol Paul No. 204356
First prize 2-year-old bull N. Y. State Fair 1919. Dam gave 74 lbs. milk in 7 days, as a 3-year-old world record when made. Two nearest dams average 30.01 lbs. butter, 721.75 lbs. milk in 7 days. Bull and heifer calves for sale at all times. Postal brings full information. Write me before buying a bull for your herd. E. G. DORAN, PREBLE, N. Y.

HOLSTEINS— 20 head of young heifers and heifer calves; about half registered, balance high grades. These are a choice lot of particularly well marked and growthy heifers from my large producing cows.
Plumlyn Farm, Fairview Village, Pa.
(Near Norristown.)

WE WILL GIVE THE USE OF A
Finely Bred Reg. Holstein Bull Calf
for three years to any responsible farmer who wishes to improve his herd. Mugget Hill Farm, Charlton, Mass.

Hengerveld Pontiac Prescott No. 277464, 90% white, 7 mos. old, from a 29-lb. sire and a good producing dam. A good individual, thrifty, weight 350 lbs. Price $75. The Oaks Dairy Farm, Wyalusing, Pa.

HIGH GRADE HOLSTEIN CALVES. Either sex. Shipped anywhere. Write for prices. Satisfaction and safe delivery guaranteed. FRANK GAMEL, PINE GROVE FARM, LOCKE, N. Y.

Reg. Holstein Heifer Calves, from officially tested dams and a 30 lb. sire. Write for prices, pictures and peds. Walter M. Cruttenden, Wilkes-Barre, Pa.

Ayrshire Bull Calves From high record A. R. Dams. ROBERT TEMPLETON & SON, ULSTER, PA.

Registered Holstein Friesian Cattle Sons of the great Finderne Sir Valdessa, a 37 lb. bull, for sale. MILLARD E. BASEHOAR, Littlestown, Pa.

For Sale: Reg. Guernsey Bulls—May Rose, Jessie and Gov. of Chene lines. Reasonable. HAYES C. TAYLOR, Embreeville, Pa.

Holstein Bull Calves $25 each, 5 days old, unregistered. $20 each with papers. High producing reg. dams and sires. L. C. TOMKINS, ELLENTON, PA.

Registered Holstein and Guernsey bulls from calves to serviceable age. 250 animals in the herd. BONNYMEADS FARMS, R. D. 1, Harrisburg, Pa.

Pronounced Incurable—
e-The-Horse Did The Trick

May", writes Fred C. Nichols of Jefferson, N.Y., orse had a bad ankle, a large wind puff and it hurt and turned hard. Save-The-Horse has it all off. I was told it was incurable. Have several treatments but Save-The-Horse is the ner."

AVE-The-HORSE
(Trade Mark Registered)

ade for the stubborn, so-called incurable cases of one, Thoropin, SPAVIN—or Disease of Shoulder, Ankle, Hoof or Tendon—when all other remedies failed; and is sold under signed Guarantee to cure rn money. Always keep a bottle ready for any gency. Send today for FREE 96-page Save-The- BOOK on diagnosing and treating all lameness— of over 25 years of success; also write for sample arantee and expert veterinary advice. All FREE.
TROY CHEMICAL CO.
370 State Street, Binghamton, N. Y.
gists everywhere sell Save-The-Horse with Signed antee, or we send it direct by Parcel Post Prepaid.

MINERAL HEAVE COMPOUND In use over 50 years
CURES HEAVES
25 Box guaranteed to give satisfaction or money back. Box Sufficient for ordinary cases. (Includes War Tax.)
L HEAVE REMEDY CO., 408 Fourth Ave., Pittsburgh Pa.

Lump Jaw
he farmer's old reliable treatment for Lump Jaw in cattle.
Fleming's Actinoform
ld for $2.60 (war tax paid) a bottle ler a positive guarantee since 1896—*your money refunded if it fails.* Write today for LEMING'S VEST-POCKET VETERINARY ADVISER book of 197 pages and 67 illustrations. It is FREE.
FLEMING BROS., Chemists, 258 Union Stock Yards, Chicago

Miscellaneous

AY AND POTATOES
ltry and all produce wanted at market prices. d, steady, active demand. GIBBS & BRO., N. FRONT STREET, PHILADELPHIA, PA.

m Tractors For Sale—all makes—some new, exed at Fairs; others little used at demonstrations aranteed. Lowest cash prices, or on installments. for tractor and engine bulletin. LOSCH FARM ER CO., JERSEY SHORE, PA.

NNS VALLEY STOCK FARM
rcherons Berkshires Holsteins
dy for service, High Class Boars. 12 sows and gilts bred for March and April farrow. F. BISHEL, CENTRE HALL, PA.

st Breeds Poultry, Ducks, Geese, Turkeys, Guineas, Hares, Cavies, Pigs and stein Calves. Stock for sale. Hatching Eggs in on. Write your wants. Catalogue Free. A. SOUDER, BOX P, Sellersville, Pa.

AR-SY STOCK FARM offers Reg. Ayrshire catReg. Barkshire pigs 3 to 5 months, a few bred Best of breeding. White Wyandottes. J. A. McMAHAN, POTTSGROVE, PA.

ighland Stock Farm Belgian Horses, Jersey Cattle, Large kshires and Indian Runner Ducks. Stock for sale reas. prices. Anselm H. Kirsch, Nicktown, Pa.

Imported Black Percheron Stallion, 17 hands high, weight 1700 lbs., tle. Will sell cheap to a quick buyer. W. J. McCULLOUGH, SEITZLAND, PA.

E BRED Brown Swiss Bulls, also one pair young Jennetts. Come and see ds. C. Eugene Bown, Forksville, Pa.

For Sale, 2 loads feeders and 2 loads yearling Also any number 1, 2 and 3 yr.-olds from 600 lbs. Isaac Shanstrom, Fairfield, Iowa, R-8.

tland and larger Ponies. Colts $50 to $75; ues $75 to $150. List for stamp. STEWART, ESPYVILLE, PA.

LE—O. I. C. PIGS. ALSO RABBITS. Owls, and Bluerocks. Write for prices. RANCIS SCHEIB, GRATZ, PA.

ROCK COCKERELS; Moscovy Ducks; Eggs 12 varieties; Duroc Jersey Hogs, all list. Kahler & Son, Hughesville, Pa.

Poultry

y's Superior Chicks That live. Silver, White, and Wyandottes, Buff, Barred, and White I. Reds, White and Brown Leghorns, uen, and Indian Runner Ducklings (heavy ham Poultry Farm, R. 39, Phoenixville, Pa.

ervice Satisfies Ship us your produce, poultry and Potatoes a specialty. Returns day goods Ask for our market letter. RODUCE CO., PHILADELPHIA

ns Sick?—Use Germozone
, bowel troubles, sore head, limber neck, etc. or postpaid 75 cts. with 5 book Poultry Library. LEE CO., Dept. F-49 OMAHA, NEB.

Chicks for 1920: S. C. White and Brown Leghorns, Barred P. mixed chicks. Write for free booklet. LONE HATCHERY, Millerstown, Pa.

hode Island Red and Golden Campine Cockerels. ched $2.50 each. Satisfaction guaranteed. H. TANGER, YORK SPRINGS, PA.

Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Bone Spavin.—Four weeks ago my horse developed bone spavin. J. P. M., Middletown, Pa.—Give him rest, clip off hair and apply one part red iodide mercury and four parts lard every two weeks.

Splint.—We have two mares and both of them are troubled with splints on fore legs. Will you kindly tell me what will take them off? J. K. M., Shirleysburg, Pa.—First of all, let me say it is considered bad practice to apply drugs which have the effect of dissolving an egsostosis, or bone-like bunch, for by doing so a scar and bald patch is pretty sure to follow. Apply one part red iodide of mercury and six parts fresh lard every ten days. If these splints are caused by interfering it may be necessary to protect the shin with boot, or perhaps a change of horseshoer.

Indigestion. — Our 11-year-old horse is fed plenty of corn, bran, carrots and fodder, but he remains thin, hidebound, weak and nervous. J. A. S., Atlantic Co., N. J.—His molar teeth may require floating. Give him ½ ounce fluid extract cinchona, and ½ ounce Fowler's Solution at dose in ground feed 3 times a day. Change his feed, keep stable clean and well supplied with fresh air.

Weak Back.—I would like to know what to give my horse to strengthen his weak back. He is fed 12 ounces of oats daily and has all the good hay he will eat. G. R. R., Mauch Chunk, Pa.—If his back is sprained, give him rest, apply equal parts turpentine, aqua ammonia and raw linseed oil once daily As a nerve and spinal stimulent, give one dram ground nux vomica at dose in feed 3 times daily. If his kidney action is sluggish, give two drams of acetate of potash at dose twice a day. This medicine can be conveniently given in drinking water, but only give it when needed.

Shy Breeders.—I would like some advice regarding my 2 cows. One of them has had 3 calves, the other four. Both cleaned all right when they came fresh. One calved about 12 months ago, the other in September. Both come in heat regularly, have been served several times without getting with calf. G. Y. D., Lewisburg, Pa.—Dissolve 3 ounces bicarbonate of soda in three pints of clean tepid water, wash out vagina 3 or 4 hours before she is bred. This treatment is best applied with fountain syringe.

Congestion of Lungs.—Pneumonia.—I had a hog die last week, from what I diagnosed as Pneumonia. She was shipped by express to me, being held here for two days, both being the most severe so far this winter, and on the fifth day she was dead. My farmer said he did not notice anything wrong with her; that she ate her evening meal with the rest, but the next morning she did not respond for breakfast and upon investigation she was found dead in her nest. I opened her, examined her kidneys, liver, found no spots that indicate cholera, also her stomach was empty and clean but when I came to her lungs, I found both black like liver and filled with very dark blood. I also examined her windpipe and found no obstruction, except it was filled with a cream colored matter all the way down and upper part of head contained mucus. The reason I examined her liver and kidneys, was on account of her having a redish streak running along her belly between her teats, but I failed to find any other spots on her belly or body. This hog was sold as immuned with double treatment and I have come to the conclusion that she died of Pneumonia. From my description of symptoms do you believe my diagnosis is right? I might say she seemingly died without a struggle. J. W. C., Philadelphia, Pa. —Doubtless, she first suffered from congestion of lungs, followed by Pneumonia, which resulted in death.

$279 Profit in a Few Days

How a Woman Paid $100 for a "Ferocious Brute" and in a Few Days Made it Worth $379

An actual fact,—this is. Mrs. Louis McCutcheon of Kitchener, Ontario, bought a mare for $100. The mare absolutely refused to work. Even to harness her was a day's work in itself. She kicked, bit, balked and shied at everything. No one on the farm could do anything with her. Then a neighbor told Mrs. McCutcheon the secret of his own mastery over horses—and how she too could learn it.

In a few days she had the mare eating out of her hand! In a few days this "ferocious brute" became a hard and willing worker. In a few days Mrs. McCutcheon turned $100 into $379. What was the secret? How did she do it?

The Secret of Horse Training

Mrs. McCutcheon, like more than 107,000 others, learned the secret of mastering horses from Prof. Jesse Beery's Course in Horse Breaking and Training. And thru learning Beery methods she was able to sell the mare for $279 more than she paid for it.

It took Prof. Beery over 30 years to learn these secrets. They are now all disclosed in his home study course in horsemanship. No matter how mean, wicked-tempered or wild your horse may be he cannot resist the Beery methods. They are easy—certain—and *humane*. They guarantee lasting results. Bad traits are overcome for *good and for all*. Bad habits are broken forever.

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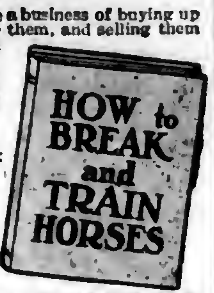
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28 gauge painted 2½ in. corrugated overhauled sheets 5½ ft. long. KP-306. Per 100 square feet............$2.50

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100 reels or more, per reel ....
50 reels or more, per reel ....
25 reels or more, per reel ....
Less than 25 reels, per reel ....

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18 in. x 30 in......$15.95
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Lancaster, "The Garden Spot"

A Presentation of Facts and Figures Which Show the County's Great Wealth

By JAMES G. McSPARRAN

There is not a doubt that it causes many a regret in the minds of a goodly number of people that their lot has not fallen in the garden spot of creation. We should not forget, however, that we had not the choosing of our birthplace, and not always responsible for our environment, but we are responsible in quite a measure for what we make of ourselves, and especially responsible for what we say and the impressions we make on the minds of others. Mr. Hulsart tells us in an article in the Pennsylvania Farmer of January 3rd that he has been engaged quite extensively in institute work in the past in Lancaster County, Pa., and we have a right to expect quite a good deal. We must all remember that facts will not down and the writer or speaker, who sticks closest to them is always the winner in the end.

I am a resident of Lancaster County, have been all my life and think I know it fairly well and when we speak of farms and farming, we are getting right on my ground. Seventy-one years of my life spent on the farm where I was born which is now and has been in the name for 100 years.

It is claimed in above article, "it is not fair to take Lancaster County's 472,795 improved acres in farms and compare with Monmouth Co.'s 156,583. We agree right there for the only fair and honorable basis is to take the entire acreage of each county, 602,240 in Lancaster, and 306,560 in Monmouth. Or if exception is taken to that basis, then take the acres in farms from the Census—550,499 in Lancaster County and 206,856 in Monmouth. A few choice acres can be picked out in almost any county and from them make a creditable showing; but when you talk of counties, and pretend to compare counties, you must know what proportion of the county's entire acreage the few choice acres constitute. In 1875, the writer raised 100 bushels of corn per acre on his 16⅔ acre field, but Lancaster County did not average that amount per acre that year. A few years ago one of my neighbors raised 325 bushels of potatoes per acre but our county did not average that. It is equally clear how absurd to speak of an acre or two of spinach, or patch of blackberries, strawberries or raspberries, or any other one production, as representative of the average. But we will take any system of comparison that will please our Jersey friends and I feel sure the result will be only a difference in degree while the finality will not be questioned.

We have elaborate census data, the only official, data from which we have any right to base comparison. Now to cold facts from Volume 7, U. S. census, 1910:

MONMOUTH COUNTY	
Cereals	$1,002,818
All other grains and seeds	10,614
Hay and forage	630,470
Vegetables	2,001,775
Fruits and Nuts	385,140
All other crops	448,469
Dairy	513,109
Poultry and eggs	558,143
Honey and Wax	1,363
Wool	578
Animals sold and slaughtered	307,386
Grand total for Monmouth	$5,859,865
All farm property	$28,945,120

Now turn to the same Volume of Census and hear from Lancaster County.

Cereals	$5,459,810
Other Grains and Seeds	55,702
Hay and forage	2,287,361
Vegetables	1,137,034
Fruits and Nuts	396,698
Other crops (except tobacco)	3,772,983
Dairy	2,343,594
Poultry and Eggs	1,679,466
Honey and Wax	10,673
Wool	3,553
Animals sold and slaughtered	3,670,272
Tobacco	3,926,116
Products Grand Total Lancaster County	$24,693,262
Value of farm property	$84,426,907

I am aware that these figures differ very materially from those given in the article referred to But these are the figures that determine amounts in bank accounts.

Of course it is evident to every candid mind that these figures settle the dispute. But there are some men like the Irishman's snake. The snake was dead, all right, but the Irishman thought "that it was not sinsible of it." Possibly our Jersey friend is in same state of mind. From the gist of the article it is claimed that great advances have been made, and the aggregate of products much greater now than in 1910. Do not press that point or you will be submerged beyond recovery. Mark you that same condition prevails everywhere and the greater the national resources of any given county the greater the increase and advance. I have before me the year book of Department of Agriculture for 1918. From it we learn taking the number of acres of tobacco in state of Pennsylvania, and giving each acre in other parts of the state the same average in lbs. and price as Lancaster County, which would not be fair to Lancaster County, for it excels in both weight and price, yet with disadvantage its crop in 1918 amounts to $11,760,582. This is three times the value of 1910 crop and 1919 will bring more. This is but a fair sample of what the products of Lancaster County will now sum up and we would scarcely know what figure to place on the aggregate for 1919. What could Lancaster do with some of the tremendous crops we have, potatoes for instances, we are asked? There the worst break possible has been made for that brings the matter right up to the point.

Take the mean between one and two hundred which would be 150 cars daily at 800 bushels per car for 313 days, leaving out Sabbaths, and the shipments of potatoes from this county would be the modest number of bushels 37,560,000 in the year. That is certainly glaring in view of the fact that the 1918 figures gives New Jersey 8,464,000 bushels, another guess is in order Lancaster County cannot figure that fast.

We could follow out assertion, unsupported, one after another but time and space will not per-

mit nor is it at all necessary. Now just take this nut and crack it as confirmatory evidence in answer to the question "what can you expect of an inland town like Lancaster? Is it any wonder the whole system of institutes in Pennsylvania has been changed as the result of service by such men in the past years? Bad enough to make a weak and unsavory record when only your own reputation is at stake but when that of another is involved, as in this case, the Farm Demonstrator, it is adding insult to injury.

Yes, the inland town of Lancaster, with its 47,000 population, the county seat of the most favored county in the nation with its 167,000 people, not transients but permanent residents, dotted all thru with thriving boroughs connected by its 200 miles of trolley lines within the county, as fine a system of transit as can be found; railroads such as the Pennsylvania and Reading, seldom equaled and nowhere excelled; and back of all its 51 banking institutions with combined capital, surplus and undivided profits and deposits of $60,000,000, double the value of all the farms in Monmouth County, and of this amount it is confidently claimed that the farmers own 80 percent.

The founders of Lancaster knew where to locate the town and they we dare say were assisted in their judgment by the sturdy German farmers, who as a class were experts in land quality and value, by depending upon the rich acres of the county from whence has come the immense bank accounts, splendid well equipped buildings, and homes all over the county. Yes the inland city of Lancaster nestled in the centre of a county which for 50 years has held the banner as the Garden Spot of the nation, and which it is not likely to lose taking acre for acre, or county for county. If the time should ever come, as it will, when the intensive system of farming will be a necessity, Lancaster County will blossom like a rose. Traverse it from end to end, from side to side, in any and every direction and the fact is pressed home to the unprejudiced mind that it is simply unexcelled as a county. Monmouth County has its advantages in location. It would be absurd to deny that nor is there any reason for doing so. But it is not on account of anything internal or intrinsic that makes its value. That beyond the county and entirely separate and distinct from it is the attraction for the multitudes and proves the salvation of the county. The Mighty, restless, deep has an attraction with which nothing unless it is the Majestic Mountains can compare. That soul is calloused and hardened indeed that is not moved to adoration when gazing upon the mighty Ocean, or the towering mountain.

The long line of beach front along which are built the towns and villages are indeed the essential features of the whole county. While the towns make no phenominal increase because but little life most of the year, yet they constitute the saving influence for the county. It gained in last decade but 12,677 all told while the three towns Ocean Grove, Asbury Park and Long Branch gained 15,917. Those three towns have more than 53,000 of the 94,000 in whole county and where the score and a half of other small towns add their quota, which the gentleman claims form a continuous town of 26 miles along the ocean front there can be but a mere handful left to occupy the other parts of county. No wonder poor little Freehold, the county seat, with only 3,223 people, gained in population in twenty years only 301. That's what happens to an inland town in a county whose main resources is an ocean frontage.

A Square Deal For Farmers

Note.—In the following article, the first public expression of the newly appointed Secretary of Agriculture, E. T. Meredith, will be found some good, sound advice which it is hoped our city cousins will ponder and which we know our farmer readers will be glad to read.—Editors.

I am surprised that I should have received the number of messages I have, particularly from daily papers, asking what plans I, as Secretary of Agriculture, have to reduce the high cost of living, indicating that the general feeling is that this is essentially an agricultural problem. It is, of course, related to agriculture, but no more than to many other lines of activity, and I am tempted to believe that the solution of the problem lies more in the hands of those interested in distribution and non-productive enterprises than in the hands of the farmers of the country.

Give Farmer Satisfactory Conditions

The farmers must certainly produce. They have produced and will produce—that is their business. They are on a piece measure basis, so given satisfactory conditions they will do their part, as the farmers of America have in every situation or crisis that has faced the country. But this question of 'satisfactory conditions' is a big one. It is not a satisfactory condition for the farmer to receive reduced prices for his pork, wheat, hides, while the prices of his machinery, lumber and shoes are raised. It does not conduce to a pleasant frame of mind on the part of the farmer or spur him to greater production to be obliged to sell his products for half or less than he later sees them sold for at retail. The dairy farmers of the country wonder if they are treated fairly when they receive thirty-five to forty cents for butter and see it retail at eighty-five cents. The poultry men wonder why, when they receive from forty cents to fifty cents for eggs, they retail as high as a dollar per dozen. The hog growers wonder if they are not in a 'hazardous' business when they buy fencing and all other supplies at greatly increased prices, and then see their produce fall fifty percent and sold by them at an actual loss, in answer to a demand on the part of the rest of the population for a reduced cost of living.

Scrapped Once, Bought For $10 and Repaired For $4.44.

The farmers of America are willing to assume their part of the responsibilities as American citizens in meeting any problem threatening the welfare and stability of our country, but this high cost of living problem is a mutual one, and they ask that it be approached by all the people as a common problem. They ask that those engaged in distribution eliminate the lost motion and not put so great a burden upon production as there is upon it today. In other words, they ask that there be an adequate number of producers of wealth, and this includes property and food of all kinds, and only such number of distributors as is necessary to perform the services required. They ask that the banks, railroads, wholesale houses, retail establishments, factories, all of which are vitally necessary to the farmer and recognized by him as such, be speeded up along with him, that the work now done by three men may be done, if possible, by two, and the burden of transportation and distribution be thereby lightened. If the factory executive will speed up his plant that there may be two days' labor in the supplies, machinery, or what not, that the farmer buys, rather than three days' labor, the article will cost the farmer that much less, his profits be increased, and his production stimulated, more men stay on the farm, more men go to the farm.

Put Useless Employees at Productive Work

Business men must look to the operation of their establishments, no matter in what line they may be engaged, and see that no useless employee is retained to add to the cost of distributing what the farmer now produces. Useless employees must be released from non-productive work that they may go into productive work and add to the sum total that may be distributed among all.

Let us enjoy in America as highly developed a system of distribution, and in this I include all the professions, doctors, lawyers, teachers, as well as retailers, transportation, etc., as we now have, but let us cut out the useless member, the surplus one here and there, and give him an opportunity to become a producer upon the farm, or in the factory. Let us have six-tenths of our people in production and four-tenth in distribution, that there may be six-tenths of what a man can produce each day for each of us, rather than have four-tenths in production and six-tenths in distribution, which gives us only four-tenths of what a man can produce each day for each of us. To do this, conditions in production must be attractive; farming must be remunerative and offer to a young man who engages in it an opportunity equal to that offered him should he go into a bank, railroad, wholesale or retail establishment.

Labor Must Meet Farmer Half Way

The farmer asks that the laborers in the mines, the factory, and the mills, who are also real producers along with the farmers, make an effort comparable to his to see there is just as little labor expense as possible in each article turned out by their hands, thereby helping the farmers of America, who in turn will help the laborer. This is not inconsistent with the views and desires of the loyal, intelligent laboring men, who recognize the mutual advantage of all in an honest day's work for an honest day's pay. Given this and the manufacturers, jobbers and retailers taking a reasonable profit and recognizing the harm that must ultimately come from profiteering upon the farmer, the question of the high cost of living will largely solve itself to the permanent good of all concerned.

On the other hand if the whole country, all business and all labor, does not recognize this as a common problem, and do those things which give the farmer a fair compensation for his efforts, and which make farming remunerative, pleasant and as attractive as other lines of endeavor, the conditions will not improve. On the contrary, more and more will the young men leave the farms, more and more will the older men become discouraged, and less and less will there be of farm produce to divide among the whole peaple for their sustenance, and higher and higher will go the price of that which is produced.

All Must Strive For Cheaper Distribution

Attention must be given by public-spirited citizens to the methods which tend to quicken and cheapen distribution of farm products, such as better terminal facilities, easier transfers, inland water transportation, back hauling and round-about routes eliminated. We must all interest ourselves in helping solve the problems of the farmer and furnish him facilities that will help him in his business. While such facilities must be furnished, we find on the contrary there is now being made an assault on the Farm Loan Bank, which gives the farmer money on favorable terms, without commissions, without renewal charges, finances him to carry on the fundamental activity of our country, gives him long time that he may plan ahead where necessary. The assault is made by selfish interests, and their success would, in my judgment, be a blow to agriculture in America and result in ultimate harm to all interests. But how many business men in America have recognized this as their problem, or interested themselves in the farmer's behalf? Very few, and yet they could well afford, in fact must, interest themselves in this and other problems affecting the farmer, or they will feel the reaction.

The farmers of America are willing and anxious to meet the problem of reducing the cost of living as a mutual one. They seek the cooperation, support and sympathy of the business world, and receiving it they will do their part and more. All of us working to this end are strengthening and making permanent agriculture, the very foundation of our whole structure, and therefore doing well for our country as a whole. Every person, no matter in what walk of life he may be engaged, should have a sympathetic, helpful interest in agriculture, be helpful to the farmer, and see that he gets a fair, square deal in all matters. Surely, such an attitude is an expression of the highest type of patriotism in peace.

Forms of Lime

Every year farmers who have never purchased lime realize its value in crop production and plan to use some on the oat crop or some other crop so it will benefit the clover or alfalfa which follows.

There are many forms of lime on the market and sometimes it is confusing to know which form is the most economical to buy. Some manufacturers report what are called carbonates and some report oxides while others state that their product is, for example, 98 percent pure.

As lime occurs in nature it is in the carbonate form. In this form it contains 44 percent of carbon dioxide, a gas which is of no use in soil treatment. Thus when ground limestone is bought it contains about 44 percent of carbon dioxide. The farmer must understand this and take into consideration the fact that it is the remainder or the other part called oxides amounting to about 56 percent, which corrects acidity in the soil.

THE INTERSTATE MILK PRODUCERS ASSOCIATION

Booth of the Interstate Milk Producers' Association at Trenton Farmers' Week

A great many manufacturers burn lime instead of grinding it. This is simply an addition of heat which drives off the carbon dioxide into the air. Sometimes it is caught in tanks and used in drug stores at soda fountains to produce the fizz of a soda water. Hence, when limestone is burned the product contains only oxides and all of it is active in the soil. Of course, there are some impurities in all forms of lime which must be considered.

At some manufacturing plants burned lime is treated with water. It has an affinity for water and will combine chemically with 32 percent of its weight in water. The resultant product is a very finely divided powder and contains 74 percent of oxides. It is known as hydrated lime.

A good many times magnisium is combined with calcium in limestone. When this type of stone is used the product is called calcium - magnisium lime. The magnesium oxide will correct slightly more soil acidity than the calcium oxide, is helpful to certain types of soil bacteria, and generally considered of equal value.

The economy of purchase depends on the cost of the oxides contained in any form of lime and the cost of carting and spreading after it has been received at the railroad station.

Hydrated lime and ground limestone are ready to spread when received. Burned lime must be slaked in a pile and carted to the field and spread. The cost of carting and spreading are individual problems and each farmer must make these calculations for himself.

To reduce any form of lime to the basis of oxides for comparison it is necessary to multiply the percentage of oxides by twenty to get the number of pounds of oxides in a ton. If the manufacturer reports carbonates instead of oxides then the percentage of oxides must be multiplied by 56 to reduce it to the percentage of oxides and then multiply by 20 to get the number of pounds of oxides in a ton.

Hydrated lime and burned lime are almost always reported in terms of oxides. For instance, hydrated lime usually contains about 70 percent of oxides or 1400 pounds in a ton. Burned lime usually contains about 90 percent of oxides or 1800 pounds in a ton. Ground limestone is usually reported as follows: "98 percent pure," or "98 percent of carbonates." In such a case the calculation would be as follows: 98 x 56—54.88 percent of oxides x 20—1197.6 pounds of oxides in a ton. Of course, these are only examples and ground limestone may contain as little as 75 or 80 percent of carbonates. Hydrated and burned lime also vary. This difference is caused by the presence of impurities, sand, silica, and the like, in the original rock.

When it comes to applying lime it must be remembered that these materials are of value only so far as they contain the oxides of calcium or magnesium. According to the example above burned lime would do 1800 units of work, hydrated lime 1400 units, and ground limestone 1197 units. Beside this it is necessary to consider the fineness of division of ground limestone. For quick action it must be very finely divided, at least 75 percent through a 100-mesh screen.

In each case there is some material which will do no work but which must be handled. This should be offset in the original price. One pound of available oxides will correct as much soil acidity as any other pound regardless of its source or the form in which it is sold.

It would be well to bear in mind, however, that burned or hydrated lime has a very favorable effect on the physical character of soils beside its ability to correct acidity. For example, a stiff clay soil is made more friable and more easily worked or cultivated.

Hogs Having Alfalfa Pasture and a Self Feeder Are Winners

A Satisfactory Farm Water System

Altho it has been my privilege to live in many farm homes as a Cow Tester, I can recall but a few farms on which the water supply was entirely satisfactory. There always seemed to be something wrong just at the critical moment when water was needed the most. The greatest trouble was in winter when it was especially desirable to have running water with all the consequent conveniences. Either the whole system froze up out of doors or at the best the water had to be cut off in the house every night or a lantern or some other kind of heat kept in the exposed places over night or on real cold days. It is disappointing to have an expensive equipment and not get service from it when it is needed most.

However there is a water system which is entirely satisfactory even in the coldest weather. It requires no more attention in winter than in summer. The engine is located in a suitable place just as in any other system, or if desirable a wind mill can be used instead of an engine. The source of power and the pump are exactly the same as under any other arrangement, but the water is piped into an iron tank which is located in a convenient place in the cellar, where it is no strain on the structure of the house, but lies on the cellar floor. The tank may be of any capacity so that a big reserve supply of water can be stored up. The pipe from the pump to the tank is laid sufficiently deep underground to avoid freezing and the pipes in the house are placed where they will not be exposed. Pressure to send the water thru the house is furnished by a hand compressed air pump which is easily operated and will not require two hours work a year to give as much pressure as desired. By this arrangement even when the water is low in the tank one only has to increase the air pressure without pumping more water, until it is gets very low. In this community there are two such systems in use, one operated by an engine and the other by a windmill, and neither one has had a single freeze up in three years or any other difficulty except ordinary engine trouble or the usual amount of mishaps to a windmill.

This system costs no more than any other and if it is intended to install running water in the house and out buildings it would be advisable to consider such a system Those who have water tanks outdoors or other arrangements that are not satisfactory would probably find that it would pay them in the end to consider the indoor air pressure tank that can be put in the cellar. The pleasure and satisfaction would indeed be worth while.—Paul T. Menzel, Harford County, Md.

FARM WAGES HIGHEST SINCE 1866

At no time have the wage rates of farm labor been as high in this country as they were in 1919, certainly as far back as 1866. For labor hired by the month with board, the average rate was $39.82, and among the geographic divisions the average was as low as $30.54 in the South Atlantic and as high as $62.96 in the Western. Without board, the average for the United States was $56.29, and the lowest was $44.03 in the South Atlantic States and the highest $87.12 in the Western. Extras, such as firewood, milk, etc., are not included.

In the farming operations of 1919 in this country, crops were produced that had a value at the farm 11.8 percent above the value of the crops of 1918, and animal products 9.9 percent above, but the gain in the rates of wages of farm labor from 1918 to 1919 were relatively greater. In hiring by the month, the gain was 14 percent when with board and 15.3 percent when without board; day wages in harvest gained 18.9 percent, whether with or without board, and day wages for work other than in harvest gained 18.4 percent when with board and 18.6 percent when without board.

Proper housing, proper sanitation, air and sunlight, proper conveniences, are absolutely essential to maximum results in city factories. The farmer's barn is his factory; his animals, his workers.

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PHILADELPHIA, PA., FEBRUARY 14, 1920.
VOLUME 47 NUMBER 7

Our job is to serve our readers. Whenever and wherever we can help you, write us.—The Editors.

Addition to Editorial Staff

JOHN H. VOORHEES joined the editorial staff of Pennsylvania Farmer, February first, and hereafter will lend his aid in assisting that paper to reach the high standard which the times, the public and the publishers demand it shall reach. Mr. Voorhees needs no introduction to a great many of our readers because of his attendance at Rutgers College from which he graduated in 1911, and afterwards his connection with that institution as teacher of soil fertility and as a conductor of experiments. Added to his scientific training he was manager of a 500-acre estate where he had opportunity to prove and disprove theories in farming. Preceding his association with Pennsylvania Farmer by Mr. Voorhees was Assistant Extension Director of Agriculture at Cornell University. He has written a number of treatise and pamphlets on agriculture. This training and experience gives him a first-hand acquaintance with the conditions and needs of eastern agriculture, and offers an opportunity for our readers to have helpful answers given to their questions concerning soils, crops, fertilizers, lime problems, etc.

Farm Costs

IT is doubtful if there is another single official act so much needed by agriculture now as that of determining farm costs. It is necessary if the public is to be at all well informed on the economics of agriculture so as to have the proper attitude towards it. It is not sufficient for the individual farmer to have figures concerning his farm only; he must have state and national data if he is to be most successful. For this reason it is a proper function of government to collect and disseminate information as to farm costs. An editorial in the Kansas Industrialist speaks as follows:

"Agricultural production has always responded readily to shifting economic conditions and it is the popular belief that it will do so under the present abnormal circumstances. However, there is evidence that in the readjustments which have been taking place in the last year or more, conditions have become so unbalanced as to threaten seriously the agricultural welfare and therefore the whole life of the nation. There have been two tendencies in these readjustments, one to reduce the cost of living, the other to increase the wages of labor. Either of these will result in a lowering of profits to the farmer because reducing the cost of living means reducing the price of farm products, and increasing the cost of labor means increasing the cost of producing those products.

"Agricultural production is vitally involved in the solution of the present economic problems. Definite, accurate, and reliable information is needed on the cost of producing farm products. It is not the function of the individual farmer to obtain this information. The public and the farmer must recognize that persons specifically trained are needed for the determination of the cost of producing agricultural products, the same as in the manufacturing industries. The peculiarities of the problem and the various interests involved make it devolve upon the state and federal governments to obtain the necessary information."

Repudiation

ACCORDING to press reports the Senate Agricultural Committee reported favorably the Gronna Bill which would terminate at once the Wheat Guarantee and the appropriation making it effective. A telegram from Julius H. Hines, U. S. Wheat Director, states that this was done without any investigations of the disastrous results that would follow. A threatened collapse of the wheat market followed the reporting of the bill immediately, especially in the Northeast. Owing to the inability of European countries to buy all they need because of poverty and the very high rate of exchange, the exportation of wheat is not nearly what was expected it would be, and since the crop last year was larger than home consumption demands, it is altogether probable that the price would fall if the governmental guarantee is removed.

The guarantee is a national pledge, having yet four months to run, and was accepted in good faith by the farmers and dealers during a time of great stress. The wheat was produced at great expense and much of it was held back on the farms, not for higher prices because that was impossible, but because the government thru its wheat director suggested holding back and shipping gradually so as not to congest shipping facilities. There is yet on the farms 200 million bushels and another 200 million bushels in the hands of dealers. A slump in price now, caused by a repudiation on the part of the government, would cause great loss to these holders. Such an act would be an outrageous violation of contract—one that no self respecting individual would perpetrate if he could—and farmers as well as other loyal Americans should demand the defeat of the Gronna Bill.

We cannot close this without referring to the fact that some farm leaders have been opposing the guaranteed price all along and their arguments have helped to make repudiation possible. If the bill passes and the price slump comes farmers will justly feel like kicking these chronic kickers. It is doubtful whether the proposed bill will get thru Congress, but farmers must be up and doing if they would prevent the passage of this and other harmful legislation proposed to "lower the cost of living." Almost anything seems possible these days.

Our Washington Letter

Why does legislation demanded by farmers lag? Why does it take months and months and sometimes years of discussion and hearings to get a really meritorious measure thru Congress, one which has little direct opposition and is looked upon with favor by many Senators and Representatives? These are some of the questions that are agitating the minds of the folks back home, and one reader has asked me to throw some light upon this important subject.

There is a vast deal of lost motion in Congress. Days and days are spent in hearings in order that the committees may arrive at a direct and true understanding of the farmers' desires before reporting the bill out onto the floor of the Senate and the House. If the farmers were not as often misrepresented by their misrpresentatives as they are accurately represented by their real representatives much time would be saved and more progress made in congressional action.

The other day I attended a hearing before a subcommittee of the Senate Judiciary Committee on the Capper-Hersman Bill, giving the farmers the right of collective bargaining in the sale of their products. This bill is not openly opposed by anyone. It is recognized as a much needed measure and the senators to whom it has been referred are evidently convinced that a law embodying the essential features of the Capper-Hersman bill should be enacted. And they are taking much pains to ascertain just what the farmers want.

It must be remembered that the bill as now presented, was drawn up by J. D. Miller, general consul of the Dairymen's League and other leading attorneys employed by the farm organizations, aided by men who have been actively concerned in vast co-operative enterprises and made a lifelong study of farm co-operation. All the provisions have been carefully investigated, discussed and weighed, with these objects in view: The securing of a measure which will be effective, which will have some show of passing thru Congress, receiving the President's signature and a favorable decision from the Supreme Court must be carefully and thoughtfully considered in the drafting of a bill.

At the hearing, Mr. Miller of the Dairymen's League explained the provisions of the bill and their probably effect upon farm co-operative organizations. If a senator had any doubt as to the need of the measure it was apparently dispelled by Mr. Miller's plain statement of facts and his convincing arguments in its favor. Governor Deneen, of Illinois, representing the Chicago Milk Producers' Association, made a strong plea for the bill, and Thomas C. Atkeson, Washington representative of the National Grange presented a letter from National Master Lowell, showing that the Grange membership wae solidly in favor of the proposition.

Benjamin C. Marsh of the Farmers' National Council represented himself as appearing in behalf of "several million farmers." Whether he was in favor or opposed to the bill I was unable to discover by his remarks, but I was told that he claimed to be speaking for it. He began by pointing out some of the "ridiculous absurdities" in its provisions. And then he proposed a change in the wording, which Senator Norris, chairman of the committee, pointed out would lead to such abuses as would defeat the objects of the bill. Mr Marsh made some uncalled for slurring remarks concerning the Grange and one or two other farm organizations, and then launched into a line of argument which led the chairman to ask, "why, if the statements were true, there was any need for such a bill?"

• • •

This is one reason why farmer legislation drags thru Congress, and often excellent measures never get beyond the committee rooms. They are talked to death by cranks. It is evident that the patience of even the best intentioned congressman or senator may become exhausted, after he has listened for hours to some long winded, addle-brained, would-be farmers' representatives suffering with a severe paroxysm of intellectual indigestion.

• • •

The representatives of the Farmers' National Council have been persistent in their efforts to lead Congress to believe that the farmers want government operation and ownership of railroads. A few days ago George P. Hampton accompanied a delegation of railroad brotherhood officials headed by Samuel Gompers, to the White House and representing himself as usual as speaking for the farmers, asked President Wilson to postpone the return of the railroad until government operation could be given a more extended trial.

This misrepresentation of the great body of clear-minded working farmers by the representatives of a few radicals, has aroused the indignation of several of the big farm organizations, among them being the International Farm Congress, the National Farmers' Congress, the National Grange, the American Farm Bureau Federation, the National Farmers' Union, the American Cotton Growers' Association and the National Federation of Milk Producers.

• • •

One point upon which there is general agreement is the fact that E. T. Meredith, the new secretary of agriculture, has a big man's job on his hands, and it is also quite unanimously agreed here in Washington by men who know him that he is big enough to fill it. Officials of the National Board of Farm Organizations say they expect to find that Mr. Meredith is in sympathy with the legitimate aspirations of the farmers of the nation and they express a sincere hope that his conduct of the business of the Department of Agriculture will be eminently successful.—Elmer E. Reynolds, Washington, D. C.

HARRISBURG LETTER

The Budget System.—Even if the recommendations of the State Constitutional Revision Commission, about closing its preliminary sessions at the State Capitol, do not meet the support they merit in the next session of the Legislature, the Commission has at least shown the trend of the times and the tendency of "modern thought" as regards government by providing a budget system. Final action was taken by the Commission in committee of the whole last week on a budget plan, which embraced not only the appropriations for the State government, but for charitable and educational institutions as well. Half a dozen projects had been submitted and it remained for John S. Fisher, of Indiana County, to draft the section to meet approval. It embodies a number of suggestions, including those of George Wharton Pepper, George E. Alter and Gifford Pinchot, and in addition to laying down a plan whereby the expenses of the State government may be met in a more scientific manner provides for distribution of State aid to charities on a basis of service rendered. With a liquor issue looming up in the coming State campaign it can hardly be forecast what will happen to the recommendation in the Legislature. Under the act creating the Commission it must report to the Legislature, which will decide what provisions and how such provisions as the lawmakers favor shall go to the people. The effort of the Commission has been to prevent logrolling. The report will go into the vortex of logrollers' activities. Already some of the politicians who have been observing the work of the Commission have expressed doubts as to what may happen and it is to be noted that the sessions of the Commission, while intensely interesting and marked by discussions which make the average Legislature debate sound like a kindergarten, have not been attended by many of the persons most concerned. Propositions of a radical kind have been advanced regarding appropriations, the judiciary and the principles of home rule and some have been adopted which half a dozen years ago would have been smitten on sight. It is going to take strong popular support and the influence of the State administration to get the budget proposition to the people.

Hearings Come Next.—The plan for the Commission, whose work is now the most important matter in State government, rising far above appointments to place and jockeying for the fall campaign, is to adjourn late this week for a month so that the tentative draft of the constitutional revision can be studied and used for hearings later n the spring. A month will be deoted to hearings and then more time o consideration of suggestions adnced at the hearings which will probly attract cranks as well as sensible n, and then sessions in the fall for final report. Owing to the multide of recommendations voting upon ist would be impossible and there question now whether it is necesy to call a constitutional convention whether the Legislature could not lay the report of the Commission re the people.

xation to go Over.—The chances hat the taxation problem will be over until fall. There are many estions for changes in the organic hich would make classes of taxsubjects, while State officials say the Commonwealth needs only to rce the laws it has and to check the dodgers instead of passing a of new ones on a people already burdened by federal taxes. The ude of the Commission was illused the other day by the promptness which a local income tax proviwas voted off the list.

ads Open.—The State highway dement got a test of its maintenance es a few days ago when the blizcame along. Some of the big s-State highways were snowbound a few days, while the other ben county seats were blocked. More ss difficulty in getting men out to was encountered.

ore Pay for Teachers. — State ol directors in session here during week took steps to bring the situn in regard to teachers before the lic, urging that boards take prompt s to increase salaries of teachers use if not done there will be a tage of teachers in the fall. This mean loans in some districts and increased taxes in others. A committee was named to study the conditions in districts. Incidentally, the directors suggested that the State loan money to rural districts to consolidate schools. It is evident that the old game of the State and the local districts passing the buck in regard to outlay is going to be played again.

Rural Instructors.—Substantial progress was made by the State educational authorities this week in organizing the rural educational work. County supervisors were named for half a dozen counties and more will be selected in a short time, the plan of building up the organizations through communities and thence into county units having been adopted. County farm bureaus and other agencies will co-operate.

Fertilizers Coming Strong. — The prospects are that the State will realize something like 35,000 from fertilizer licenses this year. Much activity to secure licenses is manifested and it is believed that the fertilizer sales in this State this year will reach 300,000 tons. Thus far practically no Alsatian potash has come into the State.

—Hamilton, Harrisburg, Feb. 9.

Weather Conditions. — Reports coming here tell of weather conditions approximating some of those which marked two ears ago. However, in most places ground was well prepared and continued cold weather has prevented much damage to trees. Wild life has suffered more than anything else and in some counties deer and quail came into barnyards for food. From reports at hand grain is in good condition under the snows.

Keeping Up the Checks.—Director James G. Sanders, of the State Bureau of plant industry, has been extremely busy keeping up the bars on various destructive pests. The potato wart quarantine has been stiffened in some localities and Pennsylvania put up a battle at Washington to prevent the Japanese beetle from getting into this State. Several other quarantines have been set up and Dr. Sanders is confident that with federal support and the interest of farmers and fruit growers he will be in position to head off some pests. Incidentally extended search has failed to show the corn borer.

NEW YORK LETTER

For Secretary of Education.—The women party leaders of this State are working for a new cabinet department and a woman to head it, Mary Garrett Hay, a member of the State's National Committee, has just returned from a visit to twenty-nine States in the interest of a federal department of education.

Pupils Eager to Write.—The pupils of fifteen central counties of the State are anxious to write essays on February 20th under supervision in the classrooms, in a contest put on by the War Department. Valuable cash and other prizes are offered to the best essay writers of each county as a means of stimulating interest in military training.

Western Farmers Seek New York Farms.—During the past six months some Central New York counties have had the biggest influx ever known of western and Canadian buyers of farms. Farm bureaus have been called on to give facts concerning soil productivity and crop successes, and this reliable source of information has placed many satisfied buyers. A well known real estate firm reports nearly eighteen million dollars in farm sales in thirty states in 1919, one-quarter of which were New York farms. Prices are lower here than in the West. But many make a failure of crops here for a few seasons owing to ignorance of methods and are particularly unskilled in caring for stock as it has to be cared for here.

Seed Potato Success. — Onondaga County certified seed potato growers have sold over 5000 bushels this season and were not able to fill half the orders received. The widespread epidemic of blight and fungus diseases caused western and New England growers to look to this State as never before for seed. There was already a well-established trade with southern growers in this and other counties which could not be supplied fully this year. Courtland County seed growers sold their stocks early and are having to turn down orders.

Report Profiteering. — The State's federal supervisor of fair prices asks the residents of the State to report to his office at Buffalo any examples of unjust profits in sugar or other foods, coal, or other commodities. Householders must help in this way or they will remain the victims of high prices.

Children of Cities Better Off.—In a recent survey of 500,000 children those of the cities were found to have five times better chances to live and thrive than rural children, due to lack of health supervision in the country; also to ignorance and prejudice. This should arouse farmers to the need of better health supervision. Country children have far more teeth defects and trouble with tonsils and adenoids, and also suffer more from malnutrition.

Daylight Saving.—Practically every county in the State has a resolution at State Grange this week asking for the removal of the daylight saving law from the State's Statute books. And there is a big demand for a revision of the farms and markets law to permit counties to share the management of public markets with the city and State.

Legislative Notes.—One new bill would appropriate $10,000 to aid the poultry industry of the State, to encourage poultry shows particularly. Another would appoint policewomen in cities of the first and second classes. Senator Gage has introduced a compromise health insurance bill and health officials and State leaders are willing to accept it rather than to have the whole measure fail, as it seemed sure of doing. The State Printing Board would be abolished by another bill and a new superintendent of printing, with a salary of $7500 would be appointed. There is a flood of bills designed either to strengthen or invalidate the federal prohibition amendment. These and the contest over milk matters will be the big fights of the winter. Attempts to reseat the five Socialist members have been finally given up as useless.

Fruit Counties Want Spraying Assistants.—There is a big demand for trained men to supervise the spraying of fruits. Specialists were employed last year in Orleans, Monroe, Wayne, Genesee, Ontario and Columbia counties with fine results. Albany and Duchess counties have already arranged for such men. The plant pathology and entomology departments at Cornell supervise the work. Farmers want the State to make it possible for the College to render more of this sort of service. In one vegetable growing section over $30,000 were saved to the farmers in the past three years at an outlay of only $3000 for the salary of a trained man to supervise plant disease, etc. Niagara County now has ten centralized fruit packing houses with a membership of 56. The value of the properties is $75,000 and during the past season they did a $750,000 business.

Mammoth Milk Plant.—The Dairymen's League is opening the business of an enormous centralized milk plant at Auburn, and butter and powdered milk are already being made, while buildings are under construction to make it possible for dairymen all over this State and parts of four others to send surplus milk here to be made up and marketed under the League brand at good prices. This promises to settle many vexed questions regarding the output of milk. Seneca Falls dairymen are putting up a centralized pasteurizing plant to handle their milk, which for long has gone to Rochester, Syracuse and other places at great inconvenience to producers. In the business in 1919 it was brought out State's official summary of the milk that milk manufacturers had made and sold immense quantities of powdered milk at a profit of 176 per cent. and that condensed and evaporated milk was sold at an average profit of 157½ per cent. Is it any wonder milk dealers in New York City do not care to increase the consumption of liquid milk and that they control it by high prices so that more can be made into these by-products by them? The farmers mean that they shall not be able to cry "surplus milk" all the time, as they wil ltake care of this themselves.

NEW JERSEY NEWS.

Fight Rural Counties.—A fight that promises to reach large proportions is promised shortly in the New Jersey Legislature by representatives of Hudson and Essex counties in the matter of a bill that has been prepared by a representative committee from the State Board of Education and communities in New Jersey, which has for its main purpose the increasing of the salaries of teachers in all parts of the Commonwealth. One provision of the measure would raise to 3¾ mills on the dollar a tax imposed for school purposes and the protest that comes from Hudson and Essex is born of the fact that while a large proportion of the proposed tax would be paid out of the pockets of the taxpayers there, rural counties, such as Burlington and Cumberland, would be allowed increased salaries to the teachers while paying out only one-third as much or less as the populous counties in North Jersey. Representatives of the Board of Education of the City of Newark have appeared before the committee of the State Board of Education in regard to the bill, and have entered a protest in relation to that municipality being compelled to pay so much of the tax. It is claimed that the measure intends to create a fund of about $3,500,000 for the payment of $200 per year to each teacher in the State by the State, the school districts shall also pay that amount to the teacher. School boards in the agricultural sections of the State were also attacked by one of the Newark representatives, who practically said that many of them were inefficient and that they created heavy expense in their system of operation of schools. He also urged the consolidation of schools in the rural districts as soon as possible, so as to lessen the expense of running them. Owing to the keen need of teachers in the State, many of them having entered other occupations paying more money, it is expected that Senators and Assemblymen from the country school districts, who have seen some schools closed there because of lack of teachers, will fight hard for the passage of the measure and will be bitterly opposed by members from two or three of the northern counties.

Rabbit Raising Project.—Owing to the popularity of rabbit raising in Europe and the preference shown for this kind of meat in several parts of New Jersey, efforts are being made in Mercer County to start a rabbit raising project with the idea of those participating finding both profit and enjoyment from the work. It has been stated that many boys and girls would find healthful activity in the raising of the little animals and would store up good bank accounts through the sale of them after being willed. In support of the proposed project it was also said that boys and girls would be taught the scientific care and management of these pets and that they would also be trained in the art of judging rabbits.

Farmers Aid Sufferers.—Thousands of dollars were raised in the rural counties of New Jersey in the campaign for the sufferers in the Near East, which was started the first of the present month with prominent agriculturists among the men and women of the State appointed to make the collections. Despite the fact that expenses are extremely high now in operation of farms, the tillers of the soil gave generously to the cause and greatly aided in making the drive a success.

Blizzard Hurt Farmers.—Thousands of dollars were lost by farmers by the recent blizzard in this State because they could not get milk and other products to the cities owing to the heavy falls of snow which completely blocked travel along the roads in numerous parts of New Jersey.

Influenza Still Rages.—While the rural sections of the State are not sending in alarming reports on cases of influenza, still there are a sufficient number of reports coming to the Bureau of Local Health Administration of the State Department of Health for that body to send out precautions to the agriculturists not to disregard the disease. It is claimed that the reason that this malady and pneumonia have not been violent in the rural districts is due to absence of segregation.

Kelly, Trenton, Feb. 9.

Another use has been discovered for discarded stockings: Covered with cretonne, they make good kitchen holders. And worn bed spreads may be cut up and the best portions dyed and used as covers for next summer's porch pillows.

Using This Harrow Before You Plant Saves Cultivation Later

USE the Syracuse Spring Tooth Harrow just before you plant and you will do away with the necessity of using your cultivator soon after the crop is up. You will destroy the weeds before they get a start.

This harrow's sharp-pointed, penetrating teeth work the seed bed from the bottom to the top. They tear out the underground roots, stems and weeds, bringing them to the surface. And during this weed-destroying operation, the harrow mixes and fines the soil, making the best kind of deep, mellow bed in which to plant the seed.

JOHN DEERE
SYRACUSE SPRING TOOTH HARROW

The Syracuse is non-clogging—a feature that is especially important to you. The frame between the sections has a small opening in the front that widens toward the rear—there is no loading or choking at this point.

In addition to this feature, the frames are slightly raised at the rear inner ends and the teeth are spaced so that trash naturally works toward the center and out through the opening.

Syracuse Spring Tooth Harrows have direct draft—no side motion. Frames, tooth-bar and teeth are made of highest quality steel—extra strong and durable. Teeth have no bolt holes to weaken them.

Any number of sections can be combined. You can get yours equipped with tractor hitch if desired.

You Will Want This Free Booklet It illustrates and describes the full line of Syracuse Spring Tooth Harrows. It will enable you to select the particular type you need. Write today. Address a card to John Deere, Moline, Ill., and ask for Booklet SH—439

JOHN DEERE
JOHN DEERE MOLINE, ILL.
THE TRADE MARK OF QUALITY MADE FAMOUS BY GOOD IMPLEMENTS

Only Thrifty Stock Pays Big Profit

WHETHER it's cattle, hogs, sheep or horses, the more vigorous you keep them the more money you are sure to make from them. For it's the healthy, vigorous cows that produce the great quantities of the best milk. It's the sound, good-conditioned steers that put on the pounds of beef. It's the well, sturdy horses that can do the big day's work.

You'll make sure of thrifty stock by giving them

Pratts Animal Regulator

AMERICA'S original and guaranteed stock tonic and conditioner. It sharpens the appetite. It improves the digestion. It regulates the bowels. It makes rich, red blood. It makes the stock more thrifty and vigorous—and more profits for you—every time.

"Your Money Back if YOU Are Not Satisfied"

Sold by 60,000 dealers. There's one near you.

Write for Pratts NEW Stock Book—Free

PRATT FOOD COMPANY
Philadelphia Chicago Toronto
Makers of
Pratts Poultry Regulator, Pratts Baby Chick Food
Pratts Roup Remedy, Pratts Lice Killers

Packed in bags, pails and handy packages.

Pratts

THE PENN ESTHER

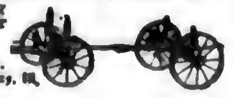
Range will meet all the requirements of the "Pennsylvania Farmer" satisfactorily.

We have catered to the farm trade for 25 years. Ask your dealer. Send for Booklet Free.

MT. PENN STOVE WORKS
Reading, Penna

Free Catalog in colors explains how you can save money on Farm Truck or Road Wagons, also steel or wood wheels to fit any running gear. Send for it today.

Electric Wheel Co.
66 Elm St., Quincy, Ill.



CURRENT LIVESTOCK FIGURES

A slight increase in the number of milk cows and mules and a moderate decrease in the number of other cattle (calves, steers, bulls, and cows not for milk), horses, sheep, and swine are the outstanding features of a survey of live stock on farms and ranges of the United States on January 1, as compared with a year ago, made by the Bureau of Crop Estimates, United States Department of Agriculture.

Milk cows have increased about 272,000 head, or 12 percent; mules increased 41,000 head, or 0.8 percent; "other" cattle (as designated above) decreased 700,000 head, or 1.6 percent; horses decreased 373,000 head, or 1.7 percent; sheep decreased 251,000 head, or 0.5 percent; and swine decreased 1,675,000 head, or 2.2 percent.

The estimated number of animals on farms and ranges January 1 are 21,109,000 horses, 4,995,000 mules, 23,747,000 milch cows, 44,385,000 other cattle, 48,615,000 sheep, and 72,909,000 hogs. The total of all animals is 215,760,000, which is 2,686,000 head, or 1.2 percent, less than a year ago.

The total value of all farm animals on January 1 was about $8,561,000,000, which is a shrinkage of $266,000,000, or 3 percent, compared with a year ago. It is an interesting observation that mules and milk cows which increased in numbers also increased in value per head; whereas all other classes of animals decreased in value per head, as well as in total numbers.

PAINT PAYS FOR ITSELF

It is false economy to be too sparing with paint. Lumber is expensive. Paint improves the appearance of buildings, but more than that, it adds materially to their permanency. Once the building is neglected it is much more difficult to stop the deterioration.

The surface to be painted should be dry, clean, smooth, and free from frost. It should be dry and clean, for oil will not penetrate where there is moisture or grease. It should be smooth in order than an even coat may be easily applied. It should be warm enough to allow the oil to penetrate and bind the pigment to the surface painted. In considering the cost of painting it is often estimated that a gallon of paint will give two coats to 250 square feet.

Farm machinery, too, looks better when painted and it lasts much longer and gives more satisfactory service if painted before the wood has checked or decayed.—Minnesota News Bulletin.

NEW CHIEF OF MARKETS

George Livingston has been appointed chief of the Bureau of Markets, United States Department of Agriculture, effective January 27. He has been acting chief of the bureau since July 1, when Charles J. Brand resigned.

Mr. Livingston is a native of Ohio, and is 34 years old. He was educated at Ohio State University, Cornell, and the University of Halle. He was instructor in farm crops, Iowa State College of Agriculture and Mechanic Arts in 1909 and 1910 and taught agronomy in Ohio State University from 1911 to 1915. During 1914 and 1915 he was acting chief of the department of agronomy, and at the same time was associate agronomist of the Ohio Agricultural Experiment Station.

AFETY IN HANDLING DYNAMITE ON THE FARM

There are several points which should be brought to the notice of all users of dynamite. The idea that the slightest shock or jar, such as dropping a stick of dynamite on the ground, will cause it to explode. This is not true. In fact it is practically impossible to explode ordinary twenty or forty percent Ammonia dynamite without a cap. On the other hand, caps are much more sensitive and should be handled as carefully as possible, and always kept away from any place where their accidental explosion might put off a quantity of dynamite.

It is said that "dynamite won't explode from heat. You can burn it without its exploding." This is true in probably ninety-five percent of cases, but in the other five it does explode from heat or fire. You never know when your case may be one of the five percent. Therefore, NEVER thaw dynamite in front of a fire, in the bake oven, or on a boiler.

Another bad method of thawing, commonly used, is to place the dynamite directly in hot water. This causes the Nitro-Glycerin in the dynamite to come out into the water. You lose strength from the dynamite and may have an accident from the Nitro-Glycerin sticking to the pail.

There is no necessity or excuse for a farmer taking chances on any of the above methods. On the average farm there is a pile of horse manure in which the box may be buried over night, and when you desire to use the explosive in the morning it will be thoroly and safely thawed. If this method is not practicable, a wash tub may be half filled with water (not too warm to place your hand in it) and the dynamite placed in a dry pail or pan which may be set in the water and covered with an old piece of carpet.

The greatest number of accidents come from carelessly leaving caps around the house or barn where children get hold of them. Put the caps where the children cannot get them. The old hardened blaster often crimps the caps into the fuse with his teeth—yet, there is no better way to lose your head or a piece of your jaw. A knife or pinchers is equally dangerous. Use a crimper! It does not cost much and is absolutely safe, and always carry them in a box or basket in which there is soft material.

When you take your explosives out o the field, it is best to carry the aps and dynamite in separate boxes. Use a dynamite case or similar ox fitted with a handle. On the outde of it nail a thick strip slotted hold your knife and crimpers. rry the caps in a separate box th a tight lid. Then don't smoke ile blasting.—If you observe the ve precautions you will avoid acnts.

STEER FEEDING SHOWS RESULTS

In a steer-feeding experiment conucted last year on the Government arm at Beltsville, Md., four lots of ear-old steers were fed. The pure was to compare cottonseed meal soaked velvet beans when used h and without the addition of lled corn.

The addition of corn to a ration nposed of corn silage, cottonseed al, and wheat straw did not pay. addition of corn to the ration of vet beans and corn silage was fitable.

A Worn-Out Spreader
If Not Replaced, Will Some Day Mean
A Worn-Out Farm!

NO other implement ever paid you such handsome returns as that old, worn-out spreader of yours. Yet to continue its makeshift use is mighty poor economy. If it is time-worn to the point where frequent repairs are needed, scrap it—and get in its place the famous, combination manure-and-straw, wide spreading

NEW IDEA Registered U S Pat Off
The Original Wide Spreading Spreader

(Known in the West as NISCO)

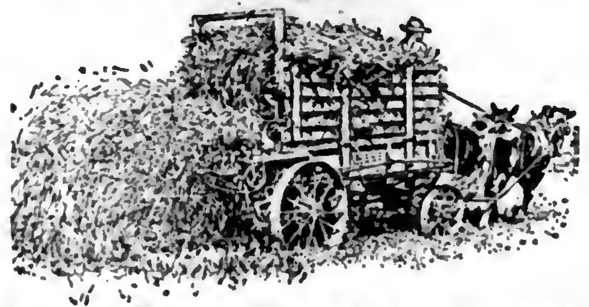
The New Idea perpetuates farm prosperity. It makes spreading of manure, lime or straw, easy, thorough and most highly profitable. It will earn far more than your old spreader—in bigger crops through better fertilizing. And it will pay its cost twice over by saving time, labor and repairs.

Many important, patented features of construction and operation make New Idea the known leader. It has no gears. No complicated parts to break or get out of order. Built low down; easy to load. And its light draft lets you heap it thirty inches high and still have an easy haul.

Thorough, Uniform Spreading

An endless chain brings every scrap of manure to the big revolving shredders and patented distributing paddles. These spread it in a fine, even blanket, well outside the wheel tracks. Control at seat lets you spread any quantity—3, 6, 9, 12, or 15 loads per acre.

Dealers everywhere sell the New Idea Spreader. Farmers, County Agents and highest agricultural authorities endorse it. Plan to see the New Idea dealer in your town without delay. Ask him for a free copy of valuable booklet, "Feeding The Farm."



Straw Spreading Attachment

At small cost, you can get this one-man attachment for new or old machines. Handles a big load. Shreds the straw fine and spreads it wide. Gives you two machines in one. Easily set up or detached. Puts a new money value on your straw stacks.

NEW IDEA SPREADER COMPANY,
COLDWATER, *"Spreader Specialists"* **OHIO**

BRANCHES IN THE FOLLOWING CITIES:

HARRISBURG, PA.
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MINNEAPOLIS, MINN.
OMAHA, NEBR.
PEORIA, ILL.
SYRACUSE, N. Y.
COLUMBUS, OHIO
KANSAS CITY, MO.
JACKSON, MICH.
WATERLOO, IA.
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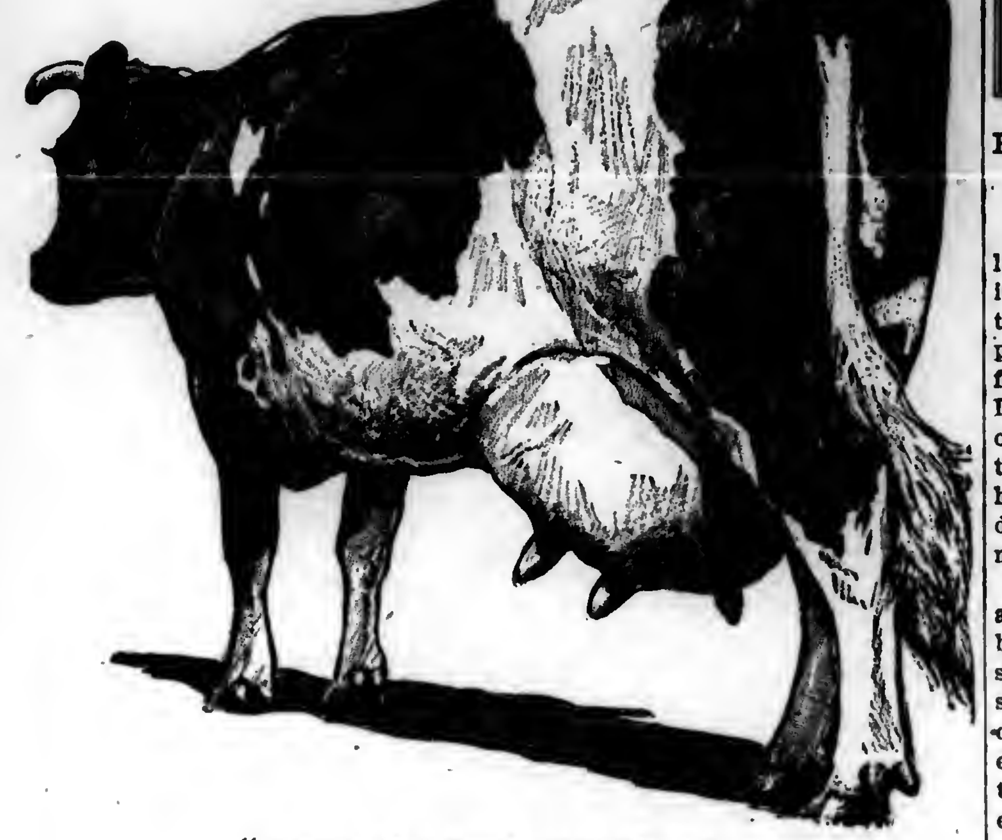


"Dairy Maid Butter Girl Second"
Record: 104 lbs. milk in one day; 30 lbs. butter in seven days
Owned by Jenningshurst Stock Farm, Towanda, Pa.
Fed on TI-O-GA Dairy Feed.

What Is the Cow Worth?

This depends on what she has done and what she IS—for these determine what she is still capable of producing.

With what she produces during the present milking period, should be considered her capacity to produce a strong, healthy calf and an equally profitable milk yield during the next milk producing period. Of what use are a few dollars profit from milk production if the value of the cow is impaired to a greater extent?

TI-O-GA Feed Service fully provides for ***maintaining*** the physical condition and producing capacity of cows by preparing feed mixtures which will maintain at all times perfect balanced rations and utilize the home-grown roughages which they conserve, and with which they are intended to be used.

Red Brand TI-O-GA Dairy Feed to be fed with ensilage, pasturage, green fodder or low protein roughage.

White Brand TI-O-GA Dairy Feed to be fed with medium protein dry roughage.

Blue Brand TI-O-GA Dairy Feed to be fed with high protein dry roughage.

Full feeding instructions and classification of roughages will be found with every bag of **TI-O-GA Feed.** Every bag is guaranteed satisfactory when fed as intended.

Inquire of your dealer. Book on **TI-O-GA Feed Service** containing valuable information on feeding and conservation of home-grown feeds sent free on request.

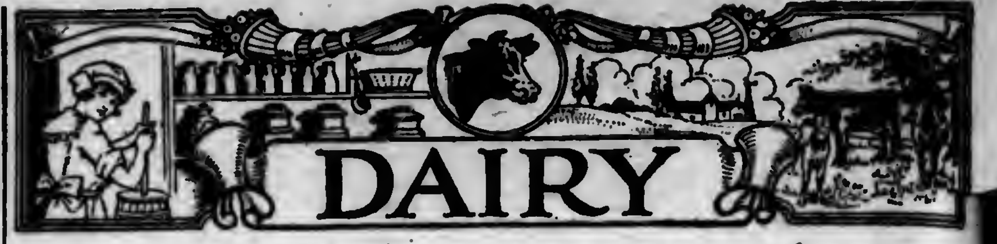
TI-O-GA
DAIRY FEED

The same careful service is furnished in the preparation of:

- TI-O-GA Brood Sow and Pig Feed.
- TI-O-GA Growing Shoat Feed.
- TI-O-GA Fattening Hog Feed.
- TI-O-GA Chick Feed.
- TI-O-GA Growing Mash.
- TI-O-GA Growing Grains.
- TI-O-GA Laying Food.
- TI-O-GA Poultry Grains.
- TI-O-GA Calf Food.
- TI-O-GA Horse Feed.
- Colonel's Ration (Full feed for Horses).

Tioga Mill & Elevator Co.
Waverly, N. Y.

TI-O-GA FEED SERVICE



DAIRY

RECENT DEVELOPMENTS IN EASTERN DAIRYING

The dairymen of New York are launching an enterprise in their own interests of a magnitude that is astonishing the public. Determined to provide a market for surplus cream for the 90,000 members of the Dairymen's League that covers parts of five states and all of New York, the officials of that organization have been quietly working towards a definite plan to revolutionize the milk industry.

Because of its centralized location and its railroad service, and also because the dairymen of that section showed unusually good business sense in their desire to cooperate, the city of Auburn, N. Y., has been chosen for the establishment of one of the largest milk industries of the east.

The Cayuga County Dairymen's League Co-operative Association has a newly completed dairy plant which has been operating for several weeks. The League took the contract of equipping the plant with the best modern machinery and of managing the new business to demonstrate the possibilities of such a farmer-owned plant. It was the first plant of the kind in the state to be ready to do business, tho Syracuse is soon to complete a similar one—and other large plants are under construction.

This week the heavy snow fall and wind storms demanded emergency action if milk was to be saved from wasting— as the railroad company could not be depended on to deliver milk to New York owing to snow blockades.

So stockholders and League officials had a conference with James R. Hapmaker, of Pennsylvania, owner and inventor of a new process for making powdered milk. Two new machines were brought by auto trucks from Knoxville over roads that made the feat seem impossible, and in a few days they were installed under the personal supervision of the inventor, who was greatly interested in seeing that these trial machines did all that was expected of them. There has not been a hitch in their operation and all concerned are elated. Continuous day and night service will be required of these machines, which take care of the milk of 1400 cows daily, until more can be installed.

There was great interest in this new process of making dry milk, which is different from most others, making natural milk into dry form, boxed ready for shipment in ten seconds.

But there was more interest when it was announced that ground was already broken to erect other buildings here for the purpose of making this a centralized butter plant to take care of the surplus milk of the patrons of the entire League membership, which is approaching 100,000 dairymen. It is found that during the past two weeks two huge churns have been installed and butter experts arrive today and will give their first attention to preparing these for the work of butter making. Before the week is over butter will be turned out by day and night shifts.

An effort will be made to produce butter of extra quality, and this will be advertised and sold under the League name. The plan marks one of the most progressive steps dairying has ever taken.

It is possible that a bigger business than even the League anticipates may develop as the plan of shipping cream is one that appeals to many dairymen, who now do not do this as the nearest cream buying concerns are in Buffalo or Pennsylvania or other states. This would be nearer the milk centers and most attractive in its possibilities. If whole milk is sent it will be separated, the cream churned, and the skim milk made into powdered form. But many dairy farmers prefer to feed the skim milk as equally good returns are received by that method, while the convenience and labor in shipping cream but once or twice a week is much less than that of shipping milk daily, especially now that dealers are going to force all farmers to use ice to cool the milk to 50 degrees Fahr.

It is amusing to read the concern with which Governor Smith's "Fair Price" milk commission views the great quantity of powdered milk several milk dealers of New York are making and exporting, and their recommendations towards prohibiting its manufacture. They quote one firm only that has made up 50,000 quarts a day, exporting 85 to 95 percent of its product, and another that, in 1919, made 240,000,000 pounds of condensed milk and exported 25 percent of it. They view this with alarm and want to put a stop to it.

They did not inquire into the profits attending such manufacture of milk by-products, so far as the public is able to learn. But the State Council of Farms and Markets in a summary of the milk, butter and cheese and other milk by-products of the State of New York in 1919 says that the profits on the manufacture of condensed and evaporated milks was 157½ percent. On the manufacture of powdered milk there was an average profit of no less than 176 percent—these profits being based on the average prices paid the farmers or $2.65 per 100 pounds.

Is it any worse for farmers to make up their own surplus milk and receive some of these profits to enable them to make up on what they lose in selling liquid milk at the prices they are forced to? The dealers are all the time crying that they are handicapped by surplus milk, that this keeps the prices to the farmers down—while they turn around and make this surplus into by-products that double their money more than once and half times. It is time the farmers took a hand. And if the "Fair Price" committee could see anything in the subject but what the politicians want them to see they would see that the best way to protect the consumers of whole milk in whose interests they are supposed to be working, would be to see that farmers are paid a fair price for their milk, one that will not make it an object to them to sell their cows, or to go into the manufacturing of milk by-products. These two things are the farmer's only refuge in order to continue in the business. If he can't have one he will the other.

February prices to the farmer are to drop half a cent, yet the consumer will be required to pay the dealers

e January prices. All dairymen are greed that both January and Feb-uary prices to them were below cost f production and this is proven by a olume of figures of Rochester dairy-men taken by Dr. Charles E. North, a New York city official who is willing to give producers a chance to show their figures and tell of real conditions. These figures were taken a year ago when the price to farmers was higher than now, and when feed was cheaper.

Instead of giving the producer a fair deal there is a move to make a political matter of the entire milk industry, which dairymen as a body must fight in the present session of the Legislature with all the concerted powers at their control. Also there is another move to repeal the present agricultural law which provides respectable indemnity for cattle loss from tuberculosis. And the old fight to continue hurrying the dairymen by selling them worthless adulterents as cattle feed at enormous prices will be renewed, and successfully if the city members of the Legislature have their way. There is a growing class hatred between city and farmers that is working much havoc.

The butter situation promises still lower prices on wholesale milk, unless importation is restricted. Last week so much Danish butter was dumped in our markets that the price dropped 4 cents. After it was gone the price rose 2 to 2½ cents. This will doubtless not last as more Danish butter, in 125 lb. casks is expected daily.

A prominent New York dairyman, George R Fitts, of Tompkins County, president of the Dairymen's League of that county, also of the county's Farm Bureau Federation, was chosen this week by a general state conference of agricultural leaders as the farmer candidate for a position on the State Fair Commission. The State Grange will endorse the selection next week. The agricultural interests of the state demand recognition on the board as being justly entitled to recognition in a state whose leading industry is agriculture. Dairy is the state's leading branch of agriculture and dairy interests are wise in naming the man they have whose successful farming and whose good judgment and business experience qualify him for the position.

Farmers must be on the defensive all thru the Legislative session this winter, being obliged to thresh out the project of making the milk business a public utility. Every dairyman is opposed to this who has considered the political dangers of such a course and the loss of the right to say what he shall do with his own products by the farmer. Every farm organization in the state is opposed to the proposal and prominent members of the State Council of Farms and Markets have published their disapproval of the plan.—M. G. F.

The home depends on the farm, r the farm business determines the ooks, education and equipment in he home; the farm depends on the ome, and can succeed only in pro-ortion to the co-operation it gets rom the home.

A new ensilage machine is to be t on the market that prepares the rn for the silo as it cuts it in the ld. Wanted: A mechanical milker at will make butter and feed the lves while it milks the cows!

Last winter furnished the excuse r an empty ice house the past sum- r. It will be hard to blame a simi- condition next summer on the nter of 1919-1920.

Full Cans of Rich Milk

A 400% Increase In This Cow's Yield

Your dairy profits depend on three things—yield of milk, the percentage of cream and the cost of your feed. Labor cost enters into it, but that is pretty well fixed. Cut feeding costs. Get more milk. Read how Mr. Iliff increased the yield of a cow 400% with

Happy Cow Feed

24% Protein

We have a letter from Mr. R. P. Dunlap our New York representative in which he tells us about the wonderful experience of Mr. Iliff, a feed dealer who has a large dairy herd. The letter is as follows:

"Mr. Iliff told me yesterday that on one of his farms he had a fine cow that freshened about August 1st. On a ration made from brewers grains, gluten and wheat feeds with linseed meal, she gave 10 quarts of milk per day.

"She was then switched to "Blank's Dairy Feed" but showed no improvement. Then she was changed to another well known dairy feed without showing any increase. The herd manager suggested that she be sold as unprofitable.

"Mr. Iliff insisted on a trial for thirty days with Happy Cow Feed, gluten and ensilage. Beginning October 15th, she was fed a ration of three parts Happy Cow Feed, one part gluten and what ensilage she would eat. He soon brought the cow's production up to 40 quarts per day.

"This cow is now maintaining an average of 38 to 40 quarts per day with an average of 3.40% butter fat. I believe this is correct as a dealer does not usually go out of his way to boost a feed."—Name and address of Mr. Iliff furnished upon request.

This is just an example of the happy results obtained by feeding Happy Cow Feed. You can feed it as a straight ration or use it as a concentrate to balance other things if you wish. It is the most economical feed you can buy.

Happy Cow Feed is composed of wheat bran, cottonseed meal, cocoanut meal, velvet bean feed, unhulled peanut oil feed, rice bran and alfalfa meal. It is palatable and highly digestible—good for your cows.

Feed Happy Cow Feed and increase your milk profits. A progressive dealer in your community may be able to supply you, but if there is no dealer in your town, write us for the name of a nearby dealer who can promptly meet your needs.

HAPPY COW FEED

DEPT. 151
Edgar-Morgan Co., Memphis, Tenn.

Facts in BLACK & WHITE

Selling Purebred Holstein Cattle is Profitable

Do you realize that purebred Holstein calves bring a very liberal price? Every day this breed is becoming more and more known. Breeders are telling the public about the value of the milk. The demand today for purebred Holsteins is greater than the supply. Here is opportunity for you to get rich. Hundreds of calves every year are sold from $100 to $200 apiece. With plenty of food and ordinary care these cattle will average from 350 to 500 lbs. of butter per year. Can you see opportunity here? Remember, "Holsteins are the most profitable cattle."

Send for Free Illustrated Booklets.

THE HOLSTEIN-FRIESIAN ASSOCIATION
218 Hudson Street
Brattleboro, Vermont

BARN PAINT $1.22 PER GALLON Get factory prices on all paints. We guarantee quality. We pay the freight. Franklin Color Works. Dept. 16 Franklin, Ind

As low as $10

$10,000.00 Backs This Hertzler & Zook Portable Wood **SAW**

Our No. 1 is the best and cheapest saw made to which a ripping table may be attached. Guaranteed 1 year Money refunded if not satisfactory Write for catalog

Hertzler & Zook Co., Box 29 Belleville, Pa.

No. 8

ORNAMENTAL FENCE

6 Cents per Foot and up. Costs less than wood. 40 designs. All steel. For Lawns, Churches and Cemeteries. Write for free Catalog and Special Prices. Kokomo Fence Machine Co. 42 North St., Kokomo, Ind.

Cherry, Pear, Plum and Apple Trees, 20 cents each postpaid. Write for special prices of Strawberry and Raspberry plants. Send for 1920 catalog. ALLENS NURSERIES. GENEVA, OHIO

Seed Oats Choice Swedish Select and Big Four Seed Oats testing 40 to 43 pounds. Price $1.50 per bu., bags extra at 20c each. THE HORN BROS. CO., MONROEVILLE, OHIO

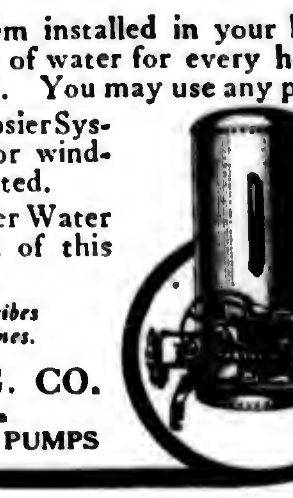
Plenty of Water for every household need

A Hoosier System installed in your home will provide plenty of water for every household and farm need. You may use any power for operating a Hoosier System, electric motor, gasoline engine, or windmill. Easily installed. Easily operated.

The convenience afforded by Hoosier Water Service warrants your investigation of this modern home equipment.

Write today for Bulletin F which describes water supply equipment for farm homes.

FLINT & WALLING MFG. CO.
Department F Kendallville, Indiana
STAR WINDMILLS HOOSIER PUMPS



DE LAVAL
CREAM SEPARATORS
are the cheapest
as well as the best

This is the unanswerable argument in favor of the purchase of a DE LAVAL Cream Separator.

Everyone wants the best, provided its cost is within his means. Fortunately a DE LAVAL costs but little more than an inferior cream separator and saves that difference every few weeks.

Moreover, an inferior separator wastes in time and labor, and in quantity and quality of product what a DE LAVAL saves, and goes on doing so every time it is used, twice a day every day in the year.

If you doubt this is so, try a new DE LAVAL alongside any old machine you may be using or other make of separator you may have thought of buying. Every DE LAVAL agent will be glad to afford you the opportunity to do so.

If you don't know the nearest De Laval agent, simply address the nearest De Laval main office, as below

The De Laval Separator Co.

165 Broadway, NEW YORK — 29 East Madison Street, CHICAGO — 61 Beale Street, SAN FRANCISCO

50,000 Branches and Local Agencies the World Over

WITTE ENGINES
Gasoline-Kerosene
2 to 30 H-P.
Stationary and Portable, can now be ordered with
STANDARD BOSCH H. T. IGNITION
Write for latest Direct Factory Prices on all styles WITTE—with Bosch Standard Magneto—High Tension—the only Ignition for Kerosene. SAVE $15 TO $500 BUYING DIRECT. Catalog FREE.
Witte Engine Works 2046 Oakland Ave., Kansas City, Mo.
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FREE Our Big Silo Book
We have just completed the biggest and most interesting book on silos ever published. We want to send every farmer a copy of this book, free and postpaid, because it tells all about
NAPPANEE SILOS
and their 25 points of superior merit, such as our Perfect Splice, Storm Proof Anchors, Hip Roof that gives more room, safe and sane ladder, real man sized doors, etc. If you want to know more about the most serviceable and economical wood silos made, get this FREE book.
Nappanee Lumber & Mfg. Co.
Box 43 Nappanee, Ind.

PIPE second hand. Large stock all sizes furnished with new threads & couplings. Prompt shipment. J. F. Griffith, 416 Meyer St., Phila

HAY
W. D. POWER & CO., 601 W. 33 St., New York, are the largest handlers of commission hay in greater New York; if you have hay to dispose of communicate with them.
HAY

MOLASSES Richest Feed Lowest Cost Write For Special Price
Philadelphia Molasses Company, 1655 Beach St., Philadelphia, Pa.

HAY Ship To The Old Reliable House Daniel McCaffrey's Sons 823-825 Wabash Bldg., Pittsburgh, Pa.

More Milk and Easier Milking!
—Care of the Udder Insures It.

It is impossible to obtain a maximum milk-flow from an udder that is not entirely healthy both inside and out. The slightest hurt or congestion will interefere with the delicate milk-secreting process, and at once reduce the production of an otherwise healthy cow.

Bag Balm has the soothing, healing, and penetrating qualities needed to make the tissues and surface of the udder soft, smooth and pliable—easy to milk and encouraging production to the last ounce.

A little care pays big returns; keep Bag Balm on hand and insure against milk losses and disagreeable milking. Especially valuable in treating Caked Bag, Cow Pox, Chaps, Bunches, Wounds and any inflammation.

Sold by druggists, feed dealers and general stores, in liberal 60c packages. Be sure to obtain a package at the first opportunity. It's a little wonder-worker in any udder trouble. A great remedy at the calving period, when so many abnormal udder conditions arise.

DAIRY ASSOCIATION CO., Lyndonville, Vt.

BAG BALM
MADE BY THE KOW-KURE PEOPLE

YORK COUNTY TESTS

The York Valley Cow Testing Association completed its second month's work January 28th. Two hundred and forty-eight cows were on test during the month and 51 of these disqualified for the honor roll.. Nine cows produced over 50 pounds of fat for the month. Four of these produced over 60 pounds and two over 80 pounds.

The following men had one or more cows on the honor roll for the month: J. A. Poorbaugh, York, 5; A. G. Emig & Sons, Hellam, 2; H. N. Forry, York, 2; Isaac Rishel, York, 4; W. A. Gross, York, 2; Norman E. Rishel, York, 5; Elmer E. Lauer, Dover, 3; John E. May, Dover, 2; G. Allen May, Dover, 2; John L. May, Dover, 1; J. Raymond Arnold, Dover, 3; J. C. Smith, Dover, 2; F. L. Krall, East Berlin, 2; P. A. Smith, Wellsville, 1; O. W. Breneman, Lewisberry, 1; M. Pentz, Dillsburg, 2; C. E. Cook, Dillsburg, 2; Glen M. Stough, Dillsburg, 2; E. L. Stough, Dillsburg, 2; H. E. Robertson, York, 3; John L. Reisinger, York, 4.

The ten highest producing cows for the month are as follows:

John L. Reisinger, Reg H.	2216	3.9	86.4
Norman E. Rishel, Gr. H.	2486	3.3	82
J. A. Poorbaugh, Gr. H.	1590	3.8	60.4
John L. Reisinger, Gr. H.	2074	2.9	60.1
H. E. Robertson, Reg. H.	1832	3.2	58.6
H. E. Robertson, Reg. H.	1750	3.3	57.8
J. A. Corbaugh, Gr. H.	1435	3.8	54.5
John L. Reisinger, Reg. H.	1553	3.4	52.8
Elmer E. Lauer, Gr. Durham	904	5.8	52.4
Norman E. Rishel, Gr. H.	1218	4.1	49.9
Average of 10 highest cows	1705.8		61.5

—Geo. G. Weber, Sec. and Co. Agent.

a year. This is the bull made notable by Jimmy Dodge, who says he has more daughters in the Registry of Merit than "any other bull, living or dead." The college bull traces to Sophie'se Tormentor twice thru his grand dam and once thru his grand sire. His dam is Eva Forfarshire, 244885, who has a record of 9,287.1 lbs. milk and 492.56 lbs. fat at the age of 3 years, 3 months. Her present record is 10,172 pounds milk and 519.47 lbs. fat, finished when she was six years and five months old, and making her a class AA cow in the Registry of Merit.

BIG PRICES PAID

That dairymen are strenuously trying to improve their herds is shown by the high prices paid for purebred stock. According to published reports in the Guernsey Breeders' Journal twenty-nine Guernsey sales were held during the calendar year 1919. A total of 1309 Guernseys sold for $715,748, or an average of $546. Two hundred thirteen bulls averaged $470 and 1096 cows averaged $561. Corresponding figures for 1918 show that in thirty-eight sales 1318 Guernseys were sold for an average price of $330. Seven hundred thirty-seven females averaged $386, 167 bulls averaged $284, and 414 unclassified Guernseys averaged $252.

"Lime Ridge" 169539, Lately Purchased by Penna. State College

NEW JERSEY BULL AT PENNA. STATE COLLEGE

Lime Ridge E. F. Torono, 169539, is a young bull recently purchased by the Dairy Department of the Pennsylvania State College to head the Jersey herd at that institution. His aristocratic lineage well fits him for the position. His sire is Hood Farm Figgis Torono, 90517, who has 15 daughters in the Registry of Merit, one of his daughters, Lime Ridge Lady, having produced 10,290 lbs. milk and 503.52 lbs. fat in a year at the age of 3 years, 5 months. Another, Wyndwold Lass 2nd, has a record of 10,250.4 lbs. milk and 487.48 lbs. fat when only 2 years and 2 months old. The grand sire of the young college bull is the famous Hood Farm Pogis 9th, 55552, sire of 25 producing sons and 79 Registry of Merit daughters, five of which have an average production of 13-769.3 lbs. milk and 719 lbs. fat in

THE GROWTH OF THE GUERNSEY HERD REGISTER

It is rather significant that on New Year's Day 1920 the total number of registration of Guernsey cows should have passed the one hundred thousand notch. On that day there were 100,000 cows and 61,411 bulls in the Register. This makes a total of 161,420 animals.

On May 16 1894, when the office was turned over to the present Secretary's care, there was a total of 11,060 animals registered. This means that 150,360 registrations have been made in 25 years.

During 1919, a total of 18,118 Guernseys were registered. Of these, 7,111 were bulls and 11,007 were

cows. The number of bulls registered in 1919 is almost double the total number registered for the first seventeen years of the club's existence, which was 3,708, and is more than 150 percent of the number of cows in the same period, which was 7,352.

A closer analysis shows that during the last six years the Herd Register has more than doubled itself, 33,664 bulls and 50,971 cows having been registered.

In this connection it is of interest to note the growth of the Guernsey Herd Register as compared to the growth of the Herd Register of one of the other leading dairy breed associations. Available statistics show that up to 1890 a total of 7,620 Holsteins and 1,196 Guernseys had been imported. Holstein importations ceased in 1890, but the Guernsey importations continued on a small scale until 1909, and, with the exception of two years, after that date, from 500 to 1,100 head were imported each year. The total number of Guernseys imported up to the end of December, 1919, was 11,177, and the Holstein mark of 1890 was not passed until 1914.

The annual registrations in the Holstein Herd Register decreased slightly for five years after the seed stock was imported, but the decrease was followed by an increase which has gathered momentum each succeeding year. The fact has already been stated that there has been a tremendous increase in Guernsey registrations during the last six years, and even if we were to eliminate the animals and their descendants imported since the Holstein mark was passed we would still find a constant increase.. There is no question but that the rapid increase in Holsteins is due to the many merits of the breed, added to the early introduction of seed stock, and the history of the past points to an even greater increase in the Guernsey breed.

"BUILD A SILO"

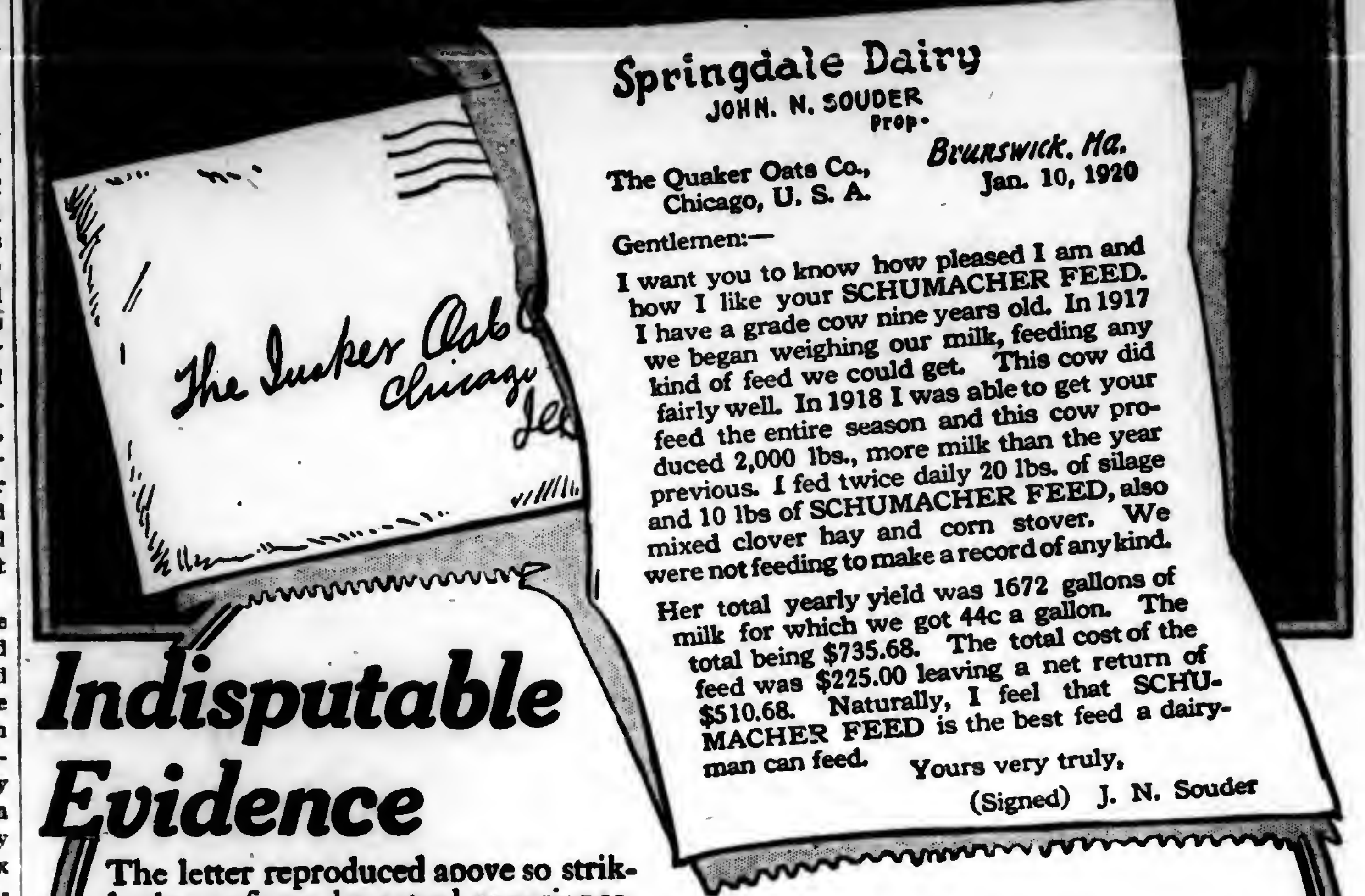
If you want to save on feed,
　Build a silo.
It will help in time of need;
　Build a silo.
Build of concrete if you would:
Build of brick or build of wood.
Build of anything that's good,
　But build a silo.

Dairy feeds are soaring high,
　Build a silo.
Summer seems a goin' dry;
　Build a silo.
Cows, too, go dry on hay,
Sort of seem to fall away,
They need silage every day,
　So build a silo.

Pasturage costs quite a heap,
　Build a silo.
Winter feeds are never cheap,
　Build a silo.
uild it wide and build it deep,
Cording to the cows you keep,
nd for milk you'll never weep,
　So build a silo.

at's the burden of my song,
　Build a silo.
you've cows you can't go wrong,
　Build a silo.
lk will flow and smiles will come,
th the separator's hum,
you'll shout, "I'm glad, by gum,
　I built a silo."

Water, says an Illinois philosop-
, is one of Nature's most lavish
cheapest gifts to the human
ily and should be employed with-
stint, internally, externally and
rnally.



$735.68 Milk From
A Grade Cow in One Year

Springdale Dairy
JOHN. N. SOUDER
Prop.

The Quaker Oats Co.,
Chicago, U. S. A.

Brunswick, Ma.
Jan. 10, 1920

Gentlemen:—

I want you to know how pleased I am and how I like your SCHUMACHER FEED. I have a grade cow nine years old. In 1917 we began weighing our milk, feeding any kind of feed we could get. This cow did fairly well. In 1918 I was able to get your feed the entire season and this cow produced 2,000 lbs., more milk than the year previous. I fed twice daily 20 lbs. of silage and 10 lbs of SCHUMACHER FEED, also mixed clover hay and corn stover. We were not feeding to make a record of any kind.

Her total yearly yield was 1672 gallons of milk for which we got 44c a gallon. The total being $735.68. The total cost of the feed was $225.00 leaving a net return of $510.68. Naturally, I feel that SCHUMACHER FEED is the best feed a dairyman can feed.

Yours very truly,
(Signed) J. N. Souder

Indisputable Evidence

The letter reproduced above so strikingly confirms, by actual experience, the facts we have been telling dairymen and farmers about SCHUMACHER FEED, particularly as a feed for producing MAXIMUM MILK PRODUCTION and keeping cows in "fine fettle" throughout long milking periods, that it needs little additional comment. It tells what was fed—how fed—the cost and the net returns. Bear in mind this was a ***grade cow 9 years old*** and no special effort was made to make a record. It is INDISPUTABLE evidence that

SCHUMACHER FEED

is a feed you cannot afford to overlook. Check up your cows—your feed costs and see if they show a big yearly profit. ***Start Now***—feed SCHUMACHER FEED—not for a week or a month, but for the entire lactation period of your cows and you will feel as Mr. Souder does, THAT IT IS "THE BEST FEED A DAIRY-MAN CAN FEED."

SCHUMACHER FEED AND BIG "Q" DAIRY RATION

are IDEAL feeds for dairy cows. SCHUMACHER FEED supplies the carbohydrate or maintenance part of the ration and BIG "Q" the protein concentrate portion. Ask your dealer for them. If he cannot supply you, write to us.

The Quaker Oats Company
Address: Chicago, U. S. A.

Smashing Cream Separator Prices Now
LET ME SHOW YOU
90 DAYS FREE TRIAL
Try the Southern Queen 90 days free. If it doesn't run easier, skim closer, do better work than other machines that cost almost twice as much, don't pay me a cent. Easy, monthly payments if you wish.
GET MY NEW FREE BOOK
Great bargains on almost everything you use in the house and field. Send your name for the free book.
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D. T. BOHON & CO.
LEXINGTON, KY.
Dept. 51 Harrodsburg, Ky.
NO MONEY DOWN

SILO USER AGENTS WANTED
Men wanted in every locality to own, show and sell famous Cincinnati Silos. Liberal spare-time profits. Full details free with special Introductory offer.
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FARMERS HANDY WAGON
Low steel wheels, wide tires, make loading and handling easier. We furnish Steel Wheels to fit any axle, to carry any load. Plain or grooved tire. Catalogue sent free.
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It Pays To Dehorn
Dehorn your cattle in the modern humane way. No crushing—a single stroke does the work quickly when you use a
KEYSTONE DEHORNER
We also make Keystone Bull Staffs and other appliances for cattlemen and dairymen—all sold on *money-back guarantee.* Write for circular. It pays to dehorn.
M. T. Phillips, Box 127 Pomeroy, Pa

$19.95 Upward Sent on Trial American Cream SEPARATOR
Thousands in Use giving splendid satisfaction justifies investigating our wonderful offer: a brand new, well made, easy running, easily cleaned, perfect skimming separator only $19.95. Skims warm or cold *milk closely.* Makes thick or thin cream. Different from picture, which illustrates our low priced, large capacity machines. Bowl is a sanitary marvel and embodies all our latest improvements. Our Absolute Guarantee Protects You. Besides wonderfully low prices and generous trial terms, our offer includes our—
Easy Monthly Payment Plan
Whether dairy is large or small, do not fail to get our great offer. Our richly illustrated catalog, sent free on request, is a most complete, elaborate and interesting book on cream separators. Western orders filled from Western points. Write today for catalog and see our big money saving proposition.
American Separator Co., Box 1062, Bainbridge, N. Y.

TRADE
Milwaukee Air Power
WATER SYSTEM
MARK

WATER AND ELECTRICAL EXPERT

"He's the Man Who Fixed My Place Up"

HE put running water and electric lights on my farm: he did a hard job easily, because he's a trained expert. You ought to see him, Joe, because this water and light system will make things pretty handy and comfortable for you, and make you more profits.

He's the representative of the Milwaukee Air Power Pump Co., and they have to take a regular course on how to put in water and electric li ht systems. He fixes it so that we get fresh water right from the well every time we turn the faucet. No storage tank or stale water.

He fixed it so my same engine runs the water system, electric lighting plant, feed grinder, washing machine and cream separator. Now I've got hot and cold cistern and well water in my kitchen and bathroom; good fresh drinking water at all times; water for my stock, and electric light in all my buildings.

Running water and electric light, Joe, makes all the family satisfied, and increases my farm profits so much that it has more than paid for the whole system. Joe, if I were you, I'd go talk to this man.

We have a representative in your county. If you don't know him, write us.

MILWAUKEE AIR PUMP CO., 869 3rd St., Milwaukee, Wis.

Milwaukee Air Power WATER SYSTEM DIRECT FROM THE WELL — EITHER OR BOTH — Milwaukee ELECTRIC LIGHT SYSTEM

1/4 to 1/3 More Eggs

-that's the average increase assured by Ubiko Mash

UBIKO Buttermilk Egg Mash is made from a special Ubiko formula patterned after that of the Pennsylvania Department of Agriculture. It is an ideal laying mash. Every known egg-making element is contained in it—meat, bone, gluten feed, wheat bran and middlings, ground oats, linseed meal and dried buttermilk.

Ubiko, in many cases, doubles production. On the average, it increases the yield *one-quarter* to *one-third*. It is a splendidly balanced mash suited to all flocks. Its digestibility is high. Protein 19 per cent; fat 3 per cent; fibre 6 per cent; ash 8 per cent.

Send for cost record sheet and descriptive booklet.

We also make Union Grains, Ubiko Stock Feed, Ubiko Pig Meal and Ubiko Buttermilk Growing Mash.

THE UBIKO MILLING CO. Dept. P CINCINNATI, OHIO

UBIKO
BALANCED RATIONS
For All Farm Stock
BUTTERMILK EGG MASH

PLUNGER TREE PRUNER THE MISSING LINK IN THE ORCHARD PRUNING EQUIPMENT

Three times as speedy as the saw. Makes smooth cuts. Operator stands on ground to perform most of his work. Easy to keep sharp.

Write for circulars and prices. D. H. WATTS, Kerrmoor, Pa.

Bolgiano's TRADE MARK Vital Hatch BABY CHIX

CHICKS WITH VITALITY.
BRED FOR CONSTITUTIONAL VIGOR
BRED FOR HEAVY EGG PRODUCTION

ALL LEADING VARIETIES
THEIR PARENTAGE IS RIGHT
THEY'RE BRED RIGHT
THEIR MANAGEMENT IS RIGHT
THEIR BREEDING RECORDS are RIGHT
THEIR EGG PRODUCTION IS RIGHT
THE CHICKS ARE HATCHED RIGHT
THEY GROW AND THRIVE RIGHT

SAFE ARRIVAL GUARANTEED
We Ship Baby Chicks from Canada to Florida, Maine to Kansas. All Charges Prepaid.

EGGS FOR HATCHING
We Offer Eggs for Hatching from Bolgiano's "Vital Strain" Poultry.

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IS AMERICA'S FOREMOST POULTRY GUIDE
Contains More Real Help Than Most of the Very Expensive Poultry Books. Very Valuable Both to the Amateur and Professional. Gives Prices Bolgiano's "Vital Hatch" Baby Chicks, Eggs for Hatching and All Poultry Requisites.
We Will Send You This Valuable Poultry Book Free If You Write Us at Once

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108 EAST PRATT ST
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FRUIT TREES
Berries, Vines, Roses, Hedges, Ornamental and Shade Trees.
FLOWERING SHRUBS
Everything for the Orchard, Fruit-Garden and Lawn.
Buy Direct from the Grower
Wholesale prices—Catalog Free.
Grover Nursery Co.,
70 Trust Bldg.,
Rochester, N. Y.

REPAIR SPRAYERS NOW

Now is the time to prepare for spring spraying. Valuable time may be saved by making sure now that everything is repaired so there will be as few mishaps during the busy season as possible. Starting with the engine, be sure you have a crank. If the compression is poor, the valves likely need grinding. See that the wires to the battery box are good and that all electrical connections are clean. The connecting rod bearings may stand taking up. The oil had better be taken out of the crank shaft and replaced by new.

In looking over the pump, make sure that the bearings of the pistons are tight and that the packing will last well thru the summer. Perhaps it will need to be replaced now. Look over the suction hose and strainer; the wire of the strainer may need replacing. Open each valve and see the condition of the valve seats. It is best to take the relief, or safety valve completely apart; trouble may be given by sticking. Start the engine and make sure the valves of the pump are holding well by watching the steadiness of the needle on the pressure gauge. Place the hand over the end of the suction hose to see if there is a backward flow, which indicates a leak in the valve. The stuffing box where the agitator enters the tank may need new packing.

Grease the wheels. In the spring when the ground is soft the team will need all the assistance one can give them. One or two good strainers for putting the material in the tank should be on hand. These can be made by nailing wire netting over the end of a proper size box. A tower is a good thing on a sprayer to reach the tops of large trees. Now is a good time to make it. Note the condition of the spray hose, and order extra discs and nozzles, hose gaskets, extra links for agitator, and drive chains, if needed. B. F. Lincoln, Pennsylvania State College.

HOME GARDEN HINTS

While I am not a professional gardner and do not aim to have the garden otherwise than a supply for the home table, still I find that there are several little things which make the garden much easier to care for.

Living along the banks of a small stream, with rock, broken bluffs below the garden, I have more or less trouble with rabbits and wood chucks eating the tender leaves of both cabbage and beans. Traps and poisons are not preventatives, but a dusting of airslaked lime and wood ashes seems a perfect remedy.

The wood chucks find squashes very toothsome, and enticing. I get a small supply of cheap ten pound sugar sacks, slip them over the squashes, and pie pumpkins and twist the ends of the sacks. Neither the growth or the color of the fruit is impaired.

I cultivate and hoe my tomato and cabbage ground before setting the plants. When the ground is fitted, I scatter over the entire plat about four inches of clean straw, and let it mat down. When ready to plant, I line up the rows, make small openingse in the straw, set the plants fairly deep, and pull the straw up closely about them. This keeps the ground moist and the plants grow rapidly. This keeps the fruit clean in the case of tomatoes and is much less bothersome than staking.—John Gould.

PRUNING FRUIT TREES

By J. P. STEWART

This is the season of year when the major part of the tree pruning is usually done. There is probably no other subject connected with fruit-growing, on which there is as much misconception of fundamental principles, and hence as much probability of damage resulting from its ordinary practice, as in the matter of pruning. This does not mean that any of us is over-stocked with an exact and full knowledge of all the fundamental principles involved. As a result of the varied and numerous studies and experiments now under way, however, we are at least beginning to see the error in many of the time-honored views and practices that have become associated with this subject.

Probably the commonest and most disastrous misconception connected with pruning is the notion that pruning encourages and increases growth. This notion has probably arisen from the fact that fruit trees of all kinds usually respond to a heavy pruning with an exuberant twig growth the following season, and this unusual twig growth has been regarded as the true index of the vigor of the tree as a whole. As a matter of fact, however, careful experiments both in this country and Europe have practically unanimously shown that the less a tree is pruned, with the possible exception of some necessary trimming at planting time, the greater will be its total size and weight at any given age.

Among the more important experiments bearing upon this point, we may cite those of Spencer U. Pickering started in 1895 in England at the Woburn Experimental Fruit Farm. At the end of twelve years, trees which had been heavily pruned, others which had been lightly pruned, and others which had received no pruning, were dug up, examined, and weighed. It was found that the heavily pruned trees were 16 percent lighter on the average than those that had been lightly pruned, while the unpruned trees averaged 20 percent heavier than those lightly pruned. Similar experiments in West Virginia reported by Alderman and Auchter at the end of four years showed that the trees heavily pruned had increased 1.61 inches in trunk diameter, those moderately pruned had increased 1.69 inches, while those lightly pruned had made an average increase of 1.93 inches. Similar experiments in California reported by W. P. Tufts, on apricot, cherry, peach, pear Japanese plum, European plum, and prune trees, showed an average increase in trunk girth after one season's growth, of 8.9 centimeters for the trees pruned severely, of 10.9 centimeters for those pruned moderately, and 12.3 centimeters for those pruned lightly.

Inasmuch at it has also been definitely shown by the latter investigator that the increase in trunk-girth is very closely correlated with the total increase in weight of top and roots, and in view of the further fact that other American experiments practically all point in the same direction, it is evident that the so-called invigorating influence of pruning does not extend to the whole tree.

It is also very commonly advised that trees be pruned severely for at least three or four years after planting, "in order to make them strong, stocky, and mechanically able to support their crops." This point was

"I made one mistake—But this time I think I picked a winner"

(From a letter to the Western Electric Company)

"If I was a mechanic instead of a farmer, I would have bought a Western Electric Outfit in the first place, and not waited till I was several hundred dollars poorer and wiser in the bargain. I am not going to say anything against other plants, because I know that isn't the way you work. I can't even tell the whole truth about your own outfit for fear that people might think you paid me to boost it. You don't have to. Levis

EDITOR'S NOTE: Mr. Levis is a farmer near West Chester, Pa.

When it comes to electricity I give up

"I believe the wiser a man is, the quicker he will admit how little he knows about electricity. We can see and touch mechanical things, but when somebody gets talking about electricity, he can tell us pretty near what he pleases, and we can't dispute it.

"Take batteries for instance—the most important part of any light plant. We farmers, and even the wiser ones, talk about current flowing into a battery and out of it. But how many people go beyond that? Now look at it this way. If you shoot a stream of water into a bucket fast enough, most of the water will splash out as fast as it splashes in. And if the bucket is an average wooden one, it won't be long before the bottom pushes out. To you men whose batteries are giving trouble, and you who haven't bought yet, I'd suggest first of all that you consider how the battery is charged by the generator. If the current comes in fast at first and then slows up gradually when the battery fills—as with the Western Electric—that means you'll have long-lived batteries. Otherwise you're 'out of luck,' as my son says since he came back from France.

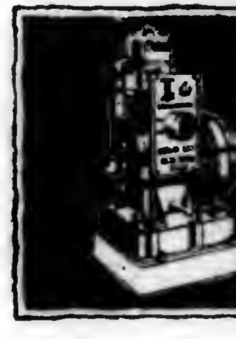
Power and light, or light and power—which?

"When I started to buy a plant, I was dead wrong about the lighting end of it. I had a lot of gentle hints at home and heard talk around the neighborhood about how nice electric light is—and it is nice. But what I needed, and what I think nine farmers out of ten need, was a piece of machinery, first and last—an engine to help me do the farm work. Because if I had power enough, light would go with it as a matter of course.

"It took me quite a while to wake up to the fact that it would be an economy to pay a little more for a large outfit that supplied plenty of power, as well as light, rather than to buy a slightly cheaper and much smaller plant that would furnish light only. Right here's the important thing, and the farmer who buys an undersized plant is fooling himself just as I came near doing, because on a farm, power is about the only thing you need except brains, and the only thing that costs nothing when you don't use it.

What I insisted on was an engine that would *run*

"Of course getting plenty of engine is one thing and whether the engine will run is another. You don't want to buy till you've seen the engine in action, any more than I did. Now I don't know what your experience has been, but mine tells me that for genuine dependability you can't beat a valve in head, 4-cycle kerosene engine—that starts just by pressing a switch and runs in all kinds of weather. These are only some of the points about my new Western Electric Outfit. There are lots others I could talk about for pages yet—like that feature of the throttle governor to give uniform speed under any load you please, and the splash system of oiling that's as certain as it's easy. But I figure you'd rather find out about these points for yourself than read my remarks.



"Please don't get the idea I am trying to convince you that there are no good farm plants except the Western Electric. There probably are. But if you can tell me one that's any better, or made by people who are fairer to a buyer or who have been in the electrical business more than 50 years—I'd like to congratulate you, because you are some little finder."

Maybe some of the information that helped Mr. Levis decide will help you too in choosing a Power and Light outfit. Just write for booklet PA-1 Western Electric Company, at Philadelphia or New York.

Western Electric Power and Light

Makes the Battery last longer

WAIT! LOOK at MY PRICE

My 1920 offer is the sensation of the incubator industry. Others can't understand how I can sell such a superbly built, scientifically correct hatching machine at such an astonishing price. My answer is that I have smashed all records for big production—built in such huge quantities that I can afford to sell at this almost unbelievable price—and still make an honest profit. Furthermore, there is no "Profiteering" about the

DETROIT Incubators and Brooders

All sold under Unconditional Guarantee of Satisfaction or Your Money Back. You're safe to order direct from this ad.

140-Egg Capacity Sent Complete Ready to Use Prepaid to Your Freight Station

$7.10 For DETROIT BROODER
140-chick capacity—a triumph of mechanical ingenuity. Sent prepaid to your freight station. Order direct from this ad.

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This is my record-smashing offer. A complete hatching and chick-raising outfit—worth every cent of $25.00, for a mere $17.50. Order early, direct from this ad, or

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Gives full and interesting facts regarding both machines. Write for Free Copy today.

Detroit Incubator Company
Dept. 13 Merritt St., Detroit, Mich.

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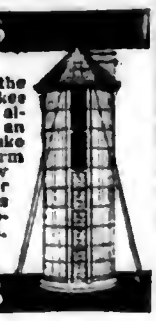
Every Economy Silo is equipped with the Storm Proof anchoring system that makes it absolutely permanent. Ensilage is always fresh and sweet—it can't spoil in an Economy Silo. Perfect fitting doors make the Silo perfectly air-tight. Hoops form easy ladder. Built of long leaf Yellow Pine or Oregon Fir. Headquarters for all sizes of water tanks. Our motto is quality through and through. Factories at Frederick, Md., and Roanoke, Va. Write for catalog.

ECONOMY SILO & MFG. CO., Dept. 0, Frederick, Md.



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Nut Orchards Pay Big

Nut trees require less care than fruit trees; you do not have to spray nut trees, and pruning amounts to nothing. Profits in nut orchards are large. **My Nut Catalog** will be sent free to your address if you ask for it. It contains much helpful information; you'll be greatly interested in it. Send for it now.

J. F. JONES, Nut Specialist
Box P, Lancaster, Penna.

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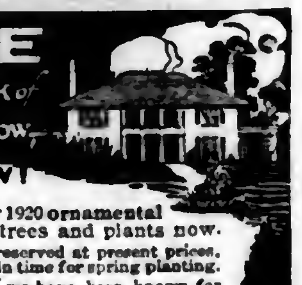

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SPRING HILL NURSERIES
TIPPECANOE CITY (MIAMI COUNTY) OHIO

Better Seed Beds —Bigger Yields

Make the most of high-priced seed and fertilizers. Put them into perfect seed beds made as smooth as a flower bed with an

"Acme" Pulverizing Harrow

"The Coulters Do the Work." They slice their way through sod and trash. They fill air spaces and compact the furrow slices. They pulverize and level the surface soil.

The "Acme" Harrow is light in draft—easy on the team, and *you* ride. Sizes: 1-horse to 4-horse; the larger sizes are just right for the tractor

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"Acme" Standard No. 23—Two-horse Harrow

This model has 12 coulters and cuts 6½ ft.
No. 20 has 16 coulters and cuts 8½ ft.

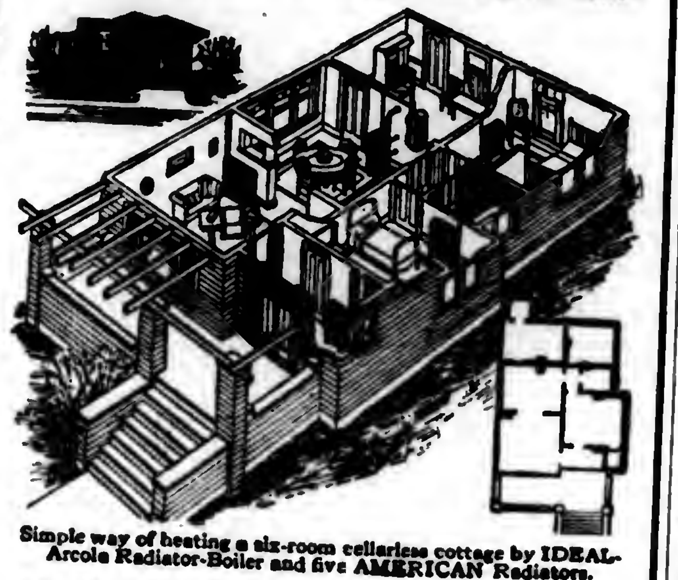
Give your home a square heating deal

New IDEAL-Arcola Radiator-Boiler

A farm house during these severe winters is only half-a-home indeed, unless it is comforted cheerily throughout with an IDEAL-Radiator Heating Outfit. Warms every nook and corner, keeps floors and halls free from chills and drafts. In fact, makes the whole house inside like summer time. The IDEAL-Arcola Radiator-Boiler does it.

The IDEAL bargain in low-cost heating

This new invention—the IDEAL-Arcola Radiator-Boiler takes the place of a parlor stove and throws off its soft June-like warmth through the room. The IDEAL-Arcola is hollow-walled—the space being filled with water, which as it is heated circulates over and over constantly through piping to American Radiators set in adjoining rooms. All the rooms are therefore warmed uniformly from the one fire. Your house is warm and snug all over.



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No cellar is needed—everything is on one floor. Water pressure is not necessary. The IDEAL-Arcola Radiator-Boiler heating outfit is more durable than the building itself. It will never rust or wear out or need repair. Investigate at once and have your dealer give you a quotation on an IDEAL-Arcola Outfit for your home. Shipped complete ready to install and operate.

Catalog showing open views of houses with the IDEAL-Arcola Radiator-Boiler in position will be mailed (free). Give your farm home and your family a square heating deal by finding out all about this most successful and economical method of heating.

Sold by all dealers. No exclusive agents.

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Quality Service Satisfaction

Service:—We have helped with honest advice hundreds of farmers in the East. We might be able to help you. Write us—no obligation whatever.

(This trade mark means quality)

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Ask your dealer for Reading Bone Fertilizer.

Write for booklet and further information.

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Easily Sawed By One Man. Easy to move from cut to cut. Make big profits cutting wood. Cheap and easy to operate.

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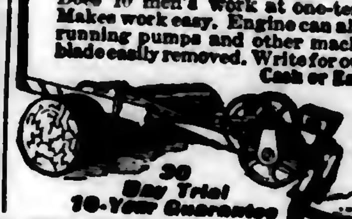
Does 10 men's work at one-tenth the cost. Makes work easy. Engine can also be used for running pumps and other machinery. Saw blade easily removed. Write for our low price. Cash or Easy Payments.



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Imagine a GIANT of POWERFUL strength, then you have a mighty good vision of the new GUARANTEE LIME AND FERTILIZER SPREADER.

Consider, please, the superior features such as the AUTOMATIC COVERING AND HARROWING ATTACHMENT, super-feed, shifting clutch and spreading device. For durability, simplicity and practicability, gentlemen, there never has been a spreader that could equal her, for spreading lime, GROUND LIMESTONE, commercial fertilizer, etc., evenly, or if you so desire she will sow the material in rows at a moment's notice. She works with ease, but what I like about her most is the special patented features and how sturdy she is built. Place your order early to avoid the rush. You can save $15.00 by being the first one in your county to purchase the GUARANTEE SPREADER. Better write TODAY. Thank you.

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also investigated by Tufts using the effects of the various degrees of pruning on the stockiness of apricot limbs at a uniform height from the ground as the criterion. The results of his measurements show that this notion also is apparently without any sufficient foundation, as the average branch diameter of the heavily pruned trees proved to be 3.85 centimeters, that of the moderately pruned trees, 4.66 centimeters, while the average branch diameter of the lightly pruned trees was 5.09 centimeters. The results of similar studies on apple trees, reported from Germany in 1900, showed that the average thickness of limbs at the same height on trees heavily pruned was 8.4 centimeters, that on trees lightly pruned was 9.5 centimeters, while on the unpruned trees the average thickness of the limbs was 11.7 centimeters.

The results of all these tests and investigations, we are gratified to say, simply confirm the general advice given years ago by the present writer,—largely on the basis of the English results and on the experience of certain commercial growers which had come under the writer's observation. The present results also enable us to assign the general practice of pruning to its real and proper function with much more accuracy than ever before. In other words, as soon as the real influence of pruning on growth and on its closely related activity of fruiting is fully understood, it will be much easier for the average man to modify his pruning practices to suit.

In the first place, therefore, let us admit that the usual net effect of pruning is to check or depress both growth and yield, with certain minor exceptions, and that the extent of the depression is generally in proportion to the severity of the pruning. It follows therefore that on young trees at least, the cutting should be practically entirely confined to training, rather than to make any attempt to stimulate growth. Also, inasmuch, as the only growth stimulus furnished by pruning is a local affair, affecting twigs, its principal use will be found in old trees.

With the knowledge that pruning is a checking process, it becomes easy to control any branch or portion of tree that tends to take the lead to an objectionable extent. It also becomes easy to check the formation of weak forks,—simply by cutting back one of the two limbs considerably more heavily than the other. In the same way one can encourage the development of a more spreading habit of growth when especially desired, by cutting back the vertical shoots judiciously, and leaving the desirable laterals largely or wholly unpruned. In general, however, one should not get unduly excited over a reasonably vertical growth habit on the part of a young tree, as it will usually correct itself when bearing begins, and the heading back of leading shoots may start a fight with water sprouts that will make the situation worse than before.

The especially satisfactory results obtained in the Hitchings orchard in New York, as a result of the combination of a minimum of pruning and no tillage, which was described by the writer in these columns some time ago, is worthy of recall in this connection. It is surprising what well-shaped, good-sized, and early-fruiting trees,—of almost any of our leading commercial varieties,—are being obtained by the above combination in the orchard named. And probably the most peculiar and striking feature of it all, is in the fact that most of the pruning required after the trees come into bearing, is to get the limbs up off the ground and make the trees more vertical. This may well be contrasted with the usual pruning practice in bearing orchards, in which the object is generally the reverse of the one just named.

MULCH PLUMS TO RETARD BLOSSOMING

According to the last census report, five-sixths of all our tree fruits are apples, leaving a very small proportion of pears, plums, peaches, etc. We do not raise too many apples. Of course not. The point is that we can well afford to raise more of these fruits.

Almost every one likes plums. They are easily grown, and easily prepared for table use. The fruit canned proves one of the richest and most delicious of sauces, and the housewife regards them as the easiest of all fruits to keep. There is a wide variation in color and flavor, and really, no other fruit can be said to be a substitute for the plum.

The trees come into bearing quickly, and seldom skip a year in fruiting if given proper care. The great drawback, especially in the North, is that blossoming early, the fruit is in danger of late frosts. This can be largely avoided by retarding the blossoming season. It is easily done by applying a liberal mulch of horse manure over the roots early in spring, before the frost is out of the ground. This covering prevents the ground from thawing, and thus holds the buds back. We seldom have trouble from frost.—Bessie L. Putnam.

GROWERS OF CANNING CROPS ORGANIZE

The growers of canning crops in New York State have recently organized, starting with the counties of Western and Central New York. So auspicious has been the start and so patent the need for a state-wide organization that it now seems but a matter of weeks before all counties interested in canning crops will organize.

For years the canners have been organized into both state and national associations. The growers as individuals have made contracts with an organized class. Since the infancy of the business with the canning factories the growers of fruits and vegetables have been at a disadvantage. Contracts have been made at the dictum of the canners. Payment for the crops has nearly always been held up until late in fall or winter when the finished products were sold by the canners. In a sense this has made the farmer carry much of the capital represented in the industry. Contracts with the growers have not been uniform on the same items grown under similar conditions and some minor irregularities have crept in on seed distribution.

The growers have organized to remedy these evils many of which were not so pressing during the infancy of the business. In neighboring counties last season the tomato contracts varied from $12 to $20 a ton. As a result of the new organization it is a certainty that no contracts will be made at losing figures. The indications are that a general figure of $20 or $22 will be established.

Directors have been elected by the association as follows: J. A. McCollum, Newfane; A. H. Phillips, Hulberton; M. L. Hakes, Albion; W. H. Hanson, Ransomville; George A. Morse, Williamson; W. W. Morrison,

LeRoy; C. J. Burley, Barnards, Eugene St. John, Batavia; R. F. Rupert, Seneca; A. G. Whitmore, Avon; T. S. Darrow, Atlanta and L. M. Lenington, Wyoming. The directors elected officers as follows: President, J. A. McCollum, Niagara County; vice-president, M. L. Hakes, Orleans County; secretary and treasurer, R. F. Rupert, Seneca County.

As a rule the growers have received fair pay for most of their crops, but they have always been obliged to take whatever the canners have offered. They have never had any opportunity of negotiating a price for such crops as peas, string beans, corn, etc. It is the general belief that when the organization becomes fully operative the canners will rejoice in the new movement as under present conditions the factory interests have a multitude of details incident to the planting of the crops desired, which will be taken over by the growers' organization. In each county there will be a central organization which will represent the growers in all transactions with the canners. Instead of the many individual contracts the canners will deal directly with the county branch, thus eliminating the bulk of the routine work. No member of the association is expected to sell his crops except thru the central county agency.—Alvah H. Pulver.

SPRAYING SCHEDULE

As a guide to fruit growers the department of experimental pomology at the Pennsylvania State College School of Agriculture and Experiment Station has prepared the following spray calendar for apples, pears and quinces:

1. Dormant Spray. — Preferably just before buds start. Lime-sulphur solution diluted to a specific gravity of 1.03. For scale, blister-mite, and fungous diseases. Add nicotine as in "2," if aphids or red-bugs are hatching.

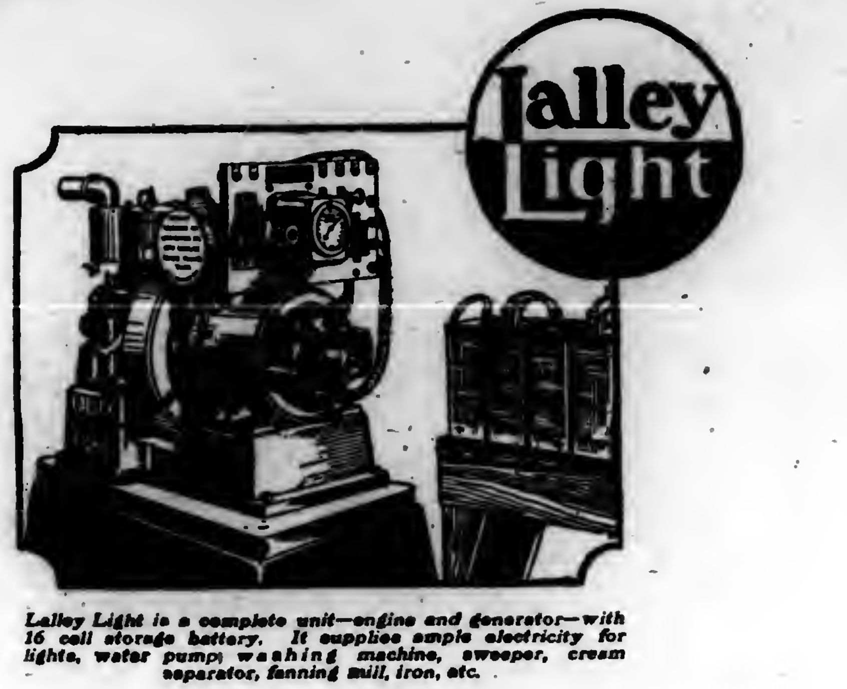
2. Scab and Aphis Spray. When blossoms show pink before opening. Lime-sulphur solution, 1.01, for scab or cedar rust. Add lead arsenate paste, 3 pounds to 50 gallons, for canker worms, budmoth, and other leaf eaters. Add 40 percent nicotine extract, one-half to three-fourths pint to 50 gallons, for oat, rosy, and green aphis, mites, red-bugs, or pear psylla. (These 2 sprays may also aid against blossom blight, by checking aphids and ants, and killing bacterial masses.)

3. First Codling Spray. To be completed within 10 days after petals fall. Lime-sulphur solution, 1.008, for scab, rust, blotch, etc.; and lead arsenate paste 2 or 3 pounds to 50 gallons, for codling moth or apple worm, curculio, canker-worms, etc. Add nicotine as in "2" for green aphis, clover mite, red-bugs, etc. (Use plenty of material and fill calyces with poison.)

4. Second Codling Spray. About two weeks after "3," altho best applied when moths actually begin emerging, as determined by cage observations in the orchard. Materials same and pest largely the same as in "3." Also useful against apple maggot, leaf-hoppers, etc., where they occur.

5. Second Brood Spray. About July 25 to August 1. Materials as in "3." For second brood of coding moth, leaf-eating caterpillars, late scab infections, blotch, green aphis, etc.

With spring almost here, machinery for the spring work is already seen in some fields; it was left there last fall.



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Lalley Light is a complete unit—engine and generator—with 16 cell storage battery. It supplies ample electricity for lights, water pump, washing machine, sweeper, cream separator, fanning mill, iron, etc.

Ten Years Owner-Experience Has Proved Lalley Light

Naturally, there are fundamental reasons why progressive farmers everywhere are installing Lalley Light Plants now.

They recognize that Lalley Light is the most highly perfected electric light and power plant.

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Right now is the best time to begin enjoying Lalley electricity. You have the time now to make this installation.

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Do not delay. See your Lalley Light dealer today, or ask him to call upon you.

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THE ELECTRIC LIGHT AND POWER FOR EVERY FARM

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We pay highest cash prices for logs 12" & up 8 to 16 ft. long in carload lots, f. o. b. cars at loading points.

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GROWERS, it'll pay!

Double the berry season and the crop with varieties that give May-to-frost yields. Three most profitable everbearing strawberries and St. Regis everbearing raspberry listed in Collins' Fruit Guide—Free

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PLEASE say: "I saw your adv. in Pennsylvania Farmer."

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My customers make their biggest money on dealing with me the second season—when they buy ALL their seeds from me. You start now. Ask me for samples of any field seeds. I'll send you the finest and cleanest on the market. I'll send you my 1920 spring catalog, too—80 pages of how to make more money per acre.

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Pays for Itself in Labor and Time Saved

One man and team with an Eureka Potato Planter needs no hired help to plant the whole crop. Whether you plant 4 acres or 400, the Eureka Planter will pay for itself many times over. Better than hand planting. Increases yield. Does 5 operations at once, automatically—accurately.

Opens furrow, drops seed any distance and depth, drops fertilizer (if desired), covers up and marks next row. Furrow opens and seed drops in plain sight—an equal distance apart, at uniform depth, with absolutely no injury to seed. Easy to operate in any soil, made of steel and malleable iron—assuring long life, light weight and few or no repairs.

Write for free catalog on this great line of potato planters—the largest line made. Sizes for 1 or 2 rows, with or without fertilizer attachment. In Stock Near You. A success for over 20 years. Whether you are a large or small grower—write today.

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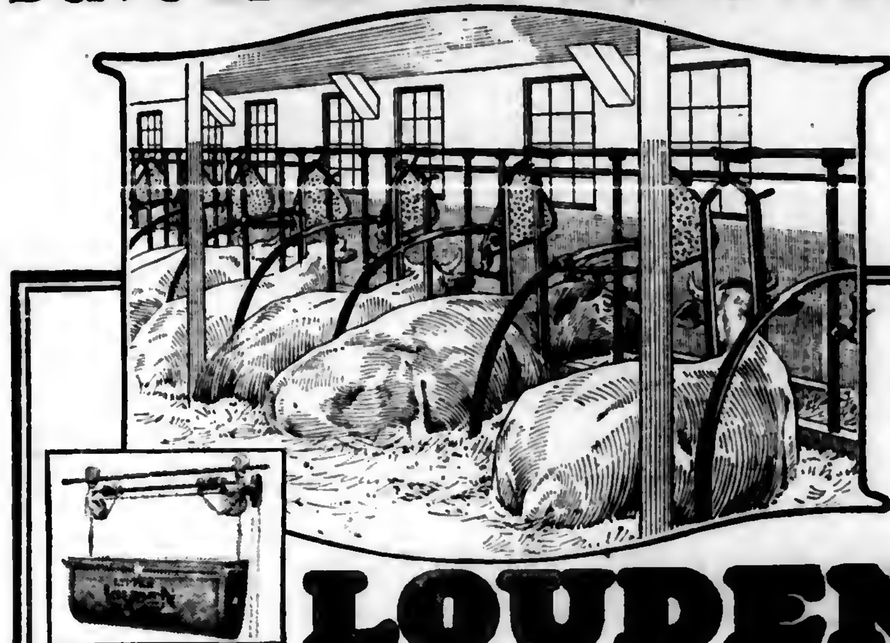

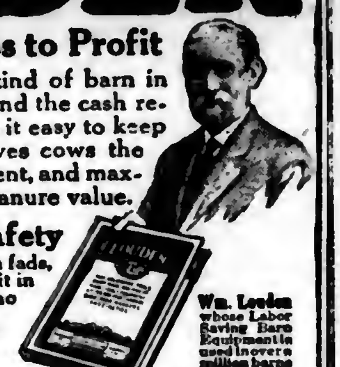

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Louden Modern Barn Equipment gives you the kind of barn in which the care cost of cows is cut to the minimum and the cash returns are substantially increased every year. Makes it easy to keep the barn clean and orderly with half the help, gives cows the pasture comfort and cleanliness necessary to contentment, and maximum milk yield, prevents waste of feed and loss of manure value.

Simplicity, Strength, Convenience and Safety

Its smooth, plain, sturdy, curve construction, its freedom from fads, useless attachments, sharp corners, cracks and crevices, places it in a class by itself and gives it preference among practical men who want the best.

Louden Stalls and Stanchions, Litter and Feed Carriers and Detachable Water Bowls are the main stay of the dairy barn according to the testimony of thousands of practical farmers and dairymen who use them. If you knew how much labor they save, how much comfort and convenience they afford, how little they cost, the big cash returns they bring and how easy they are to install in any barn, you would not be without them.

Write for Our 224-Page Illustrated Equipment Catalog

It gives full information about an equipment which will exactly fit your barn and make money for you every day. Stalls and Stanchions, Litter and Feed Carriers, Animal Pens, Water Bowls, Hay Unloading Equipment, Barn and Garage Door Hangers, Cupolas, Ventilators—"Everything for the Barn."

We would like to send you also Louden Barn Plans and give you the benefit of our expert barn building service—if you expect to build or remodel a barn. Give us the information called for in the coupon so that we may know your needs and offer suggestions that will meet your particular requirements. No charge—no obligation.

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use
GOMBAULT'S
CAUSTIC BALSAM
See what one of them says:

WORTH TEN TIMES ITS COST

In looking over my paper I noticed an advertisement of your Gombault's Caustic Balsam which reminded me I should write to you, it being no more than fair to tell you of the remarkable benefits I have obtained from its use.

About six months ago I had a horse so lame with a spavin that he stood on three legs in his stall and I could not drive him at all, in fact he was entirely useless. A friend of mine advised me to try a bottle of Gombault's Caustic Balsam, which I did; and after two thorough applications he was entirely cured. To-day he is as sound as he ever was and since that I have used it for human ailments with equally good results. I would gladly recommend it to anyone needing a good liniment. I would not be without it for ten times its cost.

Wishing you much success I am

Yours Truly,
WILLIAM SCHRADER,
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As a LINIMENT for the HUMAN BODY there is nothing that equals Gombault's Caustic Balsam for

Sore Throat, Chest Cold, Backache, Neuralgia, Sprains, Strains, Lumbago, Sore Lungs, Rheumatism and all Stiff Joints.

PENETRATING. SOOTHING. HEALING

It is also cheaper according to cost, because it requires very little Caustic Balsam and that little is effective.

Price $1.75 per bottle. Sold by druggists, or sent by parcel post prepaid.

Write for Booklet R

The LAWRENCE-WILLIAMS COMPANY, Cleveland, O.

Horse Sickness

When unclipped horses get overheated on warm spring days, their long, sweaty coats of hair clog the pores and prevent them from throwing off perspiration. This often causes colds, pneumonia, asthma and similar troubles. They dry off quickly, keep well and do better work when clipped with a Stewart No. 1 Machine—$12.75. Send $2—pay balance on arrival. Write for catalog.

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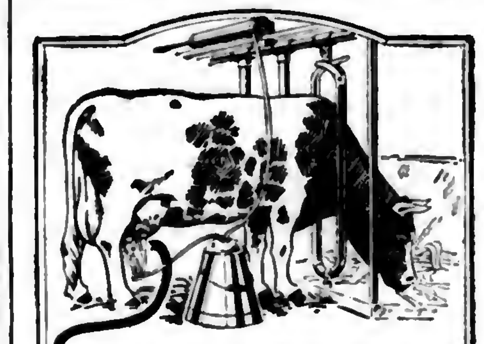

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Let us show you how this simple, efficient milker will save you hundreds of dollars worth of valuable time. Learn how the United replaces man power, how it produces more milk. Vacuum adjustable for hard or easy milkers, easiest to keep clean, milks faster and keeps each cow's milk separately.

With the PATENTED "SEE-THRU" Teat Cup

The most modern improvement in all milker construction. The "See-Thru" is so different from every other cup that truly it has no competition. Made of a clear, transparent material, you can see through it and always know which quarter is milking or dry. Only three parts. Lasts a lifetime. No other milker has it. You need it.

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UNITED AMERICA'S GREATEST VALUES

STRAWBERRIES

100,000 Steaven Late Champion plants for sale. Write for quantity prices.

Chas. Watson, Moorestown, N. J.

SHALL WE WORK MORE?

I hate lazy people as I hate leprosy and smallpox; back in my teaching days a lazy child was always far more provoking to me than a mischievous or even a naughty one, but is not the other extreme bad also? I was about to say nearly as bad and I don't know but it is. My husband died at 25, ostensibly from accidental poisoning, but if he had not overworked almost insanely he wouldn't have been sick and no medicine would have been necessary. Furthermore, if he had been a little less of a rusher he would probably have taken medicine more cautiously instead of swallowing a fatal dose before he had time to think. As it is his baby daughter was robbed of an ideal father before she ever saw him, and both of us face the world without our breadwinner.

My mother made both butter and cheese besides doing no end of other work during the summer of 1918 and early in the autumn she collapsed so completely that for the rest of her days she will be a perfectly helpless invalid for whom some one must care as for a baby. It often occurs to me that it is a pity the world's hopelessly lazy shirks can't "even up" with some of these over-industrious individuals but, since they can't, I feel entirely justified in sounding a warning to the many over-worked readers of our farm papers.

Some one says "our growing rows of empty cans remind us that next season must be a busy one." It will, they all are, but it will be no whit busier for me than last season was because I can't do any more than I did then without disaster, and my little daughter has a perfectly good right to expect me to ward off every disaster that is at all avoidable. We have others besides ourselves to consider and we owe it to them to guard our health first and our pocket books next. Money is useful but health is indispensable and if I could have either my mother or my husband as they used to be I don't think I should care much about money. What if the house is dusty or some of the glass cans empty! Wouldn't my girlie far rather have Mamma able to go with her once in awhile and welcome her little friends in our own home than be an orphan in a house as clean as a hospital, and with every nook and corner filled with canned goods?—E. M. A.

THE PRIMROSE POISONS SOME PEOPLE

The primrose is one of the most persistent winter bloomers, and those looking for a plant to present to some friend are apt to be attracted to it because of this feature. Yet it has a trait which should cause the prospective giver to hesitate, and not to make final selection in its favor without knowing the exact conditions in the home for which it is destined.

Lauded by poets, innocent in appearance, some varieties have the property of inducing a violent eruption on the skin of some sensitive persons. A friend tells me that she once picked off some of the old leaves and carelessly wrapped them up into a ball in her hand. In two hours her hands were swollen and painful. Previous to this she had from time to time consulted her physician for a similar trouble, called "hives" tho at the time she suggested the result of poisoning, but had not the remotest idea of any cause for it.

A primose as a present should never be given unless to one known to be immune to the poison. I think to the majority of people it is harmless. Probably no bad results would follow to the most sensitive if they did not touch the foliage. Yet the fact needs emphasizing that mischief may come from contact with this beautiful window plant.—Bessie L. Putnam.

A SIMPLE WATER SYSTEM

I will describe a gravity water system that has been on this farm since 1871. The most of it has needed no repairs in that time. It consists of a ¾ inch lead pipe laid in sand, as I am informed clay would eat the lead. The spring, or source, is 1200 feet from the house and 30 feet higher than the second story of the house. The water runs thru the house then goes 450 feet to the barn. Four years ago I put drinking cups in the cow stable. These are supplied by the same line of pipe.

The cups are on the same level as the water box outside the barn. This water freezes in the pipes in severe weather but I have been able to mend the bursts in the pipes with tire tape. This summer I shall change this so that the water will run thru the stable continually and then empty into the water box outside. As it is spring water this will prevent its freezing. I will also take the overflow from the latter to a new water box I shall make more convenient to the hog pen and poultry house which are a few feet lower than the box at the cow stable.

Two years ago I put a complete bath room on the second floor of the house with hot water tank, etc. This is a great convenience. We changed the location of the sink in the kitchen, bringing it ten feet nearer the stove. This saves 100 feet of steps a day at least, which means seven miles in a year. As the housewife has exercise enough this saving of seven miles of steps will be a healthful convenience.

The old farm houses were built without architectural plans which was a great mistake. My mother took those extra steps for more than forty years. How much happier she could have been, had this been properly arranged when she came here at the beginning of her life work on the farm!

This system is peculiar in the fact that the outlet of the pipe is eight feet lower than the faucets in the bathroom; nevertheless, sufficient water comes into the bath room to operate the toilet, hot water, etc. The plumber put in a cut off so that the flow of water to the bath room could be increased; but I find that this can be left open as the friction in the 450 feet holds the water back as much as necessary.

Other conveniences I have are steam heat, an acetylene gas plant in the cellar and a stationary engine for washing.

We also have a piano and victrola to make our house complete.—J. D. Craig.

The farm library goes with the farm office. The bulletins from your experiment stations and state college ought to be handy to the deck where you keep your papers and accounts.

A man who had a fine field of alfalfa on his farm posted this sign. "Lime, phosphate, conservation of moisture and innoculation got this alfalfa. Think it over."

The business part of the double boiler is the bottom compartment.

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Catalog also offers "Improved White Russian"—true 'side' or 'horse-mane oats.' Also pure strain of "Swedish Select"—and "Banner"—"Silvermine"—"Bumper Crop"—"Peerless"—proven by actual use to be dependable yielders. Samples free.

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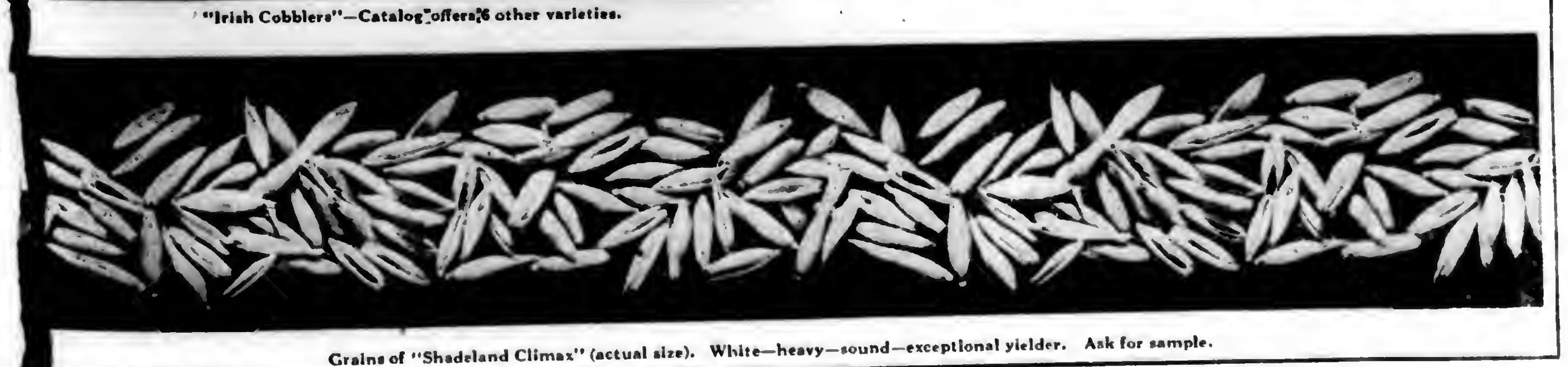

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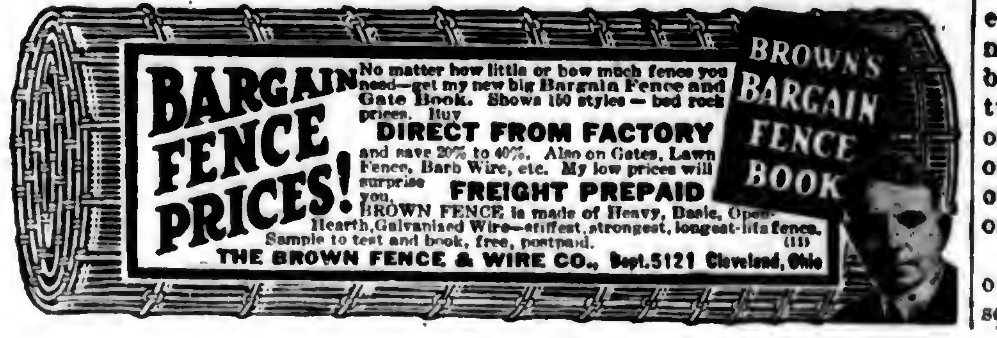

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POULTRY

FEEDING THE LAYERS

The purpose of food is to sustain life and to promote growth and production. Every ounce of food that can not be used in the life processes, in production, or in the form of stored energy is a menace to health. The pullet usually begins laying before she has finished her growth. She is still making bone, muscle and feathers. The mature hen has completed this work. Hence the pullet requires more food than the hen does. She can assimilate and use in egg production more food than that which is required to replace the wear and tear of the tissues thru exercise, of which the pullet naturally takes more than the hen.

If the food eaten is all consumed in life processes, then we have given a maintenance ration only. When it is desired to keep breeding birds fit until hatching season, a maintenance ration can well be given. To feed a maintenance ration only to pullets raised for production is most extravagant.

One can not lay down hard and fast rules for feeding. Here is where the skill of the feeder is shown, for the acticity of the fowl, the temperature and the age must be considered. The muscular tissue must be considered in figuring the amount of food since the greater the flesh weight, the greater the nitrogenous waste. The size of body is also to be considered for the experiments show that the smaller the body the larger fraction of its weight in food is needed.

I put my pullets by themselves that they may be fed a ration which takes into acount their growth, size, weight and potential production. I put the hens by themselves that they may not be burdened by excess of food which would be wasted. Chicken feed is abnormally high; we must economize but economy does not mean so much limiting the amount spent, as expending money in such a way that will bring in the largest returns.

Economy requires that we use the food that in the long run is the cheapest for us. Early hatched pullets and young hens will lay equally well on any one of several rations. The important thing is to keep them working. Exercise promotes good digestion. Grain should be fed in deep litter. Deep litter is not litter that has been packed down and soiled by droppings until it can be lifted in solid cakes but a light clean litter of leaves or cut straw. Keep it light by tossing with a fork.

Wet mashes are not essential but they offer a convenient way of using table scraps and waste. Cook all parings, scraps and rinsings of gravy dishes and cooking pans. Add enough grain mixed in the following proportions to make a crumbly mash: to one part of bran add one pint equal parts of ground oats and corn meal, and mix with the scraps. For breakfast, feed two quarts or less to twelve pullets. At noon feed one pint of oats in litter; at night one quart of cracked corn. Have a wire pocket of alfalfa or clover hay in the house, or give roots.

If a dry mash is used, put a pint of grain in the litter the night before so that the birds may begin scratching early. Have a dry mash hopper before them and keep it filled: Feed grain at night. Grit, charcoal and oyster shells should also be before them.

No matter how much exercise the birds have, a highly concentrated ration such as table scraps and mill stuffs will ruin a flock unless they are given green food. Sprouted oats, clover or alfalfa hay, mangels, cabbage and small potatoes are good greens.

Weigh pullets and hens from time to time to know how they are doing.

Keep lice and mites off and give pure warm water in clean vessels.

Drinking water almost at the freezing point or water with ice in it, hinders egg production. In extreme weather, warm water (the ordinary supply with the chill taken off) should be furnished at least twice a day and three times a day if convenient.

The fact that hens grow and work best when happy and comfortable should be a hint as to their care.—Leonard F. Strickler.

WINTER EGGS PROFITABLE

It pays to work for winter eggs, not just because they are high at the season but because the hens need some feed anyway and the additional work for winter eggs and the extra feed used enables the hens to pay for all their feed and keep in healthy condition at the same time. Even if the cost of the feed only equals the egg money something has been gained. The hens come thru the winter in good breeding condition. Also they have paid for what they have eaten and their winter feed bills will not eat up all the spring and summer egg profits.

To me there is something wonderful about winter egg production. The hen that will lay in the winter seems like a public benefactor. When the peaches ripen in January and we pick apples on Washington's birthday I shall cease to marvel at the ability of hens that lay during zero weather. How is it possible to obtain winter eggs? By giving the hens spring conditions and the equivalent of their spring rations while they are busily scratching in the laying house on a cold winter day.

What do they get in the spring that encourages egg production? Green food and bugs and worms. The green food can be supplied in the winter by serving sprouted oats, mangels, cut clover or cull vegettables. The animal food can be supplied by using beef scrap in the mash and plenty of sour milk. The commercial mashes contain dried buttermilk and meat scrap in proportoins that are safe to feed for egg production. The farmer with the time can study bulletins and rations and soon learn to buy and mix home-made mashes that will make hens lay.

A deep straw litter makes hens exercise. In the spring they run and scratch and hunt on the range and obtain the needed exercise to keep them in healthful condition. In the winter the exercise must be forced upon them by feeding scratch grain in litter so they have to scratch to find it. If they do not have to hunt for the grain they will gather it quickly and then sit around and

wait for more. Soon their bodily condition shows the lack of exercise and they will cease to lay.

Some breeders are increasing their egg production during the winter at a profit by using lights to extend the hen's feeding and scratching time. But the beginner must remember that the installation of lights alone does not improve the egg records. First ideal conditions and fine rations must be available. Then the lights give the birds a chance to spend more time enjoying the ideal conditions and less time in repose on the roosts. It prevents the long winter nights from reducing the vitality of the hens. When the nights are so long that all their food and some of their reserve fat is used by their bodies to keep them alive until morning it is evident that there is not much egg making material left when the hen leaves the roost. Hens will lay at a profit without lights if the conditions are right. But experiments seem to prove that they will lay better when their feeding time is lengthened until it more nearly resembles the spring conditions.—R. G. Kirby.

FEEDING THE RABBITS

Sanitary hutches combined with clean feeds are necessary to keep rabbits healthy. Overfeeding means that grain and green food will be left in the litter and become unclean. Oats morning and night are a safe grain feed for rabbits. Hay can be placed before them at all times in a small rack in the end of the hutch. A small salt box in the hutch is necessary as rabbits like salt and should always have access to it.

Some green feed in the evening will be relished by rabbits. They like carrots best but grass cuttings, vegetable tops or sprouted oats are also good. Bran or bran mash is a good rabbit feed about twice each week and it seems to keep the digestive system in good order. We have fed sour milk to rabbits and it seemed to do them some good.

A great variety of feeds is not necessary. Study the individual breeders enough to know their appetites and only give the amount they will clean up in a little less than half an hour. Then handle the rabbits enough to know their physical condition and if they are healthful but still too thin, it means that they need a slight increase in their rations.

The beginner with rabbits is likely to forget them occasionnlly and then try to make up for it by dumping enough food into the hutch for several meals. Then a very hungry or half-starved rabbit proceeds to make up for lost time and such feeding methods are not conducive to healthy animals.

Water the rabbits at least once each day in winter and twice in summer. They need water to keep them healthy and breeders who neglect the water supply soon find that some of their stock is lacking in vigor.

Hens that don't lay don't pay. During the past four years the State College of Agriculture has culled 42,310 birds for the farmers of the state. The farmers estimate they have been saved $47,810.

If your rubbers pull off in heavy snow or mud you might try this remedy: Make two small eyelets at the top of the heel of each overshoe, run a shoe string thru the eyelets, and tie the two ends over the instep.

John—Have you read "Freckles?"
Jane—No, that's just my veil.

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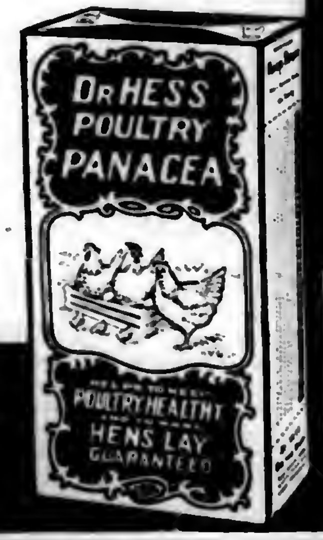

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HORTICULTURE

Managing Children's Clothing

TO SAVE WORK FOR MOTHER

I didn't have much trouble planning my first baby's layette, for there were scores of excellent suggestions on every hand so that the most ignorant new mother could not go far wrong. but when he graduated from slips and began to creep. I found trouble. I used to think that if I could only find a layette for a year-old, a two-year-old and so on, as carefully planned as those for little babies, I would be greatly relieved. I knew that such children wore inside and outside clothes, and I remembered that when I was a little girl a neighbor said that she "shortened" her baby, as she called it, "in a very methodical way." But what that way was always remained a mystery to me, such is the negligence of our educational system in the preparation of girls for motherhood.

And so I ventured into a world of creepers and overalls and elastics, then into rompers before with my later children I learned the better way of managing the little children's clothing not only for their greatest comfort, but also for my own. I think that I tried everything, and by the time my youngest was ready for rompers, I had an assortment of clothes unequalled in one respect, ie., variety of torment. For it was a nerve-wrecking feat to get the children ready to start out the day clean or to go anywhere.

It become evident to me that I would have to have better method about clothing my children if I was to get away from the never-ending worry about what to put on, and from the medley of outfits that never went together right. I decided that there were two solutions: Unlimited means or considerable good planning. I did not have the former by a long ways, but I made up my mind that I could achieve the latter. My children must have enough clothes, with a minimum of outgrown and unused garments. I realized that, first, I must decide on certain kinds of garments, and then keep as close to that type as possible. And I must decide as nearly as possible on the number of garments that would be needed for a season so that I could keep my planning and buying confined as nearly as possible to two periods, then be practically free from concern about it between times.

Therefore I now devote a week in January and a week in September for planning and buying my children's wardrobe for the coming seasons. Of course I cannot keep all the buying confined to these weeks, but I do the bulk of it. For instance, last fall I set down on paper what each child would need for the winter: Three union suits apiece for the two older children! woolen shirts and underdrawers for the little one, shoulder elastics for the older ones, waists and side elastics for baby, so many stockings apiece, rompers, suits, shoes, coats, headwear, rubbers, boots and gloves and mittens.

Then I sorted their clothes. I have a drawer and suit box for each child. By comparing their garments and my list, I had a very good idea of what I would have to make or buy. Then I went over my assortment of worn grown-ups' clothes to see what could be used, and ripped, washed and pressed all that I thought could be worked up into children's clothes.

I have found that by using this system I have had less hurry-up washing and less worry, and that the children have been better dressed at much less expense than when I made or bought their clothes as they wore out during the seasons. Just now I am planning their spring and summer clothing, so that next summer when it is hot and the farm work is most hustling, I will not have to make Bobbie a new romper or buy some new thin underwear to make him more comfortable. I have learned that when you have to buy a garment in a hurry you nearly always pay too much for it.

I have also found that after a child is trained to use a nursery chair union suits are better than separate garments, as they simplify the number and kind of garments. I like barred nainsook or pajama checks better than woven goods for underwear as they wear better and are firmer; and as I make them with band and buttons to hold up skirts and panties they eliminate the separate waist, and thus expedite dressing as well as laundry work.

I like shoulder elastics, but there are some on the market that are an abomination to button, and they are all too high-priced. They are easily homemade of stout muslin, and the elastic you put in them yourself is far superior to that in the ready-made ones.

As for rompers, and the same applies to dresses, I find that using only one pattern, but changing the trimming to make a variety in appearance, is most economical of time in making. I also like to keep to one kind of material very largely, as for instance chambrey, percale or romper cloth, and for variety get a diffeent color or a check or plaid. And I try to make sure that the color is fast, and the goods stout enough to pay for making up. However, I would rather see a whole family blossom out in a clean whole blue calico each morning than to have all the variety possible in make and color.

As to overalls, I like them for older boys, but I would rather see rompers on the little fellows. I do not care much for creepers; they are hard to keep buttoned or snapped in place, and they look so untidy when hanging down. I like dresses and skirts until the little ones are trained to tell when they want to use the nursery chair so that they can wear rompers. And I like to see rompers on little girls just as well as on the little boys.

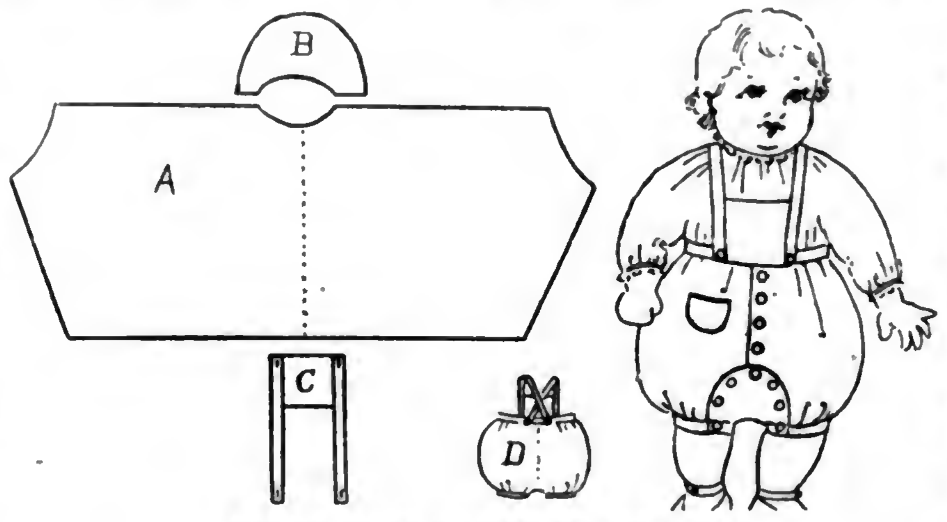
For best nothing equals white, trimmed so that it will not be harmed with strong suds and boiling in the wash. Poplin is excellent, and there are many linen-finish suitings suitable for the purpose. I like at least two suits apiece so that I can be sure of having one ready when I want to go somewhere in a hurry.

Good stockings are the cheapest. And at our house stockings and shoes do not bother our children much in the summer time, for they like to wear the barefoot sandals, which permit the feet to be bare yet save them from cuts and bruises.

As for coats, farm children have little use for pique or cotton goods for coats in summer, for the outing is usually in a machine and if they need a coat at all it must be warmer than a cotton one would be. Old overcoats make our children's coats very nicely. I have made a coat recently for a three-year-old out of an old all-wool coat which I ripped and turned. It is lined with black-and-white check, which was an old dress. The buttons were salvaged from a discarded coat. This coat compares favorably with any $10 to $15 coat I have seen in the stores recently, yet it cost me only $3; and if I had had time to make it myself it would have cost nothing but the thread.

While it takes pretty careful planning to make the money go around our family, yet there is a great satisfaction that well repays me in the feeling that there is sure to be a clean whole suit ahead for each child so that there will not have to be hurried washing out of clothing for an unexpected opportunity or emergency.—Mrs. Chester E. Lee.

Rompers For Baby



EASILY MADE CREEPERS FOR BABY

A, Pattern for Creepers; B, Piece For Crotch; C, Plan For Bib and Shoulder Straps; D, Way the Shoulder Straps Are Crossed at Back.

CREEPERS AND ROMPERS FOR BABY

The creepers here shown are readily fastened and unfastened, do not interfere with baby's activity, and stay in place. They are intended to be worn over baby's other garments at times when it is impracticable to have rompers on. This garment affords ample protection to the best clothes that baby may have on, and can be taken off in a hurry, leaving baby in company trim.

The top edge is slightly gathered into a band long enough to go around baby's body under the arms, and the shoulder straps hold the creepers up. Buttoning the legs together, as shown, instead of sewing them up, allows one to change the diapers without taking off the creepers.

The mother who invented this little garment for her baby made some of cornflower blue denim and some of tan denim, but duck or ticking or any such strong goods will answer equally well.

The little pocket will add very much to baby's pride in its creepers, so do not fail to put it on.

The rompers shown in Figure 1 are of light blue chambrey, with the quickly made long and short stitch trim about the edge of the neck and the sleeves, also around the waist portion where it "makes believe" that the waist is sewed to the panties; and around the side openings. These rompers are made of simply a straight breadth of materials, with a square hole cut for the neck, and the sleeves sewed up kimono style to the waist line, from where the sides are left open and buttonholed, as you see, in long and short stitch. The bottom of each

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end of the breadth is hemmed and buttoned together. It certainly is a very simple and easily made little contraption to keep baby clean. And it is easy to wash and iron, too.

Fig. 2 shows a pretty apron (also made of a single length of material) which will delight any little wee maid. It is made of white crash, and has big open armholes, is held together with an under arm strap and has a big pocket on the right side buttonholed around with heavy embroidery silk Copenhagen blue in color. This floss is also used to put on the figures shown on this garment. If you cannot draew the designs, get some one to do it for you, then outline them.—Louise E. Dew, N. Y.

FLUFFY MASHED POTATO

There are some women who seem to be able always to make mashed potatoes so that they are white and fluffy, while there are others who make them so that they look gray and are soggy.

This is because unfortunately all women do not know how to cook potatoes.

To make mashed potatoes white and fluffy, pare off the skin and remove all specks. Potatoes are starchy so must be kept boiling all the time they are cooking. Just as soon as they are tender enough to be easily pierced thru with a fork, drain all the water from them and dry them over the fire for a minute. When dry mash them fine with a potato masher. Add cup of warmed milk per 5 medium-sized potatoes, and beat them until they become creamy and white. The more thoroly they are beaten, the whiter and lighter they will be. Season them with salt. Pile them lightly into a serving dish and do not cover or smooth down the top, but leave them rough so that the steam in them can easily escape. Bits of butter may be put on the top of the dish as a garnish. Set them in a warm place until time to be served. The secret is to keep the potato from over-cooking and to keep them as dry as possible after they are once done so that they will not become soggy or clamy.—Edith Allen.

ANOTHER MUSKMELON DELICACY

My grandmother used to use green muskmelons just as I later used large sweet peppers, as cases for her mango pickles. She used the unripe but not too immature melons, and, taking out the seeds of course, she stuffed them with the usual chopped cabbage and celery mixture just as for stuffed pepper pickles, pickling them in a jar of vinegar diluted and seasoned exactly as one pickles the pepper stuffing.

These were much more delicious to my taste than the stuffed pepper pickles. — Mrs. N. W. Wallace, Broome Co., N. Y.

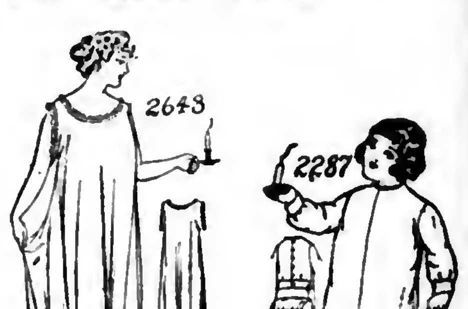
SWEET PICKLED CUCUMBERS

This is for one quart. You can use any size cucumbers you wish. Peel, then slice a little thicker than you do for on the table. Place them in an enamel ware kettle, pour boiling water over them to cover, put in a small handful of salt and let stand over night. In the morning drain. Boil two cups water, one cup strong vinegar, ½ cup sugar, add one hot pepper or mixed spices to suit taste. Put in cucumbers and let cook thru. Then put in cans. If not sour enough when ready to serve give them a dash of vinegar.—Mary Larason, Warren Co., N. J.

PENNSYLVANIA FARMER PATTERNS

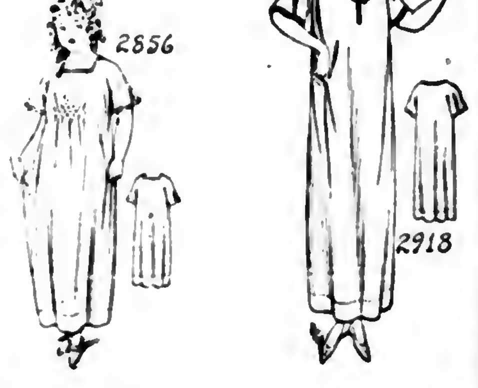
Give figures and letters of each pattern exactly as printed at beginning of each description or we will not be responsible for correct filling of orders. Give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261 S. Third Street, Philadelphia, Pa.

2648.—Simple Night Dress.—This is a good style for muslin, lawn, batiste, nainsook, dimity or cotton crepe. The pattern is cut in four sizes: Small, 32-34; medium, 36-38; large, 40-42 and extra large, 44-46 inches bust measure. Size medium will require 4½ yards of 36-inch material. Pattern, 10 cents.



2287.—Child's Night Drawers.—Suitable for flannelette, or muslin. The garment affords protection for the feet and is most comfortable. If desired, the foot portions may be omitted. The pattern is cut in five sizes: 4, 6, 8, 10 and 12 years. It requires 3 yards of 36-inch material for a 6-year size. Pattern, 10 cents.

2856.—Pretty Nightgown.— This pretty "nightie" is nice for muslin, nainsook, dimity, crossbar muslin or cotton crepe. It may be embroidered, smocked or decorated with ribbon. The pattern is cut in 6 sizes: 4, 6, 8, 10, 12 and 14 years. Size 10 requires 2⅝ yards of 36-inch material. Pattern, 10 cents.



2918.—Comfortable Night Dress. —This would be pretty in pink crepe with facings or binding of blue washable ribbon. Hemstitching, embroidered scallops, picot or edging would be nice also. The pattern is cut in 4 sizes: small, 32-34; medium, 36-38; large, 40-42; extra large, 44-46 inches bust measure. Size medium requires 4½ yards of 36-inch material. Pattern, 10 cents.

Why don't you join the constantly increasing number of women who, for informal parties, uses paper cups, saucers and plates, thus eliminating much of the "cleaning-up" work?

The "ounce of prevention" applies also to water in the cogs of the egg beater and the ice-cream freezer. It's easier to keep the water out than to try to remove the rust and dry the cogs after it's in.

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PIN MONEY FOR BOYS AND GIRLS

"Just like finding money, isn't it?" The boy that said this got an enthusiastic answer from his comrade, but with this qualification, "Got to have 'em nice, tho, and be there when they want 'em."

The things referred to were simple ferns from the woods. The boys and girls of that family are scouring the forests far and near in search of ferns. Their market is the flower dealers of the nearby city, and there does not seem to be any likelihood that there will not always be a sale for the delicate, beautiful things, and all grown without effort on the part of anybody, the only work being to gather and deliver them, as Johnny says, in good shape and on time. The young folks have gained quite a bit of pin money this way. They have a standing arrangement with the leading florists to bring them so many each week.

Two other lads I know paid a doctor's bill for their mother by going into a swamp not far from their home and gathering a big pile of what is commonly known as snakeroot for the physician who did the service for them. The doctor used the plants in his practice. To do work of this kind, the boys and girls must learn the names of the plants they are to gather and understand how to care for them and what condition to deliver them in. The druggists can tell you. A good many of the common plants we know are in demand for medicinal purposes. Flagroot is one of these. The botanical name is calamus root. It, like the snake root, grows in swampy places. Dandelion root is still another that is needed. In most large cities there is some one who makes a business of collecting these roots and plants and preparing them for use By a little effort the young folks can get track of these and so make quite a business of it. The main thing is to know plants and be willing to work to get them. The pay is as Johnny tells us, pretty nearly like finding money.—E. L. V.

THE GRANGE AND THE ANTI-STRIKE CLAUSE

Is an organization that favors the little red school house for rural Pennsylvania capable of passing judgment on the anti-strike clause? Why single out the railroad men? Why stir up more enmity of organized labor? We don't want Big 4 opposition to the "Clapper-Hersman Bill." Would it not be better to bring our influence to bear on the "Big" 4 to avert strikes and give them assistance to settle grievances and investigate the grievances with our own agencies and not believe newspaper reports or statements? The grange might be able to enlist the support of some seven million farmers if they went at it right. Why did the grange neglect to stir up some sentiment and cause the Government to purchase the 2½ million tons of the Cuban sugar crop which slipped by because of lack of action? We could have secured the help of the "Big 4" to get that deal put over. I would advise grange members to go to the railroad station and look over the station agent and a few other railroad men and see if they look like Bolshevists. The right to strike is their only weapon they cannot curtail any production. What they need is assistance to adjust matters. Why use a club until it becomes necessary? Why not assist to an economic betterment instead of needlessly stirring up strife and enmity.—Farmer, Tompkins Co., N. Y.

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WATCH the man in your neighborhood who makes the most money from his corn crop. He knows how to get big yields. Every year he puts a few *extra* loads into his corn crib and those *extra* loads pay his profit.

You must have a fertile soil to get big yields. There must be ammonia to give the young plants a quick start. There must be phosphoric acid to grow strong roots in the Spring and to make hard ripe corn in the Fall. There must be potash to make sturdy stalks and to fill the ears.

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For use on clay loams or other soils which contain plenty of potash—
2-12-0
For use where the soil has plenty of available ammonia; where plenty of manure is used; where legumes are plowed under—
0-10-8 or 0-12-4 — 0-12-2 or 0-16-0
Our Automatic Formula Finder will help you select the right fertilizer to use on your other crops. Be sure to send for one—no charge or obligation.

We can help you solve this problem of profitable corn growing. Send for our booklet, "More Plantfood for More Corn". Also ask for our Automatic Formula Finder. It will help you select the kind of fertilizer needed for all your other crops. Both are free.

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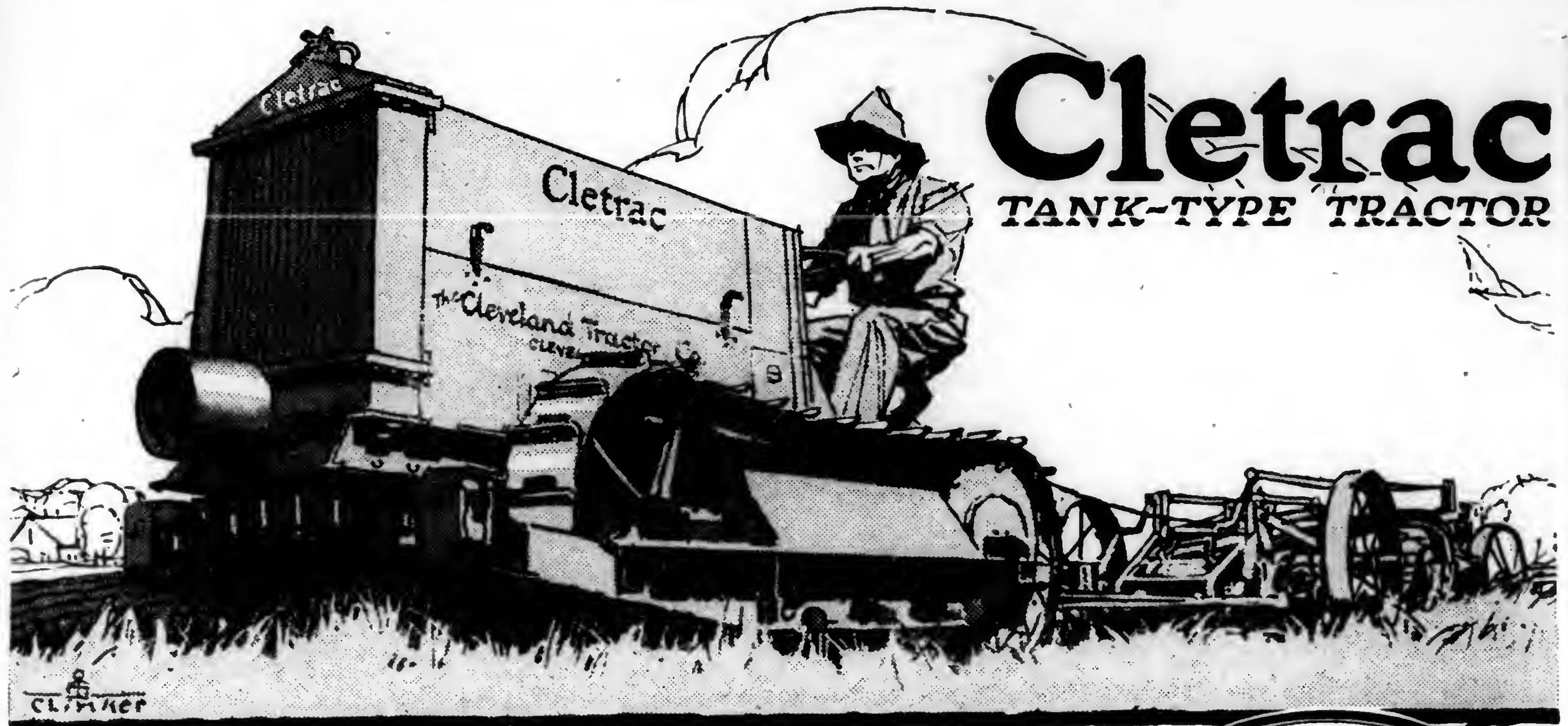

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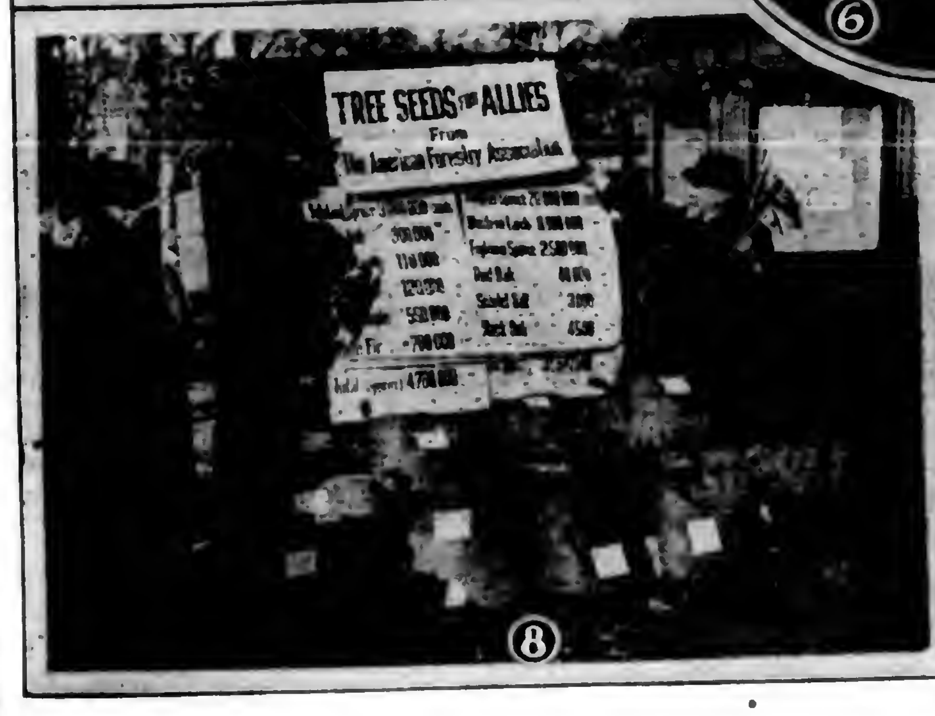

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1.—The Five Socialists Rejected from New York Legislature. The Trial is Still On.

2.—Sir Oliver Lodge, English Scientist Lecturing in this Country on Spiritualism.

3.—Franklin Lane Secretary of the Interior Having His "Census Taken."

4.—A Bit of Lake Michigan's Coast in Zero Weather.

5.—Helen Duncan Jameson, a 14-Year-Old Artist who beat the Pressionals in a Contest.

6.—Alexander Millerand, Premier of France, Succeeding Clemanceau, "The Tiger."

7.—The Star Basket Ball Player in Holy Name Girls' School. She Never Misses.

8.—Showing Shipment of Tree Seeds Sent By This Country For Planting in France.

9.—The Italian Government Decorates American Women for Notable Red Cross Work

KEZIAH COFFIN

By JOSEPH C. LINCOLN

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(Continued From Last Week.)

"Sure! Blast it all! I found the log. It ain't been kept for a fortni't, but there's enough. It's smallpox, I tell you. Two men died of it three weeks ago. The skipper died right afterwards. The mate— No wonder them that was left run away as soon as they sighted land. Come out! Do you want to die, too?"

From the poison pit at the foot of the ladder the man in the bunk called once more.

"Water!" he screeched. "Water! Are you goin' to leave me, you d—n cowards?"

"For Heaven sakes!" cried Burgess, clutching the rail, "what's that?"

Ellery answered him. "It's one of them," he said, and his voice sounded odd in his own ears. "It's one of the crew."

"One of the— Down there? Has he ———"

"Yes, he has."

"Help! help!" screamed the voice shrilly. "Are you goin' to leave me to die all alone? He-elp!"

The minister turned. "Hush!" he called, in answer to the voice, "hush! I'll bring you water in a minute. Burgess," he added, "you and the rest go ashore. I shall stay."

"You'll stay? You'll stay? With that? You're crazy as a loon. Don't be a fool, man! Come on! We'll send the doctor and somebody else—some one that's had it, maybe, or ain't afraid. I am and I'm goin'. Don't be a fool."

Thoph, from the dory, shouted to know what was the matter. Ellery climbed the ladder to the deck and walked over to the rail. As he approached, Burgess fell back a few feet.

"Thoph," said the minister, addressing the pair in the dory, "there is a sick man down in the forecastle. He has been alone there for hours, I suppose, certainly since his shipmates ran away. If he is left longer without help, he will surely die. Some one must stay with him. You and the rest row ashore and get the doctor and whoever else you can. I'll stay here till they come."

Thoph and his companions set up a storm of protest. It was foolish, it was crazy, the man would die anyhow, and so on. They begged the minister to come with them. But he was firm.

"Don't stop to argue," he urged. "Hurry and get the doctor."

"Come on, Charlie," ordered Bill. "No use talkin' to him, he's set. Come on! I won't stay alongside this craft another minute for nobody. If you be comin', come."

Burgess, still protesting, clambered over the rail. The dory swung clear of the brig. The rowers settled themselves for the stroke.

"Better change your mind, Mr. Ellery," pleaded Charlie. "I hate to leave you this way. It seems mean, but I'm a married man with children, like the rest of us here, and I can't take no risks. Better come, too. No? Well, we'll send help quick as the Lord'll let us. By the Almighty!" he added, in a sudden burst, "you've got more spunk than I have—yes, or anybody I ever come across. I'll say that for you, if you are a parson. Give way, fellers."

The oars dipped, bent, and the dory moved off. The sound of the creaking thole pins shot a chill thru Ellery's veins. His knees shook, and involuntarily a cry for them to come back rose to his lips. But he choked it down and waved his hand in farewell. Then, not trusting himself to look longer at the receding boat, he turned on his heel and walked toward the forecastle.

The water butts stood amidships, not far from the open door of the galley. Entering the latter he found an empty saucepan. This he filled from the cask, and then, with it in his hand, turned toward the black hatchway. Here was the greatest test of his courage. To descend that ladder, approach that bunk, and touch the terrible creature in it, these were the tasks he had set himself to do, but could he?

He thought of a great many things and of many people as he stood by the hatchway, waiting; among others, he thought of his housekeeper, Keziah Coffin. And, somehow, the thought of her, of her pluck, and her self-sacrifice, were the very inspirations he needed. "It's the duty that's been laid on me," Keziah had said, "and it's a hard one, but I don't run away from it." He began to descend the ladder.

The sick man was raving in delirium when he reached him, but the sound of the water lapping the sides of the saucepan brought him to himself. He seized Ellery by the arm and drank and drank. When at last he hesitated, the pan was half empty.

The minister laid him gently back in the bunk and stepped to the foot of the ladder for breath. This made him think of the necessity for air in the place and he remembered the little window. It was tightly closed and rusted fast. He went up to the deck, found a marlin spike, and, returning, broke the glass. A sharp, cold draught swept through the forecastle, stirring the garments hanging on the nails.

An hour later, two dories bumped against the side of the "San Jose." Men, talking in low tones, climbed over the rail. Burgess was one of them; ashamed of his panic, he had returned to assist the others in bringing the brigantine into a safer anchorage by the inlet.

Dr. Parker, very grave but businesslike, reached the deck among the first.

"Mr. Ellery," he shouted, "where are you?"

The minister's head and shoulders appeared at the forecastle companion. "Here I am doctor," he said. "Will you come down?"

The doctor made no answer in words, but he hurried briskly across the deck. One man, Ebenezer Capen, an old fisherman and ex-whaler from East Trumet, started to follow him, but he was the only one. The others waited, with scared faces, by the rail.

"Get her under way and inshore as soon as you can," ordered Dr. arker. "Ebenezer, you can help. If I need you below, I'll call."

The minister backed down the ladder and the doctor followed him. Parker bent over the bunk for a few moments in silence.

"He's pretty bad," he muttered. "Mighty little chance. Heavens, what a den! Who broke that window?"

"I did," replied Ellery. "The air down here was dreadful."

The doctor nodded approvingly. "I guess so," he said. "It's bad enough now. We've got to get this poor fellow out of here as soon as we can or he'll die before to-morrow. Mr. Ellery," he added sharply, "what made you do this? Don't you realize the risk you've run?"

"Some one had to do it. You are running the same risk."

"Not just the same, and, besides, it's my business. Why didn't you let some one else, some one we could spare— Humph! Confound it, man! didn't you know any better? Weren't you afraid?"

His tone rasped Ellery's shaken nerves.

"Of course I was," he snapped irritably. "I'm not an idiot."

"Humph! Well, all right; I beg your pardon. But you oughtn't to have done it. Now you'll have to be quarantined. And who in thunder I can get to stay with me in this case is more than I know. Just say smallpox to this town and it goes to pieces like a smashed egg. Old Eb Capan will help, for he's had it, but it needs more than one."

"Where are you going to take— him?" pointing to the moaning occupant of the bunk.

"To one of the empty fish shanties on the beach. There are beds there, such as they are, and the place is secluded. We can burn it down when the fuss is over."

"Then why can't I stay? I shall have to be quarantined, I know that. Let me be the other nurse. Why should anyone else run the risk? I have run it. I'll stay."

Dr. Parker looked at him. "Well!" he exclaimed. "Well! I must say, young man, that you've got— Humph! All right, Mr. Ellery; I'm much obliged."

CHAPTER XVII

In Which Ebenezer Capen is Surprised

Before sunset that afternoon the San Jose was anchored behind the point by the inlet. The fishing boats changed moorings and moved farther up, for not a single one of their owners would trust himself within a hundred yards of the stricken brigantine. As soon as the anchors were dropped, the volunteer crew was over side and away, each of its members to receive a scolding from his family for taking such a risk and to have his garments sulphur-smoked or buried. Charlie Burgess, whose wife was something of a Tartar, observed ruefully that he "didn't take no comfort 'round home nowadays; between the smell of brimstone and the jawin's 'twas the hereafter ahead of time."

The largest of the beach shanties, one which stood by itself a quarter of a mile from the light, was hurriedly prepared for use as a pesthouse and the sick sailor was carried there on an improvised stretcher. Dr. Parker and Ellery lifted him from his berth and, assisted by old Ebenezer Capen, got him up to the deck and lowered him into the dory. Ebenezer rowed the trio to the beach and the rest of the journey was comparatively easy.

The shanty had three rooms, one of which was given up to the patient, one used as a living room, and, in the third, Capen and the minister were to sleep. Mattresses were procured, kind-hearted and sympathizing townspeople donated cast-off tables and chairs, and the building was made as comfortable as it could be, under the circumstances. Sign boards, warning strangers to keep away, were erected, and in addition to them, the Trumet selectmen ordered ropes stretched across the lane on both sides of the shanty. But ropes and signs were superfluous. Trumet in general was in a blue funk and had no desire to approach within a mile of the locality. Even the driver of the grocery cart, when he left the day's supply of provisions, pushed the packages under the ropes, yelled a hurried "Here you be!" and, whipping up his horse, departed at a rattling gallop.

The village sat up nights to discuss the affair and every day brought a new sensation. The survivors of the San Jose's crew, a wretched, panic-stricken quartette of mulattos and Portuguese, were apprehended on the outskirts of Denboro, the town below Trumet on the bay side, and were promptly sequestered and fumigated, pending shipment to the hospital at Boston. Their story was short but grewsome. The brigantine was not a Turks Islands boat, but a coaster from Jamaica. She had sailed with a small cargo for Savannah. Two days out and the smallpox made its appearance on board. The sufferer, a negro foremast hand, died. Then another sailor was seized and also died. The skipper, who was the owner, was the next victim, and the vessel was in a state of demoralization which the mate, an Englishman named Bradford, could not overcome. Then followed days and nights of calm and terrible heat, of pestilence and all but mutiny. The mate himself died. There was no one left who understood navigation. At last came a southeast gale and the San Jose drove before it. Fair weather found her abreast the Cape. The survivors ran her in after dark, anchored, and reached shore in the longboat. The sick man whom they had left in the forecastle was a new hand who had shipped at Kingston. His name was Murphy, they believed. They had left him because he was sure to die, like the others, and, besides, they knew some one would see the distress signals and investigate. That was all, yes. Santa Maria! was it not enough?

This tale was a delicious tidbit for Didama and the "daily advertisers," but, after all, it was a mere side dish compared to Mr. Ellery's astonishing behavior. That he, the minister of the Regular church, should risk his life, risk dying of the smallpox, to help a stranger and a common sailor, was incomprehensible. Didama, at least, could not understand it, and said so. "My soul and body!" she exclaimed, with uplifted hands. "I wouldn't go nigh my own grandfather if he had the smallpox, let alone settin' up with a strange critter that I didn't know from Adam's cat. And a minister doin' it! He ought to consider the congregation, if he done nothin' else. Ain't we more important than a common water rat that, even when he's dyin,' swears, so I hear tell, like a ship's poll parrot? I never heard of such foolishness. It beats me!"

It "beat" a good many who, like the Widow Rogers, could not understand self-sacrifice. But there were more, and they the majority of Trumet's intelligent people, who understood and appreciated. Dr. Parker, a man with a reputation for dangerously liberal views concerning religious matters and an infrequent attendant at church, was enthusiastic and prodigal of praise.

"By George!" vowed the doctor. "That's my kind of Christianity. That's the kind of parson I can tie to. I'm for John Ellery after this, first, last, and all the time. And if he don't got the smallpox and die, and if he does live to preach in the Regular church, you'll see me in one of the front news every Sunday. That's what I think of him. Everybody else ran away and I don't blame 'em much. But he stayed. Yes, sir, by George! he stayed. 'Somebody had to do it,' says he. I take off my hat to that young fellow."

Captain Zeb Mayo went about cheering for his parson. Mrs. Mayo cooked delicacies to be pushed under the ropes for the minister's consumption. The parish committee, at a special session, voted an increase of salary and ordered a weekly service of prayer for the safe delivery of their young leader from danger. Even Captain Elkanah did not try to oppose the general opinion; "altho I cannot but feel," he said, "that Mr Ellery's course was rash and that he should have considered us and our interest in his welfare before———"

"Dum it all!" roared Captain Zeb, jumping to his feet and interrupting, "he didn't consider himself, did he? and ain't he as important to himself as you, Elkanah Daniels, or anybody else in this meetin' house? Bah! don't let's have no more talk like that or I'll say somethin' that won't be fit to put in the minutes."

Even at Come-Outers' meeting, when Ezekiel Bassett hinted at a just punishment fallin' on the head of the leader of the Pharisees," Thoph Black rose and defended Ellery.

Keziah Coffin was, perhaps, the one person most disturbed by her parson's heroism. She would have gone to the shanty immediately had not Dr. Parker prevented. Even as it was, she did go as far as the ropes, but there she was warded off by Ebenezer until Ellery came running out and bade her come no nearer.

"But you shan't stay here, Mr. Ellery," vowed Keziah. "Or, if you do, I'll stay, too. I ain't afraid of smallpox."

"I am," confessed the minister, "and I'm not going to let anyone I care for expose themselves to it unnecessarily. If you try to come in here I shall"—he smiled—"well, Capen and I will put you off the premises by force. There!"

Keziah smiled, too, in spite of herself. "Maybe you'd have your hands full," she said. "O John, what in the world made you do this thing? It's dreadful. I shan't sleep a wink, thinkin' of you. I just must come here and help."

"No, you mustn't. You can come as far as the—the dead line once in a while, if Captain Mayo will drive you over, but that's all. I'm all right. Don't worry about me. I'm feeling tiptop and I'm not going to be sick. Now go home and made me some of that—some of those puddings of yours. We can use them to advantage, can't we, Capen?"

"Bet yer!" replied Ebenezer with enthusiasm. Kesiah, after more expostulation, went back to the parsonage, where the puddings were made and seasoned with tears and fervent prayers. She wrote to Grace and told her the news of the San Jose, but she said nothing of the minister's part in it. "Poor thing!" sighed Keziah. "she's bearin' enough already. Her back ain't as strong as mine, maybe, and mine's most crackin'. Well, let it crack for good and all; I don't know but that's the easiest way out."

The sick sailor grew no better. Days and nights passed and he raved and moaned or lay in a stupor. Ebenezer acted as day nurse while Ellery slept, and, at night, the minister, being younger, went on watch. The doctor came frequently, but said there was no hope. A question of time only, and a short time, he said.

Capen occupied his mind with speculations concerning the patient.

"Do you know, parson," he said, "seem's if I'd seen the feller somewheres afore. 'Course I never have, but when I used to go whalin' v'yages I cruised from one end of creation to t'other, pretty nigh, and I might have met him. However, his own folks wouldn't know him now, would they? so I cal'late I'm just gettin' foolish in my old age. Said his name's Murphy, them ha'f-breeds did, didn't they? I know better'n that."

"How do you know?" asked Ellery, idly listening.

"'Cause when he's floppin' round on the bed, out of his head, he sings out all kinds of stuff. A good deal of it's plain cussin', but there's times when he talks respectable and once I heard him say 'darn' and another time 'I cal'late.' Now no Irishman says that. That's Yankee, that is."

"Well, he ought to know his own name."

"Prob'ly he does—or used to—but most likely he don't want nobody else to know it. That's why he said 'twas Murphy and, bein' as he did say it, I know 'tain't it. See my argument, don't you, Mr. Ellery?"

"Yes, I guess so."

"Um—hm! Why, land sakes, names don't mean nothin' with seafarin' men. I've seen the time when I had more names— Humph! Looks kind of squally off to the east'ard, don't it?"

That night the sick man was much worse. His ravings were incessant. The minister, sitting in his chair in the living room, by the cook stove, could hear the steady stream of shouts, oaths and muttered fragments of dialogue with imaginary persons. Sympathy for the sufferer he felt, of course, and yet he, as well as Dr. Parker and old Capen, had heard enought to realize that the world would be none the worse for losing this particular specimen of humanity.

The wooden clock, loaned by Mrs. Parker, the doctor's wife, ticked steadily, although a half hour slow. Ellery, glancing at it to see if the time had come for giving medicine, suddenly noticed how loud its ticking sounded. Wondering at this, he was aware there was no other sound in the house. He rose and looked in at the door of the adjoining room. The patient ceased to rave and was lying quiet on the bed.

The minister tiptoed over to look at him. And, as he did so, the man opened his eyes.

"Halloo!" he said faintly. "Who are you?"

Ellery, startled, made no answer.

"Who are you?" demanded the man again. Then, with an oath, he repeated the question, adding: "What place is this? This ain't the fo'castle. Where am I?"

"You're ashore. You've been sick. Don't try to move."

"Sick? Humph! Sick? 'Course I been sick. Don't I know it? The d—n cowards run off and left me; blast their eyes! I'll fix 'em for it one of these days, you hear———"

(Continued Next Week.)

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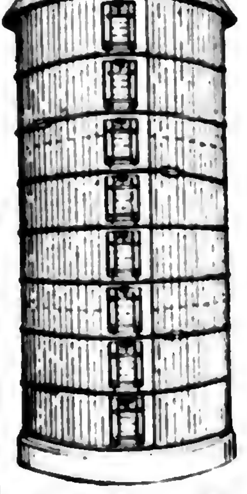

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The Feed Market Situation

Immediate prospects in the feed trade point to lower prices on the whole in the face of the fact that in the past month fluctuations have given little encouragement to bears or bulls. In some commodities moderate declines have occurred. Money markets and economic conditions in general are not favorable to bullishness on prices. Cottonseed cake and meal have receded and display extreme weakness even on the lower level. An easy tone rules in the linseed feed market. The cheaper grades of alfalfa have declined, tho the offerings sought by dairymen have maintained firmness. Bran has strengthened in price, but the consuming trade is not taking hold freely. In the coarse grain trade sharp price movements have been checked by the disappointing corn shipments to terminals, the result being a temporarily strong market.

Alfalfa Hay

While Eastern centers are complaining of the extremely light movement of hay, Western markets are virtually being flooded with offerings from the important alfalfa producing states, including Colorado, Kansas, Nebraska, Missouri, and as far westward as Nevada and Utah. Never before in the history of the trade has so much alfalfa moved to market, the weekly arrivals of the legume in Kansas City alone amounting to about 1,000 cars for the past month or two months..

So far as the dairyman is concerned, the market on alfalfa shows little change. In Kansas City, the leading market, choice alfalfa is selling around $38 a ton, the high point of the crop, No. 1 at $35 to $36.50. The amount of alfalfa grading No. 1 and choice reaching the Kansas City market makes up only an insignificant part of the total arrivals, and with a persistent demand from dairymen and other feeders, these grades of pea-green and leafy alfalfa display strength. But there is extreme weakness on the cheaper offerings, on hay grading standard, No. 2 or No. 3. The declines in the past month have amounted to as much as $5 a ton.

No sharp break in prices is expected until the latter part of March or early in April, when the approach of the pasture season and offers of early cut 1920 hay of the irrigated districts in the Far Southwest, together with marketing of surplus winter stocks, usually depress values. Manufacturers of alfalfa meal are the principal buyers of the cheaper grades of hay, but lack of an outlet for their product has checked their demand on markets. Buyers of alfalfa molasses feeds in the East should demand concessions, if not already made, on the product. In this connection, there is an acute shortage of molasses, owing to labor difficulties in Cuba, which is off-setting to an extent the easier tone in hay.

Linseed Meal

Continued refusal of the consuming trade to take hold at recent high levels has forced a downturn in the prices for the high protein feeds. Linseed cake and meal are meeting a fair to good demand for spot shipment, but inquiry for late February and March delivery is very light. Prices reflect such a situation in the market, meal for spot shipment holding around $81 a ton, basis Minneapolis, the leading crushing point, down to $79 a ton for late February shipment, and around $77 to $78 a ton for March delivery. But buyers are holding off even at the reduced level, which for spot sales represents a loss of about $2 a ton compared with a month ago. The export market for cake is virtually stagnant, and crushers are offering their product on the basis of $70 to $71 a ton, basis seaboard points, and some sales are being made on this basis to feeders. The bullish item in the linseed feed market has been and still continues to be the acute shortage of flaxseed, quotations on the product recently having soared well above $5 a bushel in Northwestern markets. Supplies are expected from Argentine, where a near record crop is being gathered, but arrivals thus far have been light, affording little relief to domestic crushers.

The first important declines of the season have occurred in the cottonseed feed trade, both cake and meal being off about $5 a ton compared with the early part of January. Cake and meal of 43 percent protein is being offered in Chicago around $78 to $79 a ton, and in Eastern states the market has receded to a level below $80 a ton. In the Southeast, from which section dairymen and other consumers of Pennsylvania and surrounding states draw the bulk of their supplies, prices have receded rather sharply also. Manufacturers of fertilizer and commercial mixed feeds have bought on a large scale, but they have operated cautiously in an effort, which in a large measure has proven successful, to force values down. Mixed feeds containing either cottonseed or linseed meal should be available at a slightly reduced level.

Cottonseed Meal

Sentiment in the market for linseed and cottonseed feeds is bearish on the whole. Some maintain that fertilizer manufacturers are in a position to absorb the total production of crushers of the South, which buying would strengthen values for the higher quality cottonseed meal. But large supplies of cake and meal of 41 to 45 percent protein content have been shipped from the South, and without sufficient outlet among rangemen and other feeders, mill agents are unable to dispose of the product in transit. It is probable therefore that much feed will be offered at a discount, which is the case usually where distressed offerings are available. For the more distant offers at Minneapolis, around $43 in future, however, the market is in a more bullish position, as seed stocks are being depleted, with many mills already shut down for the season, and little cake and meal stored for later consumption. But pressure of other feedstuffs may offset bullishness later.

Wheat Bran

Outstanding in the bran market is the continued hesitancy on the part of feeders in making purchases. Demand from the consuming trade in the East, as well as in the South, Southeast, Central States and other sections, has been light, and interior jobbers or retail handlers still are holding liberal stocks. Despite the absence of important buying by dairymen and other feeders, strength has ruled the market. At important Western milling points, bran is selling around $40 to $41 a ton, this figure prevailing in Kansas City, $4 to $43 being asked for spring whe in St. Louis, $44 to $44.50 in Chi

go, with far Eastern markets round $5 a ton higher than the Chicago basis. The market is hardly on a stable basis, developments of even minor character forcing fluctuations of around $2 to $3 a ton. Colder temperatures have improved the trade, or rather engendered bullishness on the part of the speculative interests.

Shorts

Approach of the spring farrowing season is a helpful influence in the shorts market, and prices are responding to an improved inquiry. Higher prices are the prospect for the heavier official feed, but it is improbable that advance of importance will occur before the latter part of February or until March. Mills and dealers hold large stock of shorts, having been accumulatd in recent months, during which time demand was virtually stagnant. For this reason, some in the trade consider advances doubtful. Gray shorts or standard middlings are selling around $55 to $58 a ton in the East. Improvement in shorts will have no noticeable effect on the lighter offal, handlers generally manifesting a slightly bearish attitude toward the probable course of prices for bran in the immediate future.

Grain

But the corn isn't coming. January failed to witness the long expected heavy winter corn movement, and, while the present heavy short interest in the speculative market is based on the belief that February will be "the month," many are beginning to doubt whether a liberal run will be witnessed until after spring work is out of the way. Serious car shortage is the basis for the light movement, and not unwillingness of producers to sell. The cash grain is holding around $1.50 a bushel in Chicago, having sold on practically that basis for more than a month. Oats are holding around [illegible] cents a bushel for feed grades on leading terminals, with brisk export inquiry strengthening the belief that $1 will be reached in not the distant future. Liberal marketings from the Southwest are offering pressure against kafir and milo prices, but scratch feed manufacturers of the East are absorbing the supplies around $2.40 per hundredweight. Without a break in corn, the sorghum grains will not recede further to any extent, but there is still confidence of a downturn in the coarse grain.—Sosland.

GOVERNMENT PROGRESS WITH MORGAN HORSES

That the breeding of Morgan horses at the Morgan Horse Farm of the United States Department of Agriculture is making excellent progress is shown by a report of the Bureau of Animal Industry. The farm is located at Middlebury, Vt. At the end of the last fiscal year there were on hand 9 mature stallions, 11 young stallions, 30 mares and fillies, and 7 geldings (including 3 draft work geldings), a total of 57 animals.

A test in feeding weanling colts and the grain and hay they would has given excellent results in growth and development without harmful effects. The average daily feed consumed by the colts in this test was: Oats, 8.52 pounds; bran, 3.39 pounds; alfalfa, 5.25 pounds; timothy, 4.91 pounds.

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THE FARM DRAFT HORSE

(Continued from last week.)

The Shire

The Shire is a prompt-walker, trots straight has large eyes, good bone, fine depth and spring of rib. He has width and length of quarters and well-muscled thighs. Once in a while you get a gray or roan, but the good solid colors predominate. No breed is more suited for crossing with grade mares. One can tell where a Shire stallion is standing by merely driving thru a community and noting the yards. Shire stallions might be used to good advantage in improving our eastern farm horses.

The Clydesdale

The Clydesdale has plenty of action and grace, perhaps a bit weak in the neck, but you can find good necks if you look for them in the breed. The best walking draft horse in existence, true, even step, each foot picked up, well-advanced with a long stride and coming off the ground lightly. Bay is the pre-dominating color and the best stallions breed closely after themselves. An excellent breed to use for upgrading our eastern farm horses. The grades mature quickly and possess activity, endurance and quality.

The Percheron

About the Percheron there is a dash and gaiety which we do not find in the other breeds. It has a clean leg, less hair than the other breeds. The bone is not large, perhaps as some of the others, but it has stood the test of time and work on farms and in the street. The Percheron breed is noted for clean cut, small heads and an active, intelligent eye. There is plenty of range to the best stallions of the breed. In selecting a stallion look for a small head, long neck fitting snugly into sloping shoulders, a straight back and quarters as level as you can find; deep round ribs and as much bone as you can get. Black and gray are the predominating colors, but occasionally a bay, chestnut or roan may be found. Percherons seem to be taking the lead on eastern farms. The grades mature early, attain good size, have strong bone, are well muscled, with full middles and splendid feeding capacity.

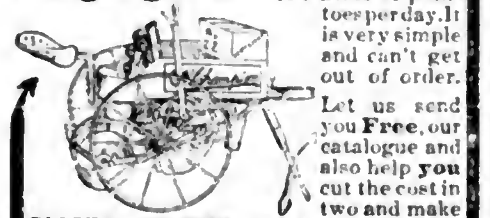
The essential point in the use of brood mares on the farm is intelligent management. The man who can give his work teams good care and plan his work so as to avoid overcrowding them at certain times during the year cannot afford to neglect this opportunity to add to his net income, as they do his work in the most profitable way. Any farmer of average intelligence can handle brood mares and raise good colts, as there is no secret about it. They should not be made to suffer neglect, nor should a careless hired man be put in charge of a team of good mares. Three good mares, intelligently handled can do as much work on the farm as a pair of geldings or mules can do, and can at the same time raise good colts and do justice to them. Liberal allowance for their food cost will be $80 per annum against $90 per annum for the geldings that are constantly in harness. Food outlay for the mares is $240 and $180 for the geldings. The two geldings or mules return nothing except their work, while the three mares, if well cared for, can be relied upon to produce two colts per year. The colts, even as grades, are worth $125 per head as yearlings, while the cost of bringing them to this age will not exceed $50 per head, including service fee. With a difference of $60 in feed cost we have after deducting the cost of the grade colts as yearlings $150 more from the mares than from the geldings, or a profit of $90, even from the use of grade mares. If one has the feed and conveniences to raise and fit one or two young teams for sale each year he can get more out of his colts than he can by selling them as yearlings. In fact many farmers find that they can more than double their profits by selling their colts in matched pairs when they are three and four years old.

When mares are worked, the colts should be left in the barn and fed all the oats and wheat bran they will clean up. Fed in this way they should tip the scales at from 600 to 700 lbs at six or seven months of age. This is the critical period in developing a draft horse. If well fed and cared for the colt should never stop growing and should develop into a big rugged colt weighing 900 pounds at one year old. The best bred colt will soon slip into the scrub class if he is not properly fed and sheltered. On the other hand he should not be kept confined in a warm stall and given all the rich feeds he will eat. Kept in such a way he will develop bog spavins, crooked feet and weak legs. The man who avoids extremes, gives his colts all the good alfalfa clover, oats and bran they will eat and at weaning time supplements this ration with a gallon of skim milk morning and night, will have no trouble in developing good horses of the draft type.

Size alone does not make an efficient horse; he must possess activity quality and endurance. The colt must have outdoor exercise to develop muscular activity and endurance. Provide him with dry and comfortable sleeping quarters and plan the yards so that he can get out and run at large a few hours each day. With this kind of living he will come thru the winter well-developed, healthy and strong; more than half the job of making an efficient draft horse will be accomplished. If one or two colts appear scrubby and have blemishes, sell them at some price or give them away, and be relieved of the pain of looking at them every time you visit the barns or yards. You can rest assured that they will do more to prevent you from selling the sound ones when you show them to prospective buyers than you will ever get out of them.—W. Milton Kelly.

Fruit growers are learning rapidly from their California brothers that it pays to cooperate in marketing. The past season the packing houses in Western New York has doubled

O.K. Champion



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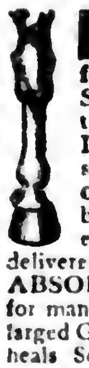

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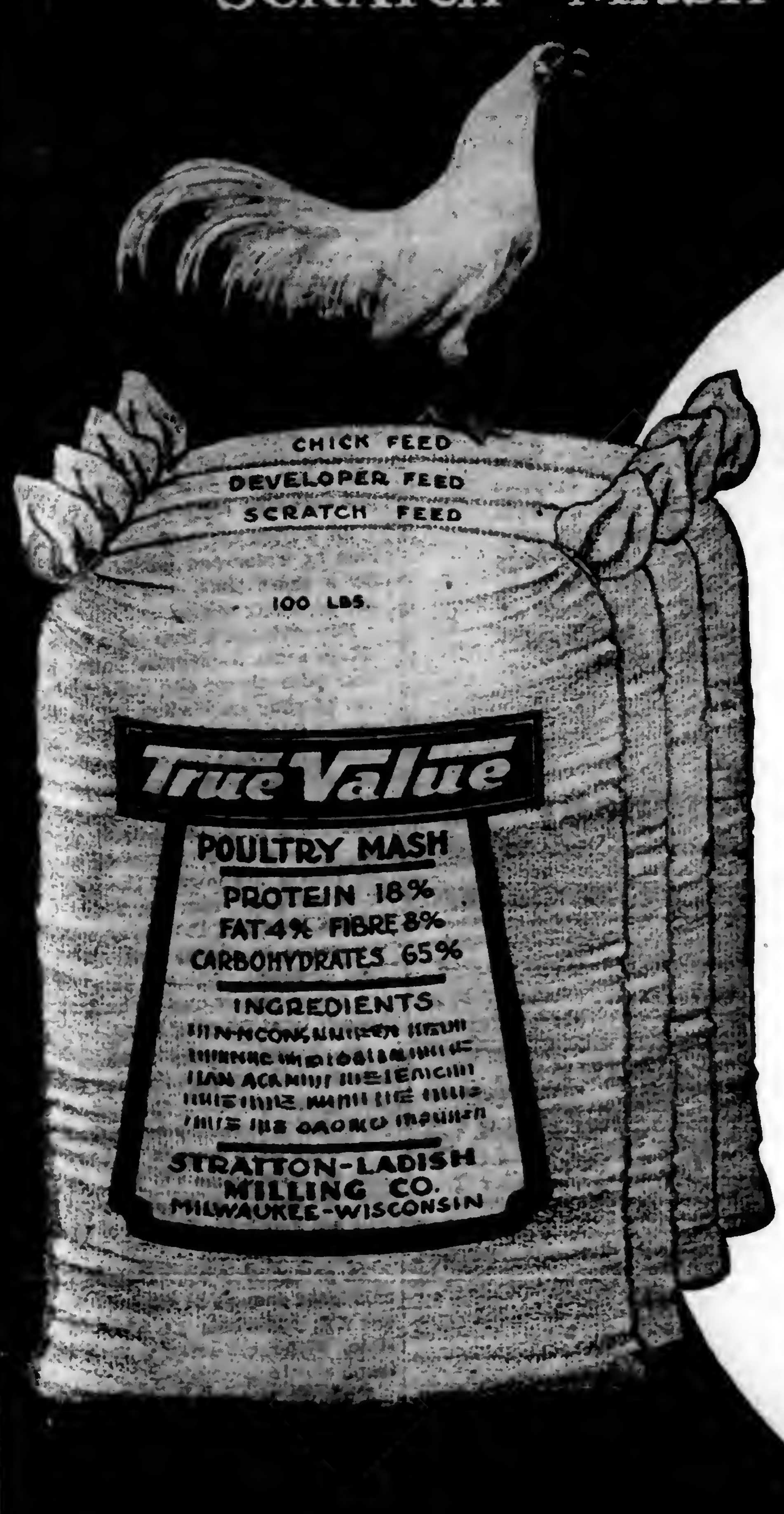

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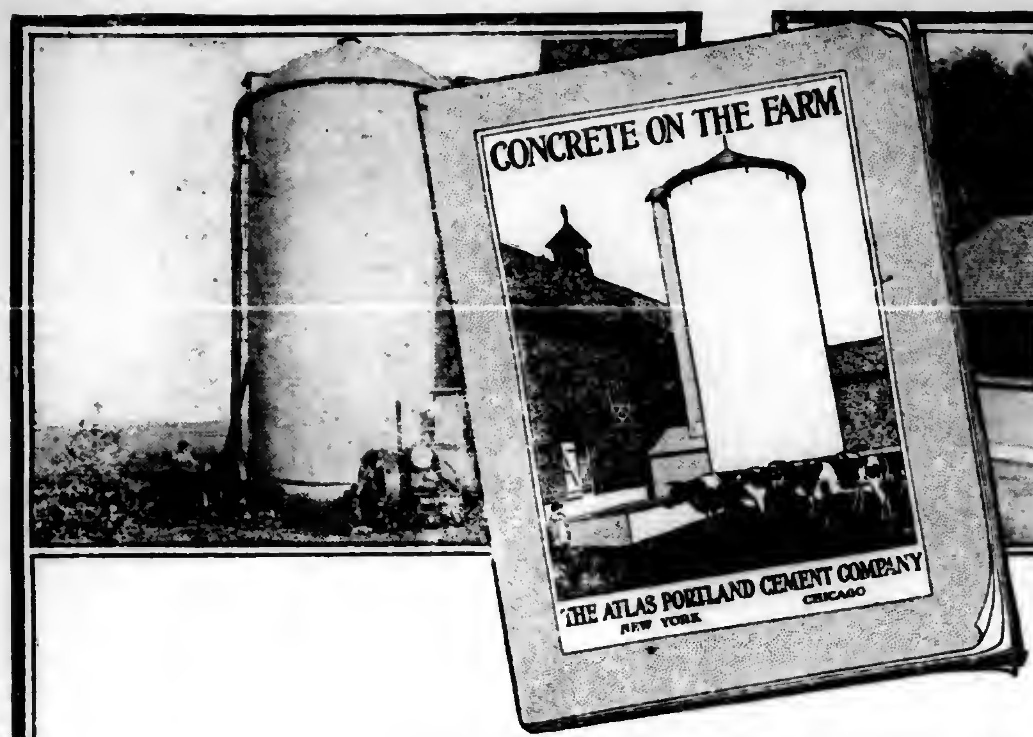

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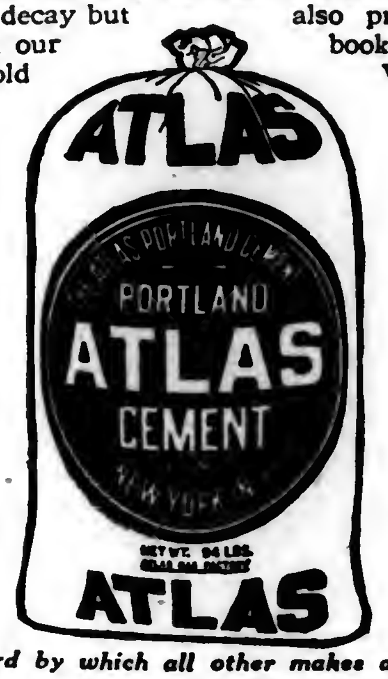

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POINTERS FOR THE TRAPPER

When setting traps, do not disturb the surroundings more than is absolutely necessary, and leave them looking as natural as possible; while some animals are not suspicious, others are, and if care is used you will frequently catch some other animal in your trap than the one you expected to catch.

Use gloves coated with beeswax or smeared with blood when handling and setting your traps so as to avoid as much as possible leaving human scent. Gloves used for trapping should be used for nothing else. Some trappers do not think this necessary, but the majority advise it and a little care may materially increase your catch.

Do not spit near your trap or you will leave human scent. Never put kerosene oil on your traps as animals will not go near them as long as the odor remains.

Never take your dog with you on the trap line as mink and some other animals can scent a dog for days afterwards. Whenever possible, splash water over your set and the surroundings to wash away the human scent.

Before setting your trap test it to see if it is in good working order and unless you can put it in good order, throw it away. Traps are cheaper than furs and it is usually the good pelt that gets away from the defective trap.

To whiten traps for snow sets, boil lime in water and immerse the trap for a short time, and it will come out perfectly white.

For covering a trap for a snow set, obtain some waterproof butter paper from your grocer and cut a piece the size of your trap when the jaws are open. Cut two slits about three inches long across the center of the paper forming right angles to each other; this prevents the paper from crumpling when the animal steps on it. Place a little honey on the upper side of the jaws of the trap after it is set and press the paper down on the jaws and the honey will hold the paper in place; cover with dry dust or snow. Another piece of butter paper placed under the trap will keep it from freezing fast.

Mark your traps with a steel punch or file so that you can identify them; but never on the spring as it will have a tendency to weaken it.

Always set a trap so that the jaws will be lengthwise the path you expect the animal to travel, so the jaws will not knock the leg out of the trap when it is sprung.

In going over your trap line, go only near enough to see that the sets are not disturbed; go away, if possible, without leaving a path to the trap.

Fish oil is made by cutting small fish in pieces the size of your thumb, place same in a bottle, and set in the sun to decay. Pour off the oil into another bottle and cork tightly until ready to be used.

From February to March is the mating season for mink. Save every mink sack, squeeze contents into a bottle, with fish oil, as it is a lure to both sexes; to bait, dip a stick in the bottle and place in the hole beyond the trap.

An excellent way to kill either a mink or a weasel is to stun it with a club, and then crush in the ribs. When this is done there will be no blood clot on the pelt.

Don't commence trapping too early. One prime skin frequently brings more money than two or more caught early in the season.—L. F. Strickler.

SAVAGE

The Side Partner You Can Trust—

THE SAVAGE AUTOMATIC

It's small, light, unobtrusive. You don't notice it in the pocket or on the belt.

But when the diamond-back rattler buzzes or the copper-head squirms—when there's a bear in the trap or a bob-cat in the tree—when the rare chance of human violence threatens in the wilderness—or when the stinging wind on the North shore of Superior brings the blood-chilling yell of the man-hunting wolf-pack nearer and nearer—the little Savage proves the closest, truest friend.

It's barrel—length and locked breech gives more power and accuracy than other pistols of the caliber—its ten shots and one-hand reloading permit faster and more continuous fire—and the lines of it celebrated grip make you point it and shoot it straight in an emergency—as straight and as instinctively as you point your finger. Its monkey-wrench simplicity makes it always ready and always sure-fire, because, like the best military pistols, you can cock and uncock it with your thumb.

Your dealer will show you—can supply you. For complete description, write us.

SAVAGE ARMS CORPORATION
Sharon, Pa. UTICA, N. Y. Detroit, Mich.
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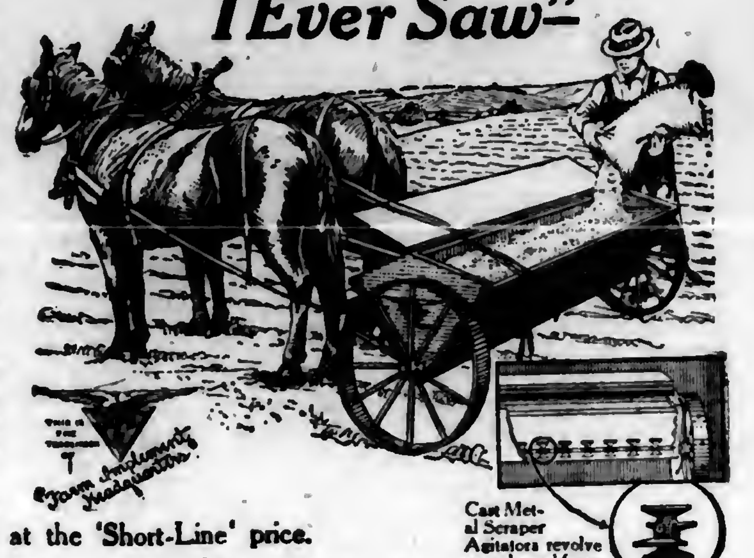
.32 caliber, 3¾ in. barrel, 19 ounces, 11 shots.
.380 caliber, 4¼ in. barrel, 21 ounces, 10 shots.

"The Best Lime Spreader I Ever Saw"—

—"And not the least of my satisfaction comes from the fact that it only cost me

$37.50

"THAT is because it came from 'Farm Implement Headquarters'—by the 'Short-Line Route' and at the 'Short-Line' price.


"Farm Implement Headquarters"
Cast Metal Scraper Agitators revolve on axle and function for both agitation and force feed.
Agitator of fan and rod type:—one every few inches.

"Quality? Right! Every single article at 'Farm Implement Headquarters' is selected for quality—by experts. It has to be good. Otherwise, it could never meet the broad, exacting, N.F.E. Guarantee that assures every customer a complete, lasting protection. You take no risk—you're sure to be satisfied—when you deal with 'Farm Implement Headquarters.'"

THE N. F. E. Spreader—for lime, plaster, fertilizers and ashes—was chosen strictly on its merits. It sows even, fast and economically;—is very strong and durable, and exceedingly simple in construction.

It feeds without clogging or arching. This is a fact, not a mere claim. Revolving with the axle are numerous cast metal Scraper-Agitators—a set of cast fans for each feed opening. Box has non-corrosive bottom—Scrapers fit close to bottom;—no chance for accumulation. ¶ No gears, cranks, shakers or chains. Drive is continuous from both metal Wheels—either or both of which are thrown out of gear at will. You can regulate instantly and exactly for thickness of sowing required. ¶ Loading is easy—wind trouble avoided—by the low Box. It carries a good load for two horses;—sows 100 to 4000 lbs. dry lime per acre. The Spreader is light—shipping weight only about 400 lbs., but strong and well-braced in every part. No wobbling of Wheels on the 1¼" steel Axle. Screen for Box, extra, $2.25.

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anything you may need in Farm Equipment; farm, dairy, orchard, garden and poultry requisites. "Farm Implement Headquarters" specializes only in agricultural implements and in practical service to the farmer. It provides the Right Goods, at the Right Price, at the Right Time. (Exceptional shipping facilities mean prompt shipments.)

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Stop Losing Little Chicks

Gapes and diarrhoea destroy millions of dollars' worth of poultry profits. Protect your chicks against it. As soon as they are hatched, start feeding RUST'S CLIMAX CONDITION POWDER. It helps to keep the chicks free from disease—develops their plumage and vigor. It acts on the blood, liver, kidneys and urinary organs—improves the appetite—helps digestion.

RUST'S
CLIMAX CONDITION
POWDER

develops the Spring hatched chickens so that they will be profitable laying pullets by Fall. Its use means good fertile eggs for hatching. It means good fat broilers early in the season.

Ask your dealer for RUST'S CLIMAX CONDITION POWDER. It contains no antimony, arsenic or injurious ingredients. If your dealer cannot supply you, order direct. We will ship by express at the following prices: 13-oz. pkg., 30c.; 2-lb. pkg., 60c.; 5-lb. pkg., $1.20; 20-lb. pkg., $3.75.

T. W. WOOD & SONS
RICHMOND, VA.
Successors to Wm Rust & Son.

Hens Need Conditioning in the Spring

Spring comes with warm days and green fields. Laying time is here. A tax is being put upon the egg producing organs. Hens need a tonic to put them in good condition—to make them healthy and happy, so that they scratch and cackle and lay.

Right now is the time to start feeding them RUST'S CLIMAX CONDITION POWDER. Use it at least three or four times a week and have healthy, happy, industrious hens.

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Where will you get your seed this year? You know the importance of vigorous, fertile seed of course. Did you ever stop to think that the faults of imperfect seed are multiplied many fold in the crop you harvest? Care in seed selection is the first essential of a bumper crop.

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Seeds for Farm and Garden

Use our catalogue in planning for this year's crop of Corn, Oats and Potatoes. We have a special Pasture Mixture that gives a luxuriant growth of forage of high feeding value. Our seed has been harvested and stored under conditions that assure best possible results.

Early Wonder Silage Corn. Gives heavy, leafy growth, large ears, formed early. You cannot fill your silo with better feed.

Northern Wonder Oats. Earlier than ordinary varieties and give heavier yield. Injured less by dry weather than any oats we have ever grown.

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Timothy and Alsike Pasture Mixture. Much higher in feeding value than timothy alone. Our Alsike rarely winter kills, and gives remarkable increase in bulk of forage.

We are producers of high-grade seed, especially for market gardeners, and our catalogue lists, for the home gardener also, seed of the same high standards of fertility that professionals depend upon us to furnish. Send for our new catalogue.

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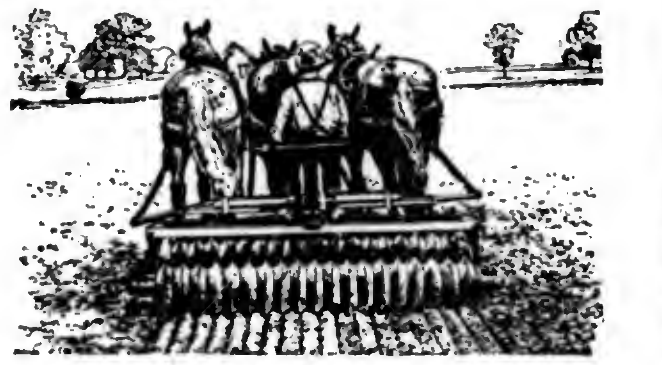
Results show at Harvest Time

IF your seed bed is not properly prepared, take an inventory of the clods—the rough stuff in the field—and enter every single one of them in your ledger as a liability. They are just like so many pores letting out that precious subsoil moisture. You cannot spare that stored power if you want bumper crops.

International Tillage Tools put your seed bed in prime condition. In this deservedly popular line of implements are **disk harrows, spring- and peg-tooth and combination harrows, culti-packers,** etc. The disk harrow, for instance, slices and destroys the clods until the close-knit covering guards every bit of subsoil moisture, while permitting the absorption of additional supplies from above.

The 1920 International line of implements for laying crop foundation is the most complete we have ever offered. You know your soil. Whatever its needs, we have the type of disk harrow suited to it. If a sandy, loose loam the two-lever type answers every requirement; if hard, stony or trashy ground, the three-lever type with its center-depth regulator insures a firm, compact seed bed. If you use a tractor, see our leverless tractor disk. Whatever your power equipment, we have a size that utilizes it to the best advantage. Ask your dealer to point out to you the exclusive features of each type.

Let us mail you descriptive folders of these tillage implements so that you will know just a bit more about the preparing of Spring seed beds. With every implement goes an alert, responsive and intelligent service. The International dealer will serve you direct.



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Registered and High Grade Holsteins. [illegible] J. C. Reagan, Tully, N. Y.

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BEST in High grades and Registered Holsteins. Elegant high grade calves $25 each. With ten calves will give choice registered bull free. Will accept Liberty Bonds and W. S. S. at par. Guarantee safe arrival and gladly ship C. O. D. Write your wants. C. W. ELLIS, JR., Cortland, N. Y.

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Percherons Berkshires Holsteins
Heads for service. High Class Boars. 12 sows and gilts bred for March and April farrow.
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Highland Stock Farm Belgian Horses, Jersey Cattle, Large Berkshires and Indian Runner Ducks. Stock for sale at reas. prices. Anselm B. Kirsch, Nicktown, Pa.

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Chester White Hogs, All Ages
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For Sale: Registered C. W. [illegible] and serviceable boars and pigs. [illegible] Jersey Bulls all ages. J. A. BOAK, NEW CASTLE, PA. R. 4.

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Baby Chix: Pedigreed Heavy-Laying Barron 300 egg strain S. C. White Leghorn Baby Chicks. Heavy deep-bodied red-combed birds. Bred to lay and do lay. $20 hundred, parcel post delivered. 10 percent will book your order now for May and June. Sold out for April.
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200,000 Chicks R. I. Reds, B. P. Rocks, White and Brown Leghorns, Black Minorcas and Broilers, at low prices. In parcels post, charges prepaid. Safe delivery guaranteed. Our 11th year. Fine catalog free.
KEYSTONE HATCHERY, Dept. 5, Richfield, Pa.

Chickens Sick?—Use Germozone
Roup, colds, bowel troubles, sore head, limber neck, etc. At dealers or postpaid 75 cts. with 5 book Poultry Library. GEO. H. LEE CO., Dept. F-49 OMAHA, NEB.

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O. I. C. and CHESTER WHITE Fall Pigs and Bred Sows. Good individuals. Popular breeding. Reg. free. SPRING VALLEY FARM, MEMPHIS, N. Y.

Chester Whites. Spring boars, bred gilts, and trios from some of the best blood lines. Immuned. Also good fall pigs. C. J. Stough & Sons, R. 1, Findlay, O.

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Reg. Big Type SPOTTED POLAND-CHINA pigs, bred from a son of O. K.'s Pride No. 30. H. C. KYMER, R. 4, Shippensburg, Penn'a.

Prolific Berkshires with size and type. Priced to sell. JOHN C. BREAM, GETTYSBURG, PA. R. D. No. 4.

HAMPSHIRES [illegible]

ROADS FOR HORSE TRAVEL

For several years I have been working to try to get a law, or establish a practice under which some provision will be left for horses at the side of roads with hard polished surfaces on which horses cannot be used with safety or to advantage.

It is continually brought up by county commissioners and other road making authorities that the farmers have no interest whatsoever in such a proposition and are constantly urging the making of hard surfaced roads, with no reference at all to any side paths on which horses can travel.

I cannot believe that the farmers who advocate hard, permanent roads are satisfied to have such a surface put down on the entire available width, flanked immediately on each side by gutters without leaving any room for a single horse.

There is not a single farm in the State of Pennsylvania that is not dependent to a great extent upon horses.

Students of the subject are looking for a tremendous revival in horse interests and horse prices. There are several facts that I would like to bring home to every Grange in the State of Pennsylvania if I knew how to reach them.

First. Intimate observation thru much driving and riding over improved roads has shown me two things beyond any kind of question:

(a) The most popular smooth surfaced roads are unsafe and unfit for horses.

(b) Almost everywhere a passable side-drive could have been left along such roads on one or both sides with little expense.

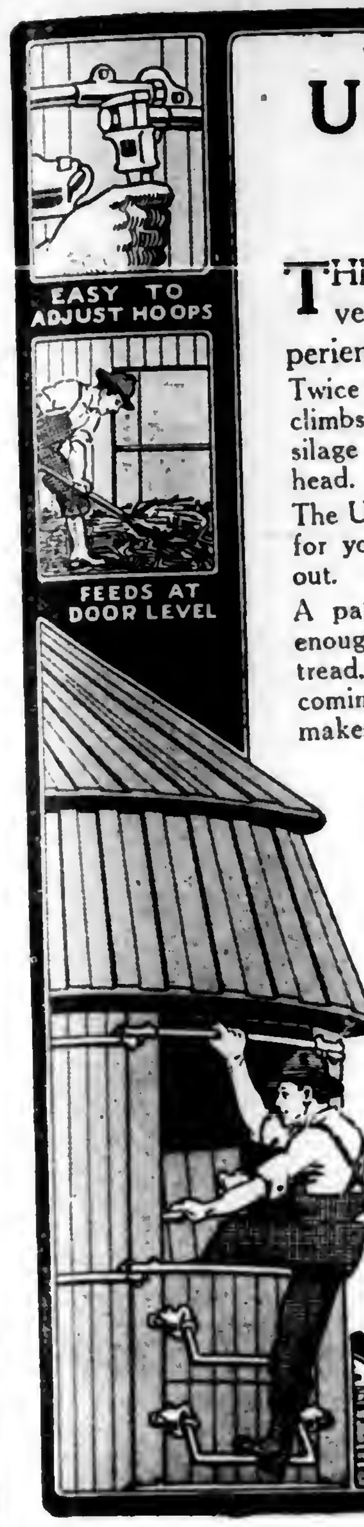
Second. It is not unusual to encounter State and County roads with polished asphalt surfaces where there has been an absolutely criminal procedure in building these roads on all sorts of grades with abrupt gutters on each side making it impossible to pass with a horse on a place of safety.

I can show both state and county roads where this condition is so gross that in my judgment the responsible authorities are indictable for bringing about and maintaining such a condition, and where they would be indictable fo manslaughter if a driver or rider were killed in trying to traverse such a road with due care.—R. T. M. McC., Allegheny County, Pa.

BILL NYE'S COW COPY

Bill Nye, the humorist, once had a cow he wanted to sell and he unblushingly advertised all her faults while naming the few virtues she seems to have possessed. His advertisement ran:

"Owing to my ill health, I will sell at my residence in township 19, range 18, according to the government's survey, one plush raspberry cow, age 8 years. She is of undoubted courage and gives milk frequently. To a man who does not fear death in any form, she would be a great boon. She is very much attached to her present home with a stay chain, but she will be sold to any one who will agree to treat her right. She is one-fourth Shorthorn and three-quarters hyena. I will also throw in a double barrel shotgun which goes with her. In May she usually goes away for a week or two and returns with a tall red calf with wobbly legs. Her name is Rose. I would rather sell her to a non-resident, the farther away the better."



UNADILLA Silos

Convenient and Easy to Feed From

THE UNADILLA Silo is the most convenient silo, recognized as such by experienced dairymen and stockmen.

Twice a day for 6 or 7 months you or your man climbs the silo. Twice a day for the same period silage must be **forked** out, 30 to 60 pounds per head. **Tons** of silage must be handled by **hand.**

The UNADILLA Silo is the **only** silo that provides for your convenience perfectly—day in and day out.

A patented door fastener ladder, rungs wide enough, only 15 inches apart, providing a reliable tread, staunch and ever-ready, makes going up or coming down easy for man, boy or woman. It makes tightening of hoops at the door front a few minutes' easy, one-man job—that cannot easily be neglected.

Air-tight doors push in and slide up or down—easily and always. They can't stick or freeze in. This makes entrance into the silo safe and easy. It makes silage forking simply **silage dumping at a door level.** No back-breaking forking, waist high, or **overhead.**

These are advantages you must not overlook when purchasing a silo that will last a generation and be in use 300 to 500 times a year.

The UNADILLA has many other exclusive features. Many years of specializing in one product produced them for **you.**

A big, well-illustrated, facts-full catalog, with early-order discount offer, comes free on request. Send today.

Good agents can have a few open territories.

Unadilla Silo Co.
Box P
Unadilla, N. Y., or
Des Moines, Ia.

Giants in Strength

CRAINE
SILOS

"IN union there is strength" is an old saying, and we might add—*"and protection"*.

Craine Silos consist of 3 walls instead of one—an inner wall of closely fitted staves covered by thick, waterproofed Craine Silafelt, and an outer wall of Crainelox continuous spiral covering.

This *union* of a strong wall running *up* and *down* with another running *around*, gives *strength* and *protection* to every square inch of silo. Craine Silos are doubly insured against wind and storm.

The inner Silafelt wall between two wood walls will defend your silage against escaping warmth or incoming cold or wet.

Giants of strength that are as handsome as they are strong. No unsightly hoops to tinker with or neglect. Craine Silos stay put and keep on "Keeping Silage Good".

Send for literature and convince yourself that it pays to build a silo *once and for all.*

Rebuild the Old STAVE SILO
Any homemade or stave silo, if twisted, tipped or collapsed, can be rebuilt into a beautiful, new Craine 3-Wall Silo at about 1-2 the price of a new one. All the old material (except hoops) can be used. We buy the hoops. Send for our plan of rebuilding old silos.

Craine Silo Co.
Box 140 NORWICH, N. Y.

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They lower up-keep
Splitdorf Peened Piston Rings
place an impassible barrier between the firing chamber and the crank case of a gasoline engine.

They *make sure* that every ounce of power that your engine is capable of developing is *yours.* They make certain that you are not wasting fuel; that gasoline is not getting down into the crank case and destroying the lubricating qualities of the oil.

Learn the true value of Piston rings for all internal combustion engines. Send for "The Story of the Piston Ring." It is FREE.

SPLITDORF ELECTRICAL CO.
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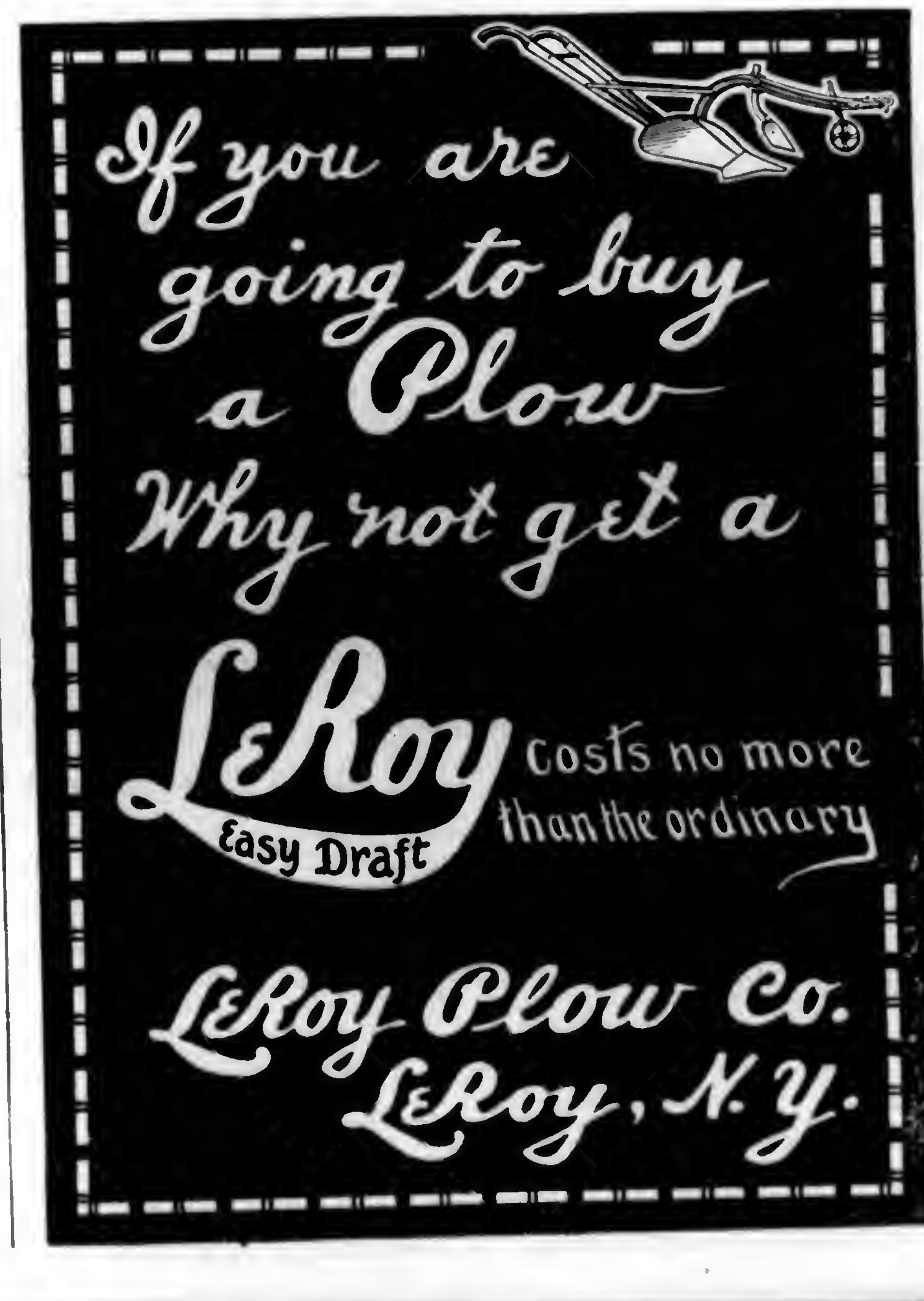

If you are going to buy a Plow
Why not get a
LeRoy
Easy Draft
costs no more than the ordinary

LeRoy Plow Co.
LeRoy, N.Y.

Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., February 9, 1920

Supplies of potatoes are ample for all requirements, there being probably in the neighborhood of 60 to 70 cars here at this writing. Among these supplies there are quite a few showing the effects of cold weather, some showing quite a little frost, making quite a range in quotations. Most Pennsylvania potatoes are now selling from $4.25@4.40 per cwt., with an occasional lot of very fancy selling above these prices. While potatoes showing the effects of the cold weather are selling down to $4.00, New York State potatoes are selling mostly around $4.15 per cwt., with a few up to $4.25, and stock showing cold effects, $4.00. Maine potatoes are also selling from $4.00@4.25 as to condition. Sweet potatoes are in fairly liberal supply and the market is ruling weak and lower. There were seven cars of Eastern Shore sweets offered here today and prices ranged from $2@2.30 per hamper on No. 1s, and $1.00@1.35 on No. 2s. The nearby New Jersey sweet potatoes are bringing $1.50@1.75 per ⅝ basket. Yams are meeting a rather dull market at the practically unchanged price of $1.75@1.85 per hamper, and $4.00@4.50 per barrel, except for those which are arriving chilled and badly frozen, which are selling at low and irregular values ranging on down as to condition to as low as $2.00 per barrel.

Vegetables

Artichokes continue in light supply and prices are ruling firm and unchanged at $8.00@10.00 per box. Green beans are a little more plentiful than they were a week ago and prices are a little lower, ranging from $4.00@5.00 per hamper. There are no wax beans here but fancy stock would sell at about the same prices as the green beans. Old beets and nearby Pennsylvania and New Jersey are moving rather slowly and the market is easy at $2.75@3.00 per barrel. New beets from the southern states are quite a little lower, the crated stock selling at $1.75@2.00 and the bunches at 7@8c per bunch. Brussel sprouts are in light supply and higher, about the only ones being here are from California and prices range from $8.00@9.00 per drum.

As we reported in these columns last week, the increasing supplies of new cabbage from the South and California is causing the market to decline. Although there were only fifteen cars of old cabbage here the market is $15@20 per ton lower than it was a week ago as sales are now being made at $60@80 per ton, with an occasional lot of fancy at $85. New Florida cabbage, which sold here at $2.75@3 per hamper a week ago, only brought $1.75@2 today, and California cabbage, which sold at $5 per crate a week ago, only brought $3@3.75 today. Good Pennsylvania grown carrots are in light supply and firm at $6 per barrel. A car of carrots from New York state sold here this morning at $5.50 per barrel. Cauliflower is quite plentiful and lower and five cars were sold here this morning at $1.40@1.65 per crate. Florida cauliflower brings from $1.25@1.75.

Southern celery is increasing in supply and the market is gradually easing off. Good bleached Florida celery is selling at $5@5.50 per crate, while green and culls bring from $3.50@4. The only cucumbers on the market are hot house cucumbers, prices on which range from $2@2.50 per dozen. Egg plants are very scarce and good plants are selling readily at $4@5 per box, but some of them are in a weak, wasty condition and these were selling at lower and irregular prices. Endive is higher at $4.50@5 per barrel, and $1@2.50 per hamper. Escarole is also higher and now selling at $4.50@5 per barrel. The lettuce market has been demoralized but is now showing signs of a little improvement, although prices are still ranging as low as 50c@$1.25 per hamper and $1@1.50 per box.

Onions are quite a little lower than they were a week ago and good onions can now be bought at $5.50@5.65 per sack, with poorer onions at $5.00, while some small No. 2s or picklers are selling around $3 per sack. Mushrooms remain about steady at mostly 50@75c per lb. Parsley is increasing in supply and the market is easier at $10@$14 per drum.

Pennsylvania grown parsnips are firmer when fancy and sell at $4.50@5.50 per barrel, but there are some poor parsnips which sell as low at $3.50 per barrel. Southern spinach is firmer at $1.75@2.25 per bushel, but the Western spinach is poor and selling slowly at the lower price of $2@2.50 per crate. Turnips are in light supply and steady at 75@90c per ⅝ basket for the whites, with the yellows at 90c@$1.15. Nearby New Jersey rutabagas are bringing $2@2.50 per cwt., while the Canadians are easier at $1.75@2.40 per cwt. Watercress is firm when fancy at $3@3.50 per 100 bunches, with poor hard to sell at $2 per 100 bunches.

Fruits

Many of the supplies of apples now on the market are showing the effects of cold weather and some are very badly chilled and frozen. In fact there are very few good apples here at the present writing. Sales of the few strictly fancy apples that are available would indicate a practically unchanged market, but by reason of so many being in poor, weak and frozen conditions prices are very irregular and show a very wide range. Best Baldwins sold today at $6@9 per barrel, while some very poor sold as low as $3. A few greenings also brought $7.50@9, with others at $5@6. Ben Davis are brining from $3@6; Black Twigs, $5@8; York Imperials, $2.50@7; Starks, $6@8; other varieties, $3@9, as to quality and conditions. Box apples are selling about as follows: Rome Beauty, $2.25@3; Stayman Winesaps, $2.50@3.50; Yellow Newtowns, $1.90@3; Pearmains, $2.50@3.50; Delicious, $3@3.60. Cranberries are being neglected by the trade but are being held steady in price by the holders at $6@8.50 per barrel and $1.50@3 per crate. As strawberries are increasing in supply prices are gradualy declining. Today good strawberries sold at 40@60c per quart, with some in weak and wasty condition sold at 15@35c per quart.

Poultry

The supplies of poultry have been light and there has ben a strong, active demand which has caused the market to hold steady and practically unchanged at the advance in prices noted in these columns last week and sales are being made as follows: Live Poultry: Heavy fowls, 42@44c; smaller sizes, 35@40c; chickens, 35@38c; broiling chickens, 45@50c; roosters, 25@30c; ducks, 30@46c; geese, 30@45c; turkeys, 50@52c. Dressed Poultry: Turkeys, 52@60c; old Toms, 45@50c; fowls, 35@42c; broiling chickens, 45@60c; ducks, 37@43c.

Eggs

As we have reported in these columns for the past two weeks the market on eggs is very irregular. Following the sharp decline of 7c per dozen in the market as reported last week, there has been an equally sharp advance of the same amount, viz., 7c per dozen. At this writing quotations are as follows: Pennsylvania and other nearby current receipts, 62c; firsts, 64c; Western firsts, 61c; Western extra firsts, 63c. The market, however, appears rather easy at these prices and we anticipate that prices will probably go lower before our next report.

LANCASTER PRODUCE MARKET

Lancaster, Pa., February 9, 1920.

Impassable roads, the result of last wek's blizzard, caused the attendance of farmers at the markets here today to reach a minimum record and there was little business. Altho egg prices in the rural districts have collapsed, they were boosted again here today, and topped 75 cents a dozen. Poultry also advanced, but there were few sales. Enormous quantities of fish are being sold in the city.

Butter and Eggs.—Creamery butter, 60@85c lb.; country butter, 75@80c. Fresh eggs, 70@75c dozen; duck eggs, 90c; goose eggs, 10c each.

Poultry.—Dressed young chickens, $1.25@1.50 each; dressed old chickens, $1.75@2 each. No live fowls offered.

Vegetables.—Spinach, 20c ½ peck; turnips, 15c ½ peck; potatoes, 30@35c ½ peck; do., $2@2.25 bu.; sweet potatoes, 35c ½ peck; cabbage, 10@30c head; cauliflower, 25@30c head; lima beans, 20c quart; lettuce, 15@25c head; oyster plant, 10 cents bunch.

Fruit.—Apples, 35@50c ½ peck.

Grain Market.—Wheat, $2.20 per bu.; corn, $1.25; oats, 85c. Timothy hay, $31 per ton; mixed hay, $30; wheat straw, $10.

BALTIMORE PRODUCE

Baltimore, Md., February 9, 1920.

Butter.—Western separator, creamery, extras, 65@66c; do., firsts, 63@64c; Western prints, ½ pound extras, 66@67c; do., firsts, 65@66c; do., 1-pound, extras, 66@67c; do. firsts, 65@66c; nearby creamery, extras, 62@63c; do., firsts, 61@62c; dairy prints, Maryland, Pennsylvania and Virginia, extras, 40@47c; do., firsts, 45@46c; storepacked, firsts, 41c; rolls, West Virginia, extras, 45@46c; do., Ohio, extras, 45@46c; do., Maryland and Pennsylvania, extras, 45@46c.

Eggs.— Western Maryland, Pennsylvania and nearby firsts, 58@60c; Eastern Shore, Maryland and Virginia, firsts, 58@60c; Western (Ohio) firsts, 58@60c; West Virginia, firsts, 56@58c; Southern, (North Carolina), firsts, 55@59c. Storage Eggs.—Candled, 50c; uncandied, 48c.

Grains.—Wheat, No. 2, red winter, $2.50; corn, $1.58; oats standard, white, $1; rye, nearby, $1.50@1.60.

Hay.—No. 1 Timothy, nominal, $36; standard Timothy, $35.50; No. 2 Timothy, $35; No. 3 Timothy, $32@33; No. 1 light Clover mixed, $35; No. 2 light, Clover, mixed, $32.50@34; No. 1 Clover, mixed, $34; No. 2 Clover, mixed, $30@32; sample Hay, $27@30.

Mill Feeds.—City Mills winter bran, per ton, in 100-pound sacks, $54; brown middlings, per ton, in 100-pound sacks, $54; white middlings, per ton, in 80-pound sacks, $65. Quotations on City Mills Feeds are jobbing prices.

NEW YORK PRODUCE

New York City, February 9, 1920

Butter.—Steady; receipts, 4,168 tubs; creamery, higher than extras, 67½@68c; creamery extras, 92 score, 67c; firsts, 88 to 91 score, 62½@66c; packing stock, current make, No. 2, 42c.

Eggs.—Firm; receipts, 5,882 cases; fresh-gathered extra firsts, 59@60c; firsts, 57@58c; state, Pennsylvania and nearby western hennery whites, firsts to extras, 67@72c; state, Pennsylvania and nearby hennery browns, extras, 63@64c; do., gathered browns and mixed colors, firsts to extras, 58@62c.

Cheese.—Irregular; receipts, 878 boxes; state, whole-milk flats, held, specials, 31@32c; do., average run, 29½@30½c; state, whole-milk, twins, held, specials, 30½@31c; do., average run, 29½@31c.

Live Poultry.—Steady; no prices quoted.

Dressed Poultry.—Quiet; chickens, western broilers, frozen, 40@51c; western chickens, fresh, 31@39c; frozen, 36@40c; western fowls, fresh, 30@40c; frozen, 29@40c; old roosters, fresh, 26½@27c; frozen, 27c; spring turkeys, westerns, fresh, 46@52c; frozen, 51@55c.

Vegetables. — Potatoes, Maine, $7@7.25 per 150 lb.; State, $6.50@7.25; Long Island, $7.50@8.50 per 180-Beets, $3.50@5 per bbl. Carrots, $3.50@5.50 bbl; cabbage, Danish, $100@125 ton; onions, $4@6.50 per 100-lb. bag.

Fruit.—Apples, King, $4.50@7 bbl.; Ben Davis, $4@5.75; Winesaps, $4@8.50; Yorks, $4.25@7; Staymen, $4.50@8; Greenings, $5@11.

PITTSBURGH PRODUCE

Pittsburgh, Pa., February 9, 1920

Butter.—Prints, 67@67½c; tubs, 66@66¼c; cooking, 54½@55½c; Ohio, 61@61¼c.

Cheese.—New York full cream, 36½@37c. Ohio, 35@35½c; Wisconsin Swiss, 60@61c; Philadelphia cream, $1.00 per dozen.

Eggs.—Fresh, select, 64@65c; Candled storage, 54@55c; Storage, 47@49c.

Potatoes.—Round, $6.75@7.25 per 150-lb. sacks. Onions, $6@6.50 sack. Cabbage, $8@9 barrel. Lettuce, 65@75c basket. Sweet potatoes, $2.15@2.25 hamper, Turnips, $2.25@2.50 bushel. Beans, wax and green, $4@4.50 bushel.

Fruit.—Apples, $3@4 box.

PHILADELPHIA LIVE STOCK

Philadelphia, Pa., February 9, 1920

Receipts of live stock for week ending February 7, were as follows:

	Beef Cattle	Sheep and Lambs	Hogs
Total for Week	2,232	5,490	10,749
Previous Week	1,669	4,737	7,996

Calves.—Receipts of calves last week were 1,059 head against 799 head week previous.

Beef Cattle.—The market for cows was dull and lower, due to free offerings easier outside advices and increased pressure to sell. Steers were dull and unchanged, with offerings ample for requirements. Calves of fine quality sold fairly and ruled steady, but supplies were largely of medium and under grades, which were quiet and had to be moved out on buyers' terms. We quote: Steers, fair to good, $13@15; common to fair, $11.50@13; cows, fair to choice, corn fed, per pound, 8½@10c; fair to good, 6¾@8½c; common to fair, 4@6¾c; calves, extra to choice, $23@23.50; fair to good, $20@22; common, $23@23.50; fair to good, $8.50@12.50; Tennessee, choice, $19@20; other Southern, $10@15.

Sheep and Lambs.—There was a fair demand for desirable grades of both sheep and lambs and values were well maintained under light offerings. We quote: Sheep, sheared, wethers, extras, $13.50@14; good to choice, $11@12; medium, $8.50@9.50; common, $5@6.50; ewes, fat and heavy, $9.50@11; lambs, spring choice, $21@21.50; do, medium, $19@21; culls and common, $13.50@15.50.

Hogs.—Western hogs were steadily held with a fair demand for fine stock. Nearby hogs were dull and easier. We quote: Best Westerns, $18; nearby, good, $15.50@16.25.

City Dressed Stock.—Steers, heifers and cows were in ample supply and quiet, with prices showing no important change. Demand was fair for sheep and lamb of fine quality and values were well maintained. Veal of choice grade ruled firm with demand absorbing the limited offerings of this description. Hogs were steady with demand fair. We quote: Steers, 18@23c; heifers, 17@22c; cows, 13@16c; calves, city dressed, choice, 29@31c; country dressed, 24@26c; sheep, 14@24c; spring lambs, 30@35c; hogs, 23¾c.

LIVESTOCK

Pittsburgh, Pa., February 9.—Cattle.—Steady; supply light; prime, $14.50@15. Sheep strong; supply light; prime wethers, $13.50@14; culls and common, $4@6; lambs, $15@21; veal calves, $20@21.

Hogs.—Higher; supply light; prime heavies, $15.25@15.50; mediums and Yorkers, $16@16.25; pigs, $15.50@15.75; roughs, $12@14.

PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., February 9, 1920

Baled Hay and Straw.—Receipts, 36 tons of hay. The market ruled firm on desirable grades of both hay and straw, with demand absorbing the limited offerings. We quote: Timothy hay; No. 1, $37@38; No. 2, $35@36; No. 3, $32@33; sample, $27@28; No grade, $21@24. Clover, mixed hay; Light mixed, $35@36; No. 1 mixed, $33@33.50.

Straw: No. 1 straight rye, $17.50@18; No. 2, do., $16@16.50; No. 1 tangled rye, $16@16.50; No. 2 do., $15@15.50; No. 1 wheat straw, $16@16.50; No. 2, do., $14@14.50; No. 1 oat straw, $16@16.50; No. 2, do., $14@14.50.

Bran.—Was quiet but steady. We quote car-lots, to arrive including sacks: Soft winter bran, Western, in 100-lb. sacks, per ton, $50.50@51; spring bran, in 100-lb. sacks, per ton, $49.50@50.

Corn.—New, $1.65@1.72.

Oats.—No. 2 white, $1.02@1.02½; No. 3, $1.01@1.01½; No. 4 white, $1@1.00½.

NEW YORK HAY AND GRAIN

New York City, February 9, 1920

Feed.—Talk of further closing down of mills in the West and the scarcity of cars for shipment of all kinds of grain and grain products to the East gave the feed market a comparatively steady tone, altho the demand was irregular and moderate.

Quotations: City feed, bran, $50; middlings, $54, in 100-pound sacks; red dog, $67, nominal, in 100-pound sacks; Western spring bran, $50; standard middlings, $53; flour middlings, $62.50; red dog, $68, all in 100-pound sacks, 30-day shipment. Oat feed, $32; rye middlings, $52; white hominy feed, $67.50, all in 100-pound sacks. Cottonseed oil meal, $78; linseed oil meal, $77, in 100-pound sacks.

Hay and Straw.—There is scarcely any hay available at 33rd Street shed, as the railroads have been completely blocked up for the last two or three days and market is largely nominal, with a firm situation at the moment because of the extreme scarcity. Rye straw has had further sale up to $20 and that price could undoubtedly be reached for oat straw if here.

Hay.—No. 1 large bales ton; No. 2 $38@39 ton; No. 3, $36@37; shipping, $34@35 ton. Fancy light clover mixed, $36 ton. Fancy light clover mixed, $36 ton. Clover, No. 1, mixed, $35@36.

Straw.—Per ton, No. 1 rye, $19@20; No. 1, oat $19@20.

Oats.—No. 1 white, $1.02½; No. 2, white, $1.02; No. 3, white, $1.01; No. 4 white, $1; ordinary white, clipped, $1.02; fancy white, clipped, $1.03.

Wheat.—No. 2, red, $2.36½.

Corn. No. 2, yellow, $1.05¼; No. 3, yellow, $1.62¼. No. 2 mixed, $1.64¼.

Rye.—$1.68.

Buckwheat.—Milling, $3.25 per 100 lbs.

PITTSBURGH HAY AND GRAIN

Pittsburgh, Pa., February 9, 1920.

Hay.—Receipts are very light owing to the inability to get cars. Dealers are nearly depleted of stock on account of the aforesaid conditions. All arrivals are readily placed at top values.

No. 1 Timothy, $36@36.50; Standard Timothy, $35@35.50; No. 2 Timothy, $33.50@34.50; No. 3, $31@32; No. 1 Light Clover Mixed, $36@36.50; No. 1 Clover Mixed, $38@38.50; No. 2, $34@36; No. 1 Clover, $39@39.50.

Straw.—Receipts while moderate are fully equal to demand. Market easier.

No. 1 oat, $15@15.50; No. 2, $14.50@15; No. 1 Wheat, $14.50@15; No. 2, $14@14.50; No. 1 Rye, $15@15.50; No. 2, $14.50@15.

Ear Corn.—Not much demand. Receipts fully equal to same. Market quiet.

Yellow No. 2, $1.59@1.61; No. 3, $1.53@1.57; Mixed No. 2, $1.56@1.59.

Oats.—Receipts and demand about equal, altho arrivals are readily placed at quotations. Market steady.

No. 2 White, 94¼@94¾c; No. 3 White, 92¾@93¾c; No. 4 White, 88¾@89¾c.

PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., February 9, 1920

Butter.—Receipts, 545 tubs. As usual on Saturday the market was practically neglected by wholesale buyers and there was no important change in prices. We quote: Solid-packed creamery, fancy, high-grade goods, 69@71c; the latter for jobbing sales; extra, 68c; extra firsts, 64@67c; firsts, 59@63c; seconds, 54@56c; sweet creamery, choice to fancy, 70@72c; fair to good, 57@69c; ladle-packed, as to quality, 46@48c; packing goods stock, 42@45c; fancy brands of nearby prints jobbing at 76@78c; good to choice 66@75c; fair, 65@67c.

Cheese.—Quiet and barely steady. New York, whole-milk flats, held, fancy, 31½@32c; held specials higher; held, fair to good, 30½@31c; current make nominal; Wisconsin, held, fancy, 31½@32c; held specials, higher, fair to good, 30½@32c; jobbing sales of fancy held goods, 34@35c.

NEW YORK MILK MARKET

New York City, February 9, 1920

Supply has been cut down by the big storm along the coast and demoralized railroad conditions. Shipments however are creeping in and all will no doubt finally arrive. Local demand good but distributers are having great difficulty in getting the milk to consumers owing to badly congested streets. February rate for 3 percent milk in 200 mile zone is $3.48 per 100 lbs.; add 4 cents per 100 lbs. for each additional one-tenth of one percent butterfat.

Receipts of milk and cream in 40-quart cans for the week ending February 7, 1920 were as follows:

Railroad	Milk	Cream
Erie	45,656	2,410
Susquehanna	9,149	111
West Shore	12,418	972
Lackawanna	50,422	1,163
N. Y. Central (long haul)	126,494	1,920
Ontario	42,760	1,984
Lehigh Valley	54,743	692
New Haven	5,870	14
Pennsylvania	11,222	464
Other Sources	6,000	200
Totals	364,734	9,930
Same week last year	359,289	10,536

INTERSTATE MILK PRICES

The basic price for 3 percent milk within 10 miles of Philadelphia is $3.28 per 100 pounds, and one cent per hundred less for each 10-miles distant. Four cents per 100 pounds is paid for each one-tenth of one percent fat above 3 percent. These are prices for the basic quantity or less. Amounts exceeding the basic quantity are paid for at a less price.

CLOVERSEED

Toledo, Ohio, February 9, 1920.

Cloverseed.—Prime, cash, $35.50; February, $34.95; March, $34.35; April, $33.85; October, $35.50.

Alsike.—Prime, cash and March, $35.50.

Timothy.—Prime, cash, 1917, $6.45; 1918, $6.45; 1919, $6.60; March and April, $6.60; May, $6.50.

Alfalfa.—$38@46.

Note.—These prices are per 100 pounds, wholesale market. Buyers will pay 10 to 25 percent more at retail.

TOBACCO MARKET

A report of the department of commerce, just issued, shows the stock in Pennsylvania held by manufacturers and dealers to be 80,438,000 pounds as compared with 75,764,000 at the corresponding time last year. Of Ohio cigar leaf there is held 71,549,000 lbs. as compared with 61,023,000 last year. Of Wisconsin 54,758,000 as compared with 44,410,000 New England 56,553,000 as compared with 52,972,000 last year, etc.; all showing marked increases of leaf tobacco now on hands. There may be some offsetting features but upon the whole this increased surplus does not look favorable to future values which must depend largely upon supply and demand. It would seem, therefore, that the present is not a favorable time for those who would increase their acreage, or for others who would start to engage in tobacco growing. It is a time to grow a reasonable acreage and to give it more than than the usual attention in the matters of suitable soil and its preparation, best varieties, careful cultivation, proper curing and handling including the many indispensable details which enter into successful tobacco culture. Those who fail in those respects and thus bring more or less unfavorable results may expect disappointment and loss in the end. There is yet a small part of the 1919 Pennsylvania crop in the hands of growers and this is being eagerly sought on all sides. Nominal quotations but it is known that prices ranged as high as $25 and $16 for a certain choice crop. Many deliveries are now being made the same showing excellent quality and it is noted that a crop was never handled as well as this one which of course shows an improvement on the part of growers.

CORN: The Foundation of Profitable Farming
Published by The Coe-Mortimer Co. New York

Send For This Book

Here is a book of eighty pages of practical explanation of the most successful methods used by thousands of corn growers. It tells how to select, test and grade seed—how deep to plant and how far apart—how to beat the crows. It tells the best types of machines for planting, cultivating and harvesting. Every corn grower should send for this book at once. It is free, no obligation.

E. FRANK COE'S Fertilizers

are the result of over sixty years of fertilizer experience. They are the first choice of many successful farmers everywhere. You can use them to your advantage and profit. Order early—the demand is heavy—there is a shortage of many essential materials.

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GUERNSEYS

$546

was the average price paid for all Guernseys sold at public auction in 1919. This figure indicates the buyers' high estimation of the value of the breed. Let us tell you why Guernseys lead in popular favor.

The American Guernsey Cattle Club
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QUALITY ECONOMY QUANTITY

REAL BARGAIN

Pure Bred Ayrshire Bull Calves. We offer four handsome bull calves, large, heavy-boned and of show caliber. Big A. R. Records on both sides or now in the making. We can refer you to our satisfied customers. It will pay to get our prices.

CRESTMONT FARM. SUNBURY, PA.

HIGH GRADE HOLSTEIN CALVES. Either sex. Shipped anywhere. Write for prices. Satisfaction and safe delivery guaranteed. FRANK GAMEL. PINE GROVE FARM, LOCKE, N. Y.

$7000.00 IN ORDERS ON $40.00 IN ADVERTISING

Advertising in your paper has given me wonderful results. The small farm ad brought me many inquiries and buyers. It was soon sold and I could have sold many more. The swine ad also has given me more than ordinary results, sold over $7000 worth of O. I. C.'s in 1919 with less than $40 of advertising. C. E. CASSELL, HERSHEY, PA

A FAILURE IN DIRECT MARKETING

A certain farmer in Wisconsin decided to market his eggs direct to consumers. He planned to obtain a high class trade in order to receive high prices but he refused to consider the likes and dislikes of his customers. The farmer had a mixed lot of chickens of several good laying breeds. H thought that the eggs from his flock tasted just as good as those from a flock of prize winners, even though they were of different sizes, shapes, and colors. The customers to whom he catered desired eggs graded as to size and color; some of them wanted white eggs, others wanted brown ones, but none of them wanted both colors. He refused to grade the eggs as to size and color; consequently his customers were not satisfied and they discontinued ordering.

The farmer believes that his direct marketing was unsuccessful because of the foolish fancies of his customers, whereas it was because he did not cater to their desires. The producer may think that the wishes of the customer are foolish whims, but he must consider them in the preparation and shipment of his products if he would be successful in direct marketing.

WINTER CROP CONDITIONS

Reports from Delaware and Maryland state that much corn remains in the fields still unhusked. It is feared that it will be of poor quality. Inclement weather and labor shortage are credited as the cause.

An ice sheet fully ½ inch in thickness has covered winter wheat and broken fruit trees and ornamental shrubs, causing severe damage.

Early sown wheat shows much damage from Hessian fly. Many farmers are grazing their wheat to lessen shelter afforded the "fly." Some injury has also been done by alternate freezing and thawing.

Truck Crops

Florida: Cooler weather is needed for cabbage and lettuce. The South Florida cucumber acreage will be larger than for last year. A decrease is anticipated in Central Florida's acreage. An increased watermelon acreage seems probable. Strawberries are moving from Hillsboro County.

Louisiana: Winter truck crops are in good condition generally. Crops are moving to market.

Mississippi: Too wet for truck farming and family gardens.

North Carolina: Truck raising is decreasing to some extent. Large acreage is planted to staple crops. Market for truck crops is good.

Texas: Some slight frost damage to cabbage reported from the Rio Grande Valley.

FOOD SLIGHTLY LOWER

Last week's index number, based on the prices per pound of thirty-one articles used for food, is $5.04, which compares with $5.10 last week and $4.64 the week ending February 6, 1919. This week's number shows a loss of 1.1 per cent from last week, but a gain of 7.9 per cent over the like week of last year.—Bradstreet.

Get the manure on the fields before the warm spring rains. If you don't, it will lose much of its fertilizer value.

Find out how much it would cost to have running hot and cold water in the kitchen.

Why Apples Fall

If your apples drop off the trees before they are ready to pick—if a windstorm in the fall shakes a large part of your apple crop to the ground, it is a severe disappointment and a heavy money loss. Apples fall either because the fruit is unsound or because there is not strength enough in the twig to hold them on.

This loss is usually unnecessary. It can be eliminated almost entirely. Sound fruit, free from insect damage and disease, that stays on the tree until harvest time is the result of spraying with

Pyrox
REG. U. S. PAT. OFF.
TRADE MARK REGISTERED

PYROX does more than kill the codling moth and other leaf-eating worms and bugs. It does more than prevent rot, scabs and other fungous diseases. For the beneficial effect that it has on the foliage of the tree—making the leaves a rich, healthy green color—gives strength to the twig, causing the apples to hang on in spite of even very strong and severe windstorms.

Apple trees sprayed with PYROX carry their fruit right up to the time to pick; the apples color up on the trees; they are free from insect damage and fungous blemishes. Spray your apples this year with PYROX. Your crop will be bigger, and because they are so smooth and sound the apples will practically sell themselves.

PYROX is easy to use—just measure out the right amount and mix with cold water. It is a smooth, creamy paste, free from grit and lumps, and will go through the finest nozzle. It eliminates the worry and work of preparing separate chemicals.

Be sure to arrange for your supply of PYROX early. Have your local dealer reserve what you will need. Write today for your copy of the new Pyrox book.

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M & P Healthy HOLSTEINS

Young bull calves of superior quality, sired by our herd sire whose ten nearest dams' average production for 7 days is 570 lbs. of milk, 29 lbs. of butter. Fat 4%. The dams of these calves are all proven producers.

Price, $60.00

A FEDERAL TUBERCULIN TESTED HERD

Markham & Puffer, Avon, N. Y.

King Cornucopia Dekol Paul No. 204356

First prize 2-year-old bull N. Y. State Fair 1919. Dam gave 74 lbs. milk in 7 days, as a 3-year-old world record when made. Two nearest dams average 30.01 lbs. butter, 721.75 lbs. milk in 7 days. Bull and heifer calves for sale at all times. Postal brings full information. Write me before buying a bull calf for your herd. E. G. DORAN, PREBLE, N. Y.

A Great Bargain in registered Holsteins. A ton show bull, ⅞ white, good sure breeder, well broke. Sire is King Segis Pontiac Alcartra and Dam has an A. R. O. record. Also a few good big young cows. Write for my extremely low prices. C. E. CASSEL, HERSHEY, PA.

WE WILL GIVE THE USE OF A Finely Bred Reg. Holstein Bull Calf for three years to any responsible farmer who wishes to improve his herd. Nugget Hill Farm, Charlton, Mass.

For Sale: Reg. Guernsey Bulls—May Rose, Jessie and Gov. of Chene lines. Reasonable. HAYES C. TAYLOR, Embreeville, Pa.

Registered Holstein and Guernsey bulls from calves to serviceable age. 250 animals in the herd. BONNYMEADS FARMS, R. D. 1, Harrisburg, Pa.

Ayrshire Bull Calves From high record A. R. Dams ROBERT TEMPLETON & SON, ULSTER, PA.

Announcing the Webster Styer and Twin Broom Herd Diapersal Sale
At Ivins C. Walker's Sales Bazaar, East Main Street, Norristown, Pa.
March 15, 1920, at 10 A. M.

75 Head Registered Holstein-Friesian Cattle including the Herd Sires, KING KORNDYKE REBA VEEMAN, No. 116541, and TWIN BROOK KING MASTER, No. 158864, two show boys.
20 Granddaughters of KING KORNDYKE SADIE VALE.
12 Granddaughters of KING of the SADIE VALES.
2 Granddaughters of KING HENGERVELD AAGIE FAYNE
4 Daughters of SIR KORNDYKE PONTIAC ARTIS, 3d, including TWIN BROOK LASS, Senior 2-year-old Champion Butter Cow of Pennsylvania for two years, A. R. O. 7 days 546.3 lbs milk, 24.75 lbs. butter.

W. B. DEVANEY, Malvern, Pa.
WEBSTER STYER, Spring City, Pa.

STEVENS' HOLSTEIN FARM OF CORTLAND, N. Y.

King Korndyke Sadie Vale Jr., No. 20391, two nearest dams averaging 36 pounds of butter in 7 days, heads my herd. Butter records from 17 pounds two-year-olds to 34 pounds at full age. Also high grade Holstein calves, either sex, $15.00 each. Write your wants. PAUL H. STEVENS, Prop.

HOLSTEINS— 20 head of young heifers and heifer calves; about half registered, balance high grades. These are a choice lot of particularly well marked and growthy heifers from my large producing cows.

Plumlyn Farm, Fairview Village, Pa. (Near Norristown.)

NEAR-BY STOCK FARM offers Reg. Ayrshire cattle, Reg. Berkshire pigs 3 to 5 months, a few bred sows. Best of breeding. White Wyandottes. J. A. McMAHAN, POTTSGROVE, PA.

Reg. Holstein Heifer Calves, from officially tested dams and a 30 lb. sire. Write for prices, pictures and peds. Walter M. Cruttenden, Wilkes-Barre, Pa.

Registered Holstein Friesian Cattle Sons of the great Finderne Sir Valdessa, a 37 lb. bull, for sale. MILLARD E. RASEHOAR, Littlestown, Pa.

MILKING SHORTHORN BULL CALVES of the best breeding. Also a few females for sale. C. M. KENNEDY & SONS, ULSTER, PA.

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10,000 Cow Testing Association records are available to show the quality of Bradford County Livestock. Special prices now on young registered Jersey, Holstein, Guernsey, Ayrshire and Milking Shorthorn bulls

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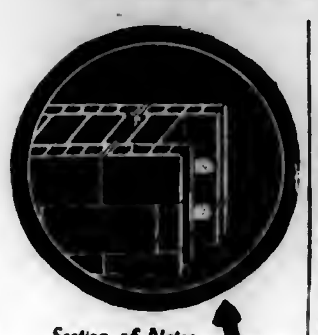

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NATCO barns are warm in winter, yet cool in summer. They provide year-round comfort for your cows. More comfort in the stable means more milk in the pail — more money in the bank.

The hollow spaces in a glazed Natco Hollow Tile wall provide a blanket of still air through which heat, cold or dampness will not pass.

And the cost? Perhaps a little more at first, but *far less* in the end than for other construction. The saving in insurance and upkeep will repay the added investment within a few years. All further savings are clear profit.

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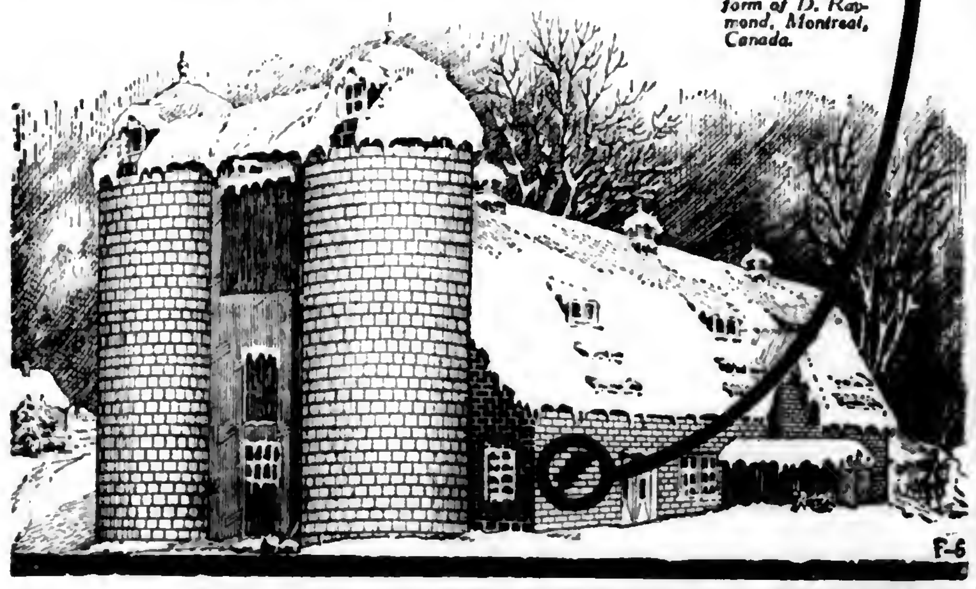
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Special Boar Sale Registered Duroc Jerseys of highest class champion blood lines. Ready for service in two sizes at $40 and $50 each, registered. BELROSE STOCK FARMS, RICHFORD, N. Y.

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COUNTY NOTES

Union County, Pa., (EC).—With the good sledding, more ice than usual has been stored. This year 14 and 16 inch ice is easily obtainable. Hauling of all kinds is being done especially in the way of getting wood and posts for next summer. Some manure has been spread. Farmers are buying bran and middlings in car load lots of mills which will sell at wholesale prices, as some mills in the county are now doing. One of the large milk companies is giving free motion pictures at three places in the county this week to show patrons how to produce clean milk. Some fat and bologna cows are being shipped by car weekly, as there is a little better demand for such meat. Dairymen claim their cows are not milking quite as well this winter as usual, and they cannot account for it. Clover seed has been ordered by those who were not able to make their own seed. The price is around $35.50 a bushel, tho one dealer asks $40. Nearly the usual amount of seed will be sown by most farmers. Potatoes are a little more in demand. Spring sales are already beginning, tho they usually are all held in March, when moving time is about April first. Sales of western horses are being held by shippers who want to supply the demand before the farm sales begin.—J. N. Glover.

Adams County, O., (SC).—A storm of heavy sleet continued for three days last week. The ground and all trees covered with ice. Today is very cloudy and threatens storm. Weather conditions have been severe on live stock. They can't get exercise except in efforts to stand on the ice. Very little farm work being done. Tobacco all stripped and being sold at good prices. A few cases of influenza just north of here.—Walter E. Roberts.

CARE FOR FARROWING SOWS

Attention given the sow at farrowing time is money saved. If the pigs come in cold weather, put them in a warm box until she is thru farrowing. Then put them with the sow immediately. Do not feed the sow for 24 hours. If the pigs scour feed less and add plenty of strong lime water to her slops. If the pigs are old enough to drink when they scour, scalded milk with a little wheat flour and a half egg for each pig, stirred together is good. If too young to drink, give them four to five drops of paregoric.

Give the pigs a run way adjoining the pen with an opening about a foot square thru which the pigs can get, but which will not permit the sow to get thru. At three weeks of age feed them a few grains of soaked wheat on a board floor in their run way. After they become accustomed to eating, gradually lead up with shorts or ground oats. Give them all the skim milk you can spare. At this age feed for bone and muscle, not fat.

By giving the pigs plenty of pasture with above feed, at about eight weeks they will have practically weaned themselves. After weaning, the pigs must not be permitted to stop growing. Never forget that the most and cheapest pork is made in the early months of the pig's life. Castrate young boars at about five weeks of age, spay young sows at about three months. By this time you will know whether she is a profitable sow for breeding.—Earle W. Gage.

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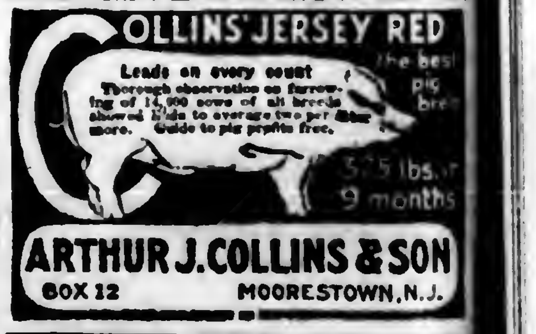

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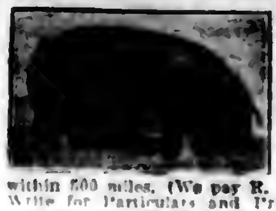

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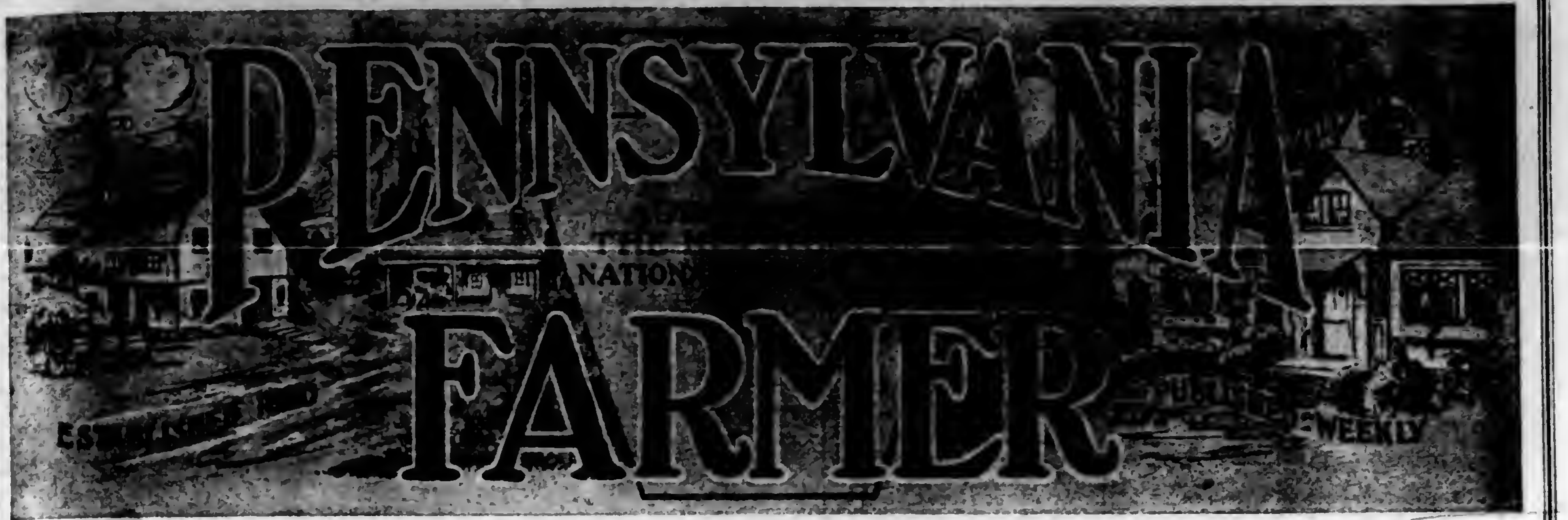

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The Lawrence
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Vol. 47—No. 8 PHILADELPHIA, PA., SATURDAY, FEBRUARY 21, 1920 75 Cents per Year

Remodel the "Little Red School House"

A Variety of Suggestions on the Improvement of Rural Schools

We present as the leading feature this week a discussion of Rural Education. The subject has been discussed so much that it is almost threadbare, but for all that, little progress has been made in the great majority of rural schools. In fact, the situation today may be said to be less satisfactory on the whole than a generation ago. First, because the needs are greater, and secondly because general economic conditions have had a deteriorating influence upon the teaching force and this affects rural schools first and most. There is no disputing the fact that these schools are not efficient for present needs and there is no use in "pointing with pride" to the service they rendered to past generations. Pennsylvania Farmer is not at this time boosting any particular scheme of improvement, but we are interested in arousing intelligent public sentiment to the point where it will act for improvement rather than spend its energies in lamentation or in reactionary opposition to changes.—Editors.

What Should Be Taught

P. P. CLAXTON, U. S. Com. of Education

As a man in a democratic country, the farmer is entitled to education for human development, for sweetness and light, and for an understanding of the duties and responsibilities of citizenship. I have no sympathy with any theory of education or any philosophy of life which would make of any class of men merely good working cattle, useful in the production of food; but, without the joy and inspiration and hopes of men and a sense of obligations as citizens of the commonwealths. For these farmers need the same education as other men.

1. The farmer must know his soil; its physics and chemistry. He must know the physical differences between friable and sticky soils; between loams and sands and clays and marls and mucks; between open, porous, warm soils and wet, soggy and cold soils; between pervious and impervious sub-soils. He must know what these differences mean for all crops and for their methods of cultivation. He must know of the water and its movements in the soil; how and why and to what extent different kinds of soils absorb and hold water.

2. The farmer must know plant life, the life history of the plants he would cultivate as crops and of those he would destroy as weeds. Botanical knowledge of the old type which leads to description and classification only will not suffice. He must know what crops are best suited to different kinds of soil and climates and what varieties can be grown with most profit.

3. The farmer must know animal life. At least the life history of all the animals he would grow for use and profit, and of those he would destroy as injurious. Again mere description and classifying knowledge will not suffice. He must know how to breed for the several results to be obtained; what varieties are most profitable; how to care for the young at birth and before; how to feed his animals of every kind at their several stages of growth and development. He must know how to make most economically balanced rations for growing pigs and for fattening hogs, for milk cows and for beef steers; for horses and mules and other animals. He must know of the diseases of animals, and how to protect against them and how to treat animals when attacked by disease.

4. The farmer uses a larger variety of delicate and complicated machinery, and under more difficult and more varied conditions than any other man; steam, gasoline, oil, and alcohol engines, electric motors, tractors, automobiles and trucks, gang plowers, cultivators, seeders, harvesters, silage, cutters, grinders, threshing machines, pumps, separators, etc., etc. These he uses in all kinds of weather, over muddy roads, and on plowed lands, up-hill and down hill in tangled grain and matted grass. The farmer must therefore know much of the structure of machinery and the underlying principles involved in its operation. He must know how to run, care for, and repair all the machinery used. Otherwise he will lose much time and lose much money on repairs and the purchase of new machinery.

5. There was a time in all parts of our country, farmers bought little and sold little. They consumed what they produced and produced what they consumed. If one farmer had a surplus of one crop, he exchanged with his neighbor who had a surplus of that which he lacked. Each little farming community was a world to itself. A farmer could stand in front of his door and see to the ends of his world. He could hear the dog bark and see the smoke rise from the chimney of every man with whom he competed or cooperated. But it is no longer so. The farmer of today is a merchant, buying and selling a variety of products and under more difficult conditions than half the merchants in the great city. Every farmer who buys and sells should study the markets as closely as the men who buy and sell for future delivery on the exchanges.

6. No comprehensive knowledge of markets and no practical knowledge in change of prices of farm products and of things which the farmer must buy can be had without a broad and accurate knowledge of the geography of all the civilized world, at least including populations, industries, exports and imports, trade routes and connections; nor without the habit of constant and careful study of change in conditions of all these from year to year.

7. The pioneer farmer seldom kept accounts. Few of them knew what the profits or losses were during the year on any operation or any field, any crop or any group of live stock. As the years went by, they were dimly conscious that they were prospering or failing or merely holding their own. But they all alike complained of "hard times." For most of them times were hard, and but for the virgin fertility of the soil a genial climate, and the native intelligence and hardihood of the farmers themselves, times would have been not only hard, but impossible. Why he was prosperous, why he failed, why he held his own, and why times were hard, no one knew definitely. It was luck or the weather, or downright hard work, or keen shrewdness or stingy saving. None of these is longer sufficient. The farmer must be a good bookkeeper and accountant.

8. Gardening, dairying, and poultry raising for domestic uses at least should be a part of the activities of all farms, and on many of them should come to be industries of great importance. Each of these industries, on either a domestic or a commercial scale, requires for success a comphehensive knowledge of its own group of principles, and skill in their application.

And there is much else a farmer needs to know. Every farmer who reads this will be able to add to the inventory here given. But this is sufficient to indicate something of the scope of the things the farmer must know, and the training and mental habits and attitudes the farmer must have to succeed intelligently and certainly in his profession. I must, however, call attention to two things more:

1. The farmer who owns and runs his farm or who leases and rents and cultivates land not his own must himself be possessed of the full round of necessary knowledge here indicated. Nowhere is farming so well organized as to [illegible]

possible such a division of labor and knowledge as now obtains in other industries and occupations. In the great steel plant, and in the textile mill, a small group of expert engineers and managers and foremen, plan and direct the work of hundreds and thousands of "hands" who need to know only a few simple processes and to obey rules and orders. The same is true in all, or most of the great industries, but not in farming. The man who runs the farm is his own engineer, manager, foreman and operator. It is only the knowledge which he himself possesses and the skill which he himself commands that effects his farm, its production and its profits. It makes little difference what knowledge of agriculture, and farm management there may be accumulated in state and national departments of agriculture at agricultural colleges and experiment stations, or even what may be in the minds of farm demonstration agents, if the man who runs the farm does not possess it. Neither is it possible for one farmer to be an expert in growing corn, another in growing wheat, another in growing hay, another in growing cotton, and still another in caring for certain kinds of livestock, and each ignorant of other necessary parts of the work on the farm. Ignorance of how to cultivate, plant, harvest, or market one crop, or care for one kind of livestock may result in loss sufficient to wipe out all possible profits from other crops and other kinds of livestock. Nor, again, can one farmer be a specialist in planting, another in cultivating, another in harvesting, and still another in marketing. The same farmer must know and do them all, and do them all alike successfully.

2. It is not sufficient for the farmer to know merely processes and follow rules blindly however industriously. Workmen in many industries may learn all or most they need by mere rules of thumb. But there is little the farmer can learn this way. He must know under-lying principles. When conditions change, it is only a knowledge of principles that can give freedom and insure success thru the power of adaptation.

Whatever may have been true or thought to be true in the past, it has now come about that for certainty of success in his profession, the farmer needs a broader, deeper, more comprehensive, and more thoro vocational education than is required for any other vocation. Real knowledge and scientific training count more here than elsewhere. Chemistry, physics, biology, mathematics, mechanics, geography, history, meteorology, habits of observation power of thought, training and application:—these are the fundamentals of education for a profession in which the truth of every principle is tested by the inevitable laws of nature, and in which excuses, explanations and apologies, in however eloquent words and phrases, are of no avail.

Making Over a "Deestrict" School

By J. E. RUSSELL, Broome Co., N. Y.

Did you ever see a country school of this kind?

It stands at the cross roads an ugly box of a building with just the ghost of an ancient coat of paint remaining. The only evidence of beauty anywhere near is a couple of maple trees. The grounds are lower than the roads and are undrained, so that after a rain the children at noon and recess play in the mud which they track in large chunks into the school room. The toilet facilities are in outhouses with unscreened doors —one for boys and one for girls—side by side. For years obscene minds have left their records upon these buildings in pencilings and jack-knife carvings.

The outside door opens directly into the school room. Around the wall the coats and hats of the children hang on nails, while dinner pails and rubbers clutter up the floor. Near the middle of the room stands a rusty stove which is uncomfortably warm for the childen who sit near, while the children at the back of the room where the wind whistles thru the cracks are shivering.

Once the interior of the building was papered, but great sheets of the paper have been torn off, leaving ragged edges, while here and there a piece of plaster has fallen from the ceiling. The wood work is dingy with smoke and grime. The floor needs a protracted scrubbing and is badly worn by the activity of a generation of busy feet.

There is a small blackboard so high that the younger children can only reach it by standing on a chair. A battered dictionnary lies on the teacher's desk, while a wheezy organ stands in a corner. On the wall hangs a ragged atlas of the United States and a picture of Washington with a broken glass over it. On a chair near the door sets the waterpail wilth the dinner dipper from which all of the children drink.

The staring windows on opposite sides of the room have no shades. When the sun shines the children's eyes are dazzled. All the equipment used by the pupils, except the chalk which the district provides, they must furnish themselves. Instead of note-paper, slates are in evidence which are cleared with a sponge and a water bottle or in some cases with saliva as moisture.

This picture may seem to many a caricature, but unfortunately thousands of schools in no essential respects better than this are yet to be found in various parts of the United States.

Six years ago the Porter School in Adair County, Missouri, was such a school. Now behold the transformation as told in Evelyn Dewey's recent book, "New Schools for Old."

Guernsey, "Ultra Select" 47137

The grounds of the school have been graded. The outhouses have been cleaned, painted, fitted with doors that can be locked against tramps and moved to opposite side of the yard. The front door will now shut and the windows have their full number of panes. The leaky roof has been reshingled. The clapboards have been nailed down and the building has been painted. The coal shed has been made over into a barn for the school team.

Under the school house a well lighted and comfortable cement basement has been placed. Behind a partition at one end of the basement is the furnace and coal bin. In the basement there is a sink with a waste pipe and running water supplied from a pressure tank connected with the school well. A sanitary drinking fountain has been installed, and a row of individual children's towels hang on an inconspicuous rack. In the basement also is an oil stove, a kitchen table, a long table, a cupboard for dishes and a modest equipment for a cooking school.

A stairway leads upstairs from the basement to the vestibule. Here is a place for the children to hang their wraps. The plaster upstairs has been mended, and the walls repapered a pleasing shade of oatmeal paper. The woodwork has been painted a golden brown. The desks have been scrubbed and varnished. Altho the floor is old and splintery, by thorough oiling and sweeping it is kept in good shape Adjustable shades control the light of the windows. An eight day clock hangs against the rear wall, and pictures chosen with good taste adorn the walls here and there. The school has been loaned a phonograph and for three years a piano has been rented.

What is the explanation of this miracle of transformation under conditions more than usually difficult? The explanation is the teacher, Mrs. Marie Turner Harvey, who knows and loves the country and who gave up a much larger salary in the normal school at Kirksville, to live in the Porter School district in order that she might show what could be done with the old-type of country school.

Thru her vision and power of leadership, this country school has not only been made over, but the community life is gradually being transformed, made attractive, wholesome and happy.

What of the Rural School?

By HARRY BOTSFORD, Crawford Co., Pa.

An alarming situation is in evidence in this land of ours. It is a situation which strikes the farmer with special severity for unless he finds a solution to the difficulty, his children must suffer. I refer to the difficulty— a very real difficulty too—in suppyling the country schools with suitable teachers.

Conditions have changed so rapidly within the past few years that we have scarcely had time in which to take our breath. The result of all of our hurry and haste is that we have neglected to look after one of our most important matters—the schools and the lack of suitable teachers. Unless our schools are kept up to a certain standard, our children are very liable to be below standard! There can be no successful contradiction to this statement. The child who is forced to face the world only partially educated because of poor teachers must either overcome a terrific handicap or lose out in the race.

The selection of teachers who have a high standard of morals is not sufficient; the really efficient teacher must not only have an excellent reputation but must also be equipped to teach and further have the ability to teach the children who attend the school.

Yearly the standard of our rural teachers is getting lower and this has been particularly true of the past few years. Teaching used to be considered as a logical profession for a young lady or young man with tastes and talents in that direction. High wages other places has almost entirely eliminated the male element from this field.

The young ladies of this land are turning away from the profession of teaching for the more profitable fields and they cannot be entirely blamed either.

The average teacher of a country school works about eight months and receives only $450 as compensation. She must live in the country during this period, often forced to board with people whose society is uncongenial. Her selection of a boarding house is fixed arbritarily by the proximity of the boarding house to the school.

She sees other girls who attended business college while she attended normal school making an average of $25 a week and only working about seven hours a day. These girls average about $1200 a year and have their two weeks, with pay, for a vacation each year. They have certain opportunities to advance in their work and salary. They live in the city where they have the opportunity to mingle socially with others. Is it any wonder the normal graduate asks herself if her education and profession are really worth while?

Yes, you say, but all teachers are not normal graduates. Quite right! The high-school graduate may take up teaching but she will not stay with it very long when she sees other girls of her age and ability making $15 a week clerking in a store or making more than this as workers in a factory.

What are we going to do about it? Frankly I don't know but the subject is worth study—a whole lot of study. Higher wages for the teacher may be one solution but it would not be a permanent solution by any means. Better living conditions in the country may help the situation some as would the consolidation of district schools.

The little school house must be preserved in

some manner. It is greatest heritage; the little school house is an institution that has been responsible for our free educational system that has been nationalized. Our boys and girls must not be forced to attend schools situated miles from their homes. This is too great a hardship to impose on them—particularly in cold weather. Neither can we afford to lower the educational standards in the country schools; our teachers must be up to date and efficient. Our children are entitled to as good a schooling system as exists in the cities. We must see that they get it. How, I don't know.

Who is going to lead us out of the darkness?

IN DEFENSE OF THE LITTLE RED SCHOOL HOUSE

By CHAS. W. CREASY, Columbia Co., Pa.

I have noticed in Pennsylvania Farmer many remarks against the Little Red School House. Centralized schools are the talk—the coming fad. With such a system, new buildings and transportation are some of the necessities. Since I have observed and experienced some of the factors that bear on the case, my ideas are for the defense yet I am in favor of anything that will better the rural education.

In centralizing schools we must look for other buildings,—in these times quite an expense. To save this expense, the many small towns thruout the state, would be the cheapest place to school the children by simply hauling them to town when they would soon lose their love for the farm and learn the most satisfying brand of cigarettes! This is not the way the idea is aimed, but economy is always in order and it would surely be extravagance to build a graded school house close to town where there is one already equipped.

Next is the transportation problem. Whether schooled in country or borough, some provision must be made so that the children can reach the school. Hauling is very expensive, but omitting that item, let us consider the time spent away from home, the poor roads in winter and spring, and above all the moral effect of herding together big and little, good and bad "kids" in the same carriage without a chaperone! From what we learned of hauling in our district I consider it a failure.

Past Master Rhone of the State Grange opposed this hauling idea after he heard a relative in the west relate its shortcomings. Doctor Dixon opposed the scheme on hygienic reasons. Surely all will oppose it on account of its moral effects when once they get acquainted.

For some of the above reasons the State Grange has always been opposed to centralized schools. What more reasons are necessary? Yet, let us not forget the time that many will be away from home, in some cases from 7.00 A. M. till 5 or 6 P. M. thus preventing them from doing the chores and missing "Home Rule."

Can we afford to swap the country "kid" on a "better book larnin" and pay good money to boot?

Yet one point and that is about the actual learning. Where I noticed country children with the advantage of a seven-month term in the one room school house, and a reasonable distance to walk were in advance, considering their age to the graded school pupils with the "advantage of nine-month term. This has been confirmed by many graded school teachers.

The children in a one room school hear those in the upper grades recite and learn much while memory is at its best thus unconsciously absorbing much knowledge. Sure the advantages of the ungraded school are many and I hardly think it necessary to write further on the subject.

All in all, while the one room school house may not be all that we want, will the centralized fad insure us any thing better?

"Oh you Little Red School House,
May you ever stand,
As a 'House of Larnin' in this free land."

Good prices offered for rabbits furs are causing some folks to go into the business. Do not hurry too fast nor invest much money at first. Be sure you like the work and can make something at it.

Better Rural Schools

By C. B. WILSON, Ass't Superintendent, Clearfield County, Pa.

All persons who have given the public schools of Pennsylvania proper consideration, are convinced that our commonwealth is in great need of more efficient schools. This is particularly true in the rural districts and in districts with a large foreign populaton. If our commonwealth is to take its proper place in the progressive period now before us, it must not neglect the elementary and high school educational opportunities.

How can this be done? There are two main propositions. The first is better qualified teachers; the second, more efficient organization.

Pennsylvania has thirteen Normal Schools and their helpfulness to the professional training of our teachers has been very valuable. Some more favored districts have mostly normal graduates teaching in their schools. In most districts, however, the percentage of teachers with Normal School training is very low, and in many districts there are none. The number of Normal School trained teachers is decreasing. What can be done to help in securing professional teachers? Pay higher wages is the common answer. It is true the wage must be higher and it will be, but not high enough to solve this difficulty. If the wage of teachers were doubled, we could not today find enough teachers who are professional in training and spirit to fill our schools.

Let the wage be increased and then let us use plans to train people for the profession. It is always best if possible, to make use of all present organized agencies in such undertakings. The most helpful and far-reaching step in our common school organization for the past 20 years, has been the establishment of local high schools. At first there was much doubt among the higher educational institutions, abont the efficiency of these high schools. Their work is now accepted without question. This change of attitude is due to uniform state requirements and inspection and to the efficient instruction.

Hauling Field Peas on a Motor Truck

The principals and teachers of our high schools have been the best prepared, most progressive and most earnest workers in the public school system. Let us use these High Schools for the academic work and our Normal Schools for the professional work. Most counties could, with a higher wage, secure high school graduates for every school.

Let the Normal Schools provide one year of professional training. Let the state pay the board, and tuition. It will mean less expense for the public to pay both board and tuition for one year than tuition alone for four years. It will also prevent, people taking advantage of the normal school free tuition, to prepare for othe lines of work than teaching. Make this course strictly pedagogy. When a course is partly pedagogy and partly academic, the academic work is given most attention by the majority of students. Most of the time should be spent in doing illustrative class-room work. This would make the work more interesting and would mean much competition. Graduation should mean a permanent certificate after two years of successful teaching. Many of the high school graduates are not old enough to teach at the time of graduation and would gladly accept this opportunity. The Normal School plants would be filled with students, and we would soon have a teacher with a Normal School training for every school in the state.

These you say would not be professional teachers. That is true, but with proper supervision it would be possible for them to become professional teachers.

There may be many different plans for the organization, but some plan embodying the following points must be employed:

There must be a supervisor who can visit each school once per month. This man can either be employed by the district or be connected with the office of the County Superintendent. He must be a school man with academic and professional training and experience. The state should provide the minimum standards for the schools in printed form. This should be checked, sworn to by the supervisor and filed with the State Department. The districts having schools which fail to reach the minimum requirements should be held to strict regulations by the State. This would make possible a properly equipped school plant.

Few teachers can do efficient teaching with overcrowded conditions. Teachers cannot do efficient work without efficient tools any more than a carpenter; there is no good reason why it should be expected. Books and other supplies are the teachers' tools, yet in many district there is a great lack of supplies, the deliveries of supplies are irregular, and often they are far from what the teacher needs. A supervising principal can often save a district the amount of his salary by proper regulation of supplies.

Proper selection of text books and other supplies, and regular attendance would be a great economic and educational advantage to the public. The supervisors and principals have done much to improve the instruction in the public schools, but laboring under the handicap of one-term tenure of inefficiently prepared teachers, and ridiculous school equipment the results of their efforts is seriously limited.

If Pennsylvania is to do her part in carrying on the affairs of the nation which have been thus far so nobly advanced, she must not fail in her efforts at public education.

HAVE A BAR MAGNET AROUND

Recently an agent was setting up a piece of farm machinery when, thru the dropping of a small piece in the grass and weeds, the work was seemingly doomed to postponement until the missing part could be ordered from the factory. Careful and deliberate search was made in vain, tho two or three on-lookers were sure they knew almost the exact spot where it fell.

"Just wait a minute," was the cheery assurance of the farmer, as he hustled to the house. In a few minutes he came back with a small horseshoe magnet, and passed it carefully over the ground where the tiny part was supposed to have fallen. Very soon he held it up triumphantly, the missing part clinging to the edge of it.

"We could haerdly keep house without this toy, given to my son as a source of amusement," he explained. One day the hired man got a bit of steel in his eye, and was nearly frantic. While I was harnessing the horse to drive him to the nearest oculist, ten miles away, I thought of the magnet. It brought the steel out and the pain greatly relieved before we started; and the doctor said that this prevented severe inflammation. Yes, the magnet is a most handy all-around tool."—B. L. P.

ORCHARD FERTILITY

If the orchard is in clover sod, a mulch of manure will probably not be needed as the clover will furnish the necessary mulch. In regard to the question of whether it will pay to apply fertilizers or not, it may be said that most old neglected orchards will respond to the application of manure or commercial fertilizers until they regain their health and vigor. The time for applying is usually very soon after the leaves come out.

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PHILADELPHIA, PA., FEBRUARY 21, 1920.
VOLUME 47 NUMBER 8

Our job is to serve our readers. Whenever and wherever we can help you, write us.—The Editors.

Our Washington Letter

WE ARE glad to know by the many expressions to that effect that our Washington letter is so well appreciated. Mr. Reynolds, our correspondent, is a newspaper man of years of experience in the farm paper field and knows the kind of news that interests farmers. Added to that qualification is the fact that he is in sympathy with farmers' purposes and needs, hence is able to view public questions and legislative activities from the farmer's standpoint. Pennsylvania Farmer realizes that farmers today need a knowledge of national affairs quite as much as a knowledge of local matters, hence the addition of this valuable feature.

Ruralize the Rural Schools

WHAT a threadbare subject! you will say. Maybe, yet with all that has been said, and after all the criticism that has been leveled at the little red school house and its achievements, or lack of achievement, less change and less actual progress has been achieved than in any other rural institution. This statement has reference to the vast majority of rural schools. There are a few notable exceptions scattered here ond there—schools which have been remodeled, revised and brought up to date. But in many cases the achievement has been accomplished by a few determined individuals in the face of bitter opposition. Most people realize the short-comings of the present rural school but are unwilling to urge a change, either because they do not know what change to make or because of the fear of added costs. In some places the controlling influence lies in the hands of those who have no children, hence no personal interest in the matter.

We publish this week a number of articles discussing the question. We are aware that these articles do little more than discuss it. What we most need is facts from those localities that have successfully modernized their schools. We believe farmer parents are willing even anxious to be shown by other parents who can speak from their experience. The Pennsylvania Department of Public Instruction is honestly trying to make a survey of the needs previous to proposing changes. Let farmers cooperate with suggestions when possible, and at least give an attentive and unbiased hearing to propositions for improvement. Here are our suggestions:

(a) Some women on every schoolboard; (b) such revision of the curriculum and rewriting of text books as will meet rural needs; (c) centralize the grammar and high schools in fully equipped buildings and furnish transportation; (d) include in the course the principles of agriculture and household economics, and equipment for elementary industrial training; (e) lastly here but first in accomplishment, such revision of the state's tax laws as will provide funds for carrying out the program.

Don't Lean Backwards

THE fear of running into state socialism, a fear that is being voiced on all sides by some men and many newspapers, should not cause law makers and other government officials to make greater mistakes in the opposite direction. A case in mind is that of the immense oil fields in the southwestern section of the United States. There has been a persistent effort made for many years on the part of the great railroads of that section to obtain monopolistic control of this field. In this they have at last been successful, according to reports, as Attorney General Palmer has given the necessary legal sanction to the deal.

It is not government ownership, or government operation, nor yet state socialism for the government to retain a degree of control over the remaining natural resources We believe the principle of private operation is more efficient and economical than government operation, but the wanton waste of natural resources that has occurred during the past 50 years simply because their private ownership gave men authoritry to exploit them so as to make money quickly. One has but to examine the methods, or lack of methods, used in lumbering and mining and see the waste there to believe that most men need a restraining hand if they are to conserve. We believe Mr. Palmer's action was a mistake and it is to be hoped that a saner policy will be followed in relation to the remaining forests, coal lands, water power and oil fields.

A man who had built a house with his own hands was explaining why he had to build it twice. He said: "The first time I built it I found it was not plumb. I tore it down and rebuilt it and now I find I have got it over-plumb."

There is danger in these times of excess and excitement that in our desire to avoid radicalism and to be sane and to stand straight that we will lean backwards.

A Rich Man

THE following is so good and so helpfully suggestive that we feel like giving it editorial sanction. It is especially appropriate it would seem in these time of scramble and dissatisfaction. Blacksmith Meyers saw in the newspaper an editorial which inspired him to write to that paper this letter:

"I wonder if you knew that one of the richest men in the world was fourteen miles north of Norfolk, right here in Pierce, Neb.? That man is the writer. I am just a common 'Plug Blacksmith,' but, oh, how rich! I go to my labors each morning, work until noon, go to dinner, return at 1 P. M., and work till 6 o'lock. I enjoy the greatest of all blessings, good health. Rockefeller would give all he possesses in money or holdings for my stomach, but he can't have it.

"I have a most wonderful little wife. She has stuck to me twenty-two years now, so I know she must be a dandy to accomplish that. I have a little home, a beautiful daughter, a son grown to maturity, and now in life's game for himself. Rich? Why, man alive, who can possibly be richer? Then, to add to all the above riches, I take down my old shot-gun in season and ramble thru fields, woods and tangle in search of the elusive cottontail, teal and mallard with my faithful old pointer at 'heel' (now past eleven years old), and he is as happy as I when on the hunt. Then, when I get back, oh, how good everything does taste. Then, when night has spread its mantle over the good old universe, I settle down in a good old easy chair, enjoy a smoke and then roll into bed to be embraced by 'Morpheus' and never hear a sound until the beautiful break of another day. Rich, did you say? Well, I guess. $'s, no—not many. You inquired about riches; not material wealth.

"The height of my ambition is to so live that I may have no regrets for having lived, when the time comes for me to shuffle off this mortal coil, and I hope by that time to have accumulated just enough $'s that myself and mine may not be objects of charity.

"This, then, is my idea of a rich man. If anyone enjoys life more than I do, he is to be envied for his riches."

Current Comment

By Father Penn

Labor Omnia Vincit

The discussion of the farm labor problem which appeared in Pennsylvania Farmer two weeks ago was most interesting, but not very reassuring. It is doubtful whether it could be otherwise when one views the labor field as a whole. Almost every other industry is likewise hampered by a shortage of workers. This includes the lighter occupations as well as manual labor. One has but to scan the long columns of want ads in the daily paper to realize the scarcity of helpers in every line of business It is altogether probable that the proportion is no greater in agriculture than elsewhere, but one thing is certain; the results of an insufficient number of food producers will be a continuation of high prices if not an actual state of accute hunger, sooner or later.

* * *

In seeking an explanation of the labor situation farmers as well as manufacturers should remember that immigration was almost stopped during the war. The total number of immigrants to the United States during the four years ending 1918 was 1,039,547, and during the four years previous to 1915 the number was 5,131,121. Farmers got a part of this labor, and other industries were fully supplied so that there was less drain from the farm. The amount of labor coming to this country now is not equal to the amount that is leaving. A steady stream has been flowing Europe-ward since the close of the war. The immigration authorities of New York say that 1,250,000 workers and their families will leave as soon as conditions permit, while it is estimated that the number of new-comers will not be more than one-third as great as before the war. As a matter of fact, there is an accute labor shortage when the available supply is compared with the need. This shortage has been estimated to be 4,000,000 workers. The question of immigration needs the attention of broad minded statesmen as never before. It is no longer a matter for peanut politicians to handle, nor for selfish organizations to dominate and dictate.

* * *

But the most discouraging feature of the entire labor situation is the fact that a great part of that which is available is willing to shirk its responsibility and thus miss its opportunity to assist in a work of reconstruction which will permamently better the whole social structure economically and industrially. It is extreme short-sightedness to think that we can have more by producing less, and yet that is the logical result of many of the worker's demands now being made. Fewer workers, decreased efficiency and shorter hours can result in but one thing—less production and higher prices. We applauded Hoover when he said that what Europe needs is to go to work. The same advice applies here. It is the only cure of the present ills. They are on the wrong track who think that life is made more worth while in proportion as labor is avoided. Food, the first and continuous essential of life, can only be obtained by the application of intelligent labor. Shelter and clothing are obtained in the same way, but if there is not sufficient labor applied to procure enough of these things for all, somebody will be hungry and cold no matter how much money and leisure they have. Short hours and big wages cannot be used as a witch's wand to conjure them into existence.

* * *

Proper legislation will help some. There are big questions needing big men—men who can put the welfare of mankind above party and who think of principles before politics. There is the questions of the railroads, immigration, tariff, labor unions, collective bargaining, distribution, etc., but even the best of laws on these matters will not bring industrial peace without a change of mental attitude on the part of the people. As long as class feeling is engendered and as long as people seek to get the most possible while giving the least possible the turmoil will continue and an old-time pinch of hard times will be necessary to inject some old-time common sense.

HARRISBURG LETTER

No Change in Taxation.—Perhaps he most important action taken by he State Constitutional Revision ommission, which completed its reliminary study of the fundamental law of the state the last week as the decision against departing rom the principles of taxation of he constitution of 1873. In other ords, the Commission held that here should not be any state or local income tax or other graded taxes nd that to all intents and purposes he system should remain much as it s today. The auditor general, chief fiscal officer of the state, declared that there is enough money in sight to meet all reasonable needs by following the present lines of corporate taxation and various forms of licenses. In addition to declining to insert the income tax or provision for graded taxes, the Commission opposed an excise tax on minerals produced in Pennsylvania. While there was strong opposition to any change from the present principles it was notable that the chief objections to any additional lines of state taxation were based upon federal taxes, which it was held were burdensome and would probably continue for some years. However, the Commission has enacted a budget system which it will be up to the legislature to accept or reject and has made provisions which will enlarge scope of investment of taxes in public improvements, altho city interests more than anything else were considered in this matter; has enlarged powers of regulation of corporations and recommended big changes in the minor judiciary. The plan for each municipality to adopt its own form of government, which would have brought about a unique and confusing situation, was defeated.

Fewer Justices.—Bearing in mind that the report of the Commission is not yet drafted finally and that there will be hearings and then meetings to adopt the final report, when some subjects will be threshed out all over again, it will be interesting to note the attitude of the legislature toward the recommendations in two particulars. One will be on the plan to abolish the offices of alderman and justices of the peace as at present constituted thereby reducing the number of justices from something like 6,000 to 500 on the ground that they are not all needed. The other will be to have the appropriations for charities made in a lump in the budget and distributed by the State Board of Public Charities, doing away with the separate bills and logrolling. The charitable appropriation bills are dear to the politician and there is going to be much politics in the selection of legislators this year, prohibition, labor matters, corporations, state government being a few of the influences that will be felt between March and November. The recommondation for abolition of the present system of minor judiciary is based upon the sins of justices in boroughs and small communities, city aldermen and a few in rural districts. It was plainly stated in the debates that the "country squire," as the township, justice is known, had many good points and was a useful official. But to get rid of the magistrate who was blamed for much of the troubles of the foreigners and heavy costs to counties it was held to be necessary to abolish all. Friends of justices and hospitals that do not want to be under the state control will probably require some watching next winter.

Organizing Rural Work. — The State Department of Public Instruction, in cooperation with various federal and college agencies, is now completing new organization plans. The county unit of agricultural advancement has been determined upon and more appointments of supervisors of "farm" education will be made. The plan being followed will represent the last word and if it does not work a lot of ideas will be scrapped. The survey of rural conditions regard to schools is under way, between the strain of resources any districts to pay teachers and aintain schools anything like the uired term this is going to be a d time to put much into effect in way of new buildings or extensive changes. L. H. Dennis, who is in charge of the agricultural work, says that steady advancement is being made. In some districts consolidation is about being effected in the primary grades.

New Distribution Plan.—The Constitutional revisers having set their faces against the plan to have the state appropriate a sum equal to what is raised by the local districts, the problem in regard to rural education and for payment of teachers is to draft legislation this spring and pledge legislative candidates, just like the labor people and others interested in what will be done next winter. Suggestions of people who have come from time to time include: More money that will go into common schools or in other words more for the little red school house or what every term may be adopted to distinguish the primary and intermediate school room from the high school; stabilizing overhead and other charges which have advanced with each increase of the educational appropriation; more money for teachers salaries; state aid in the way of grants for building of new school houses, especially where consolidation is found essential and the district has not the resources, this aid to be either outright or in the form of loans; more money for training of teachers, normal schools and other agencies and a better method of distribution of the state money for the schools so that the swing of population toward the cities will not continue to operate against the rural districts.

Farmers' Meetings. — Probably more interesting farmers meetings are being held now in Pennsylvania than known for years. Institutes have been held since the latter part of January in the big eastern agricultural counties and the attendance in spite of snowdrifted roads and severely cold weather has been very fair. Discussions have been spirited and State officials profess to be well pleased at results of quizzes. Various farm bureau meetings have also been heard and discussions especially in rgard to live stock have been unusually interesting to folks here.

State Highway Work.—According to State Highway Department figures Commissioner Lewis S. Sadler plans to have 1300 miles of road under contract this year. At present prices thi sis going to mean a vaster sum than expected, but only this last week delegations were here from eleven counties demanding to know when bids were to be asked for their counties even in the face of estimates that ran away up, while districts not included in the ninety mile letting advertised for early in March have sent some strenuous objections at being left out. Last year the state built something over 260 miles of road and has 627 miles under contract for the start of this year. The rest is to be advertised. With weather conditions half way favorable it is expected that there will be a large mileage finished on state main highways and much state aid and county work handled.

Testing Matters Up.—Serious consideration is being given at the State Department of Agriculture to the means of working out the milk testing law. Objections are being made and in some places evasions are reported. The disposition here is to insist on strict observance even if necessary to go into the courts. In the next two years greater strides to improve the milk furnished on Pennsylvania farms will be taken than in a decade it is predicted here.—Hamilton, Harrisburg, February 16. 1920.

NEW YORK LETTER

More Maple Syrup Organizations.—The producers of maple sweets of Franklin County are taking preliminary steps towards organization of all sugar bush owners of the county. Negotiations are going on for the sale of this year's output, which in an average year is 2,150,000 pounds of sugar, and 28,500 gallons of syrup. Hundreds of sugar and syrup barrels are being delivered and the farmers are buying modern equipment So far Cortland County has the only known co-operative association for selling the product. It is just starting on its second year, and from the demands for membership may expand so as to include the leading makers in all Central New York. This organization is not willing to set a price on its output just yet, but it seems certain that such will be higher than last year. Further refunds were recently made to members, making a net price of last year's crop of $2.30 a gallon mostly in gallon tin cans. This year the association has decided to bottle most of its output as the outlook offers better prices in that form. The organization warns its members not to sell their product too early in the spring when the entire crop is usually unloaded. Local banks will loan money to finance the work of the association, on notes of members held as collateral security.

Imported Honey Harmful. — The recent annual meeting of the New York State Association of Beekeepers Socities protested the importation of Cuban money, which is impure and of poor quality and is sold at prices that would ruin the home industry.

Keeping Fit Movement.—There is a state-wide movement to attack the health program from the standpoint of keeping physically fit the year a round, rather than dealing with sickness. It is being furthered by the Home Bureaus of the state and the State Department of Health is sending free lectures to talk on this and similar problems to groups of housekeepers and to community gatherings. The Y. M. C. A. Associations and City Home Bureaus are adopting similar methods.

Grange Co-operative Buying.—The yearly report of the New York State Grange exchange shows business last year amounting to $529,694. Many definite lessons were learned about co-operative buying for farm needs.

Wide Co-operative Plan.—At a recent conference in New York the National Association of State Marketing Officials, C. R. White was named chairman of the committee to extend the federal plan of organizing properly financed bodies of farmers to sell for them products not heretofore sold co-operatively. Cabbage and commercial potatoes are two leading crops that will receive attention in the first organization, to be effected for farmers of Central counties at Cortland on February 18.

Milk Regulation. — Among the many bills to regulate the state's milk industry now before the Legislature the farmers will oppose one, providing for a demonstration distributing plant to handle at least 120,000 quarts daily its experience to determine the price dealers would be allowed to set on retail milk; and a demonstration farm where strict accounts of the cost of production of milk shall be kept such costs to determine the price farmers shall obtain. The fact that farmers are opposed to all forms of governmental regulation will lead them to oppose the bill, which would place the industry in charge of one commissioner to be appointed by the Governor. Another bill strongly disapproved by the State Grange would give great powers of regulation to a similarly appointed commission of three at a salary of $7,500 each yearly, who would be empowered to create an army of highly paid inspectors as one absurd means of reducing expenses.

Country Newspaper Contest. — A unique exhibit of county weekly newspapers of the state at Farmers' Week brought out the fact that there are now 486 weeklies in this state, as compared to 125 dailies. Of these 217 have a circulation of less than 1,000; 258 have a circulation of over 1,000, and 18 have a circulation of over 3,000. The duties and advantages of farmers in suporting these papers and using them as advertising were brought out convincingly. Awards were made for the best three papers as determined by their method of handling rural news. There were 196 papers on exhibit, which was the first of the kind held at the college. The Camden Advance-Journal was award first place, for its method of covering the interests and needs of its local community. The Port Byron Chronicle received second place, and the Delaware Republican third place. The Warrensburgh News received first place for its first page typographical "make-up" and effectiveness. Journalism as it touches farm interests is making great progress at the State College under the management of Prof. Bristow Adams.—M. G. F.

NEW JERSEY NEWS

Farmers Threaten Reprisal.—If the New Jearsey Legislature passes a daylight saving law the farmers of the state will be seriously damaged, and when the reduced products are brought into the markets in 1921 they will necessarily be advanced in price This and other information has been impressed upon the lawmakers by prominent producers of the state, and the legislators have been warned to go slow on the enactment of the Mackay daylight-saving measure. From South and North Jersey appeals have been made to the legislature not to act favorably on the bill, the petitions coming from granges and other organizations that are interested in the highest kind of farm production with consequent lower costs of food to the city folk. Representatives of the rural sections in both the Senate and the House feel with alarm, that if the measure is passed, it will be one of the greatest calamities in New Jersey for the farmers in view of the loss of time early in the morning when the dew is on the fruits and vegetables and the inability of the producers to set their help to work. Aggressiveness of the finest type has been displayed by the rural people againts the measure, hundreds coming to the Legislature and asking that the bill be killed not only for the good of themselves but also for the thousands in the populous centres who are crying for lower prices and still demanding the law so they can save on illumination and obtain more pleasure in the waning hours of the day. It is quite certain that a bitter fight will be waged on the measure when it comes to a vote in both branches of th law-making body now in session with the rural Senators and Assemblymen who are here in large numbers.

Ex-Farm Owner Dead.—Much regret is felt in Philadelphia, Pittsburgh and other sections of Pennsylvania as well as in New Jersey by the passing of William H. Gutelius, who, while he was the proprietor of the Trenton "True American," operated a fertile and extensive farm near Hopewell from which some of the best produce in Central New Jersey came. During his newspaper career. Mr. Gutelius was employed in the office of "The Register," Lykens, Pa.; advanced from reporter to managing editor of the Pittsburgh "Times"; was manager of the Philadelphia "Press" and occupied a similar position with the Chicago "Herald."

State Roads Open.—Farmers in nearly all parts of New Jersey have dug themselves out of the heavy snows that fell during the past two weeks, and with the assistance of the State Highway Department and the county authorities have been able to open the roads so that milk and other products of the farms could be brought to the cities, mainly in sleighs.—Kelly, Trenton, Feb. 16.

WILLIAM T. CREASY DEAD

William T. Creasy, granger and farm leader with a state and national reputation died at his farm home near Catawissa, Columbia Co., Pa., on February 14. In the passing of Mr. Creasy farmers lose one of their foremost and most fearless champions. He spent 16 years in the legislature of Pennsylvania where he was not only feared but respected by his opponents. Many of the laws correcting injustices to agriculture were introduced by him and because they were manifestly just were passed even tho Mr. Creasy belonged to the minority party. He was six years Master of Pennsylvania State Grange and no one has ever held that position who was more respected or who accomplished more than he. He was at the time of his death secretary of the National Dairy Union and had great influence with the government at Washington where his opinions were sought by men of all parties. His funeral was held at his late residence on the 18th instant.

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Bowl a sanitary marvel easily cleaned. Whether dairy is large or small, write for free catalog and monthly payment plan. *Western orders filled from western points.*

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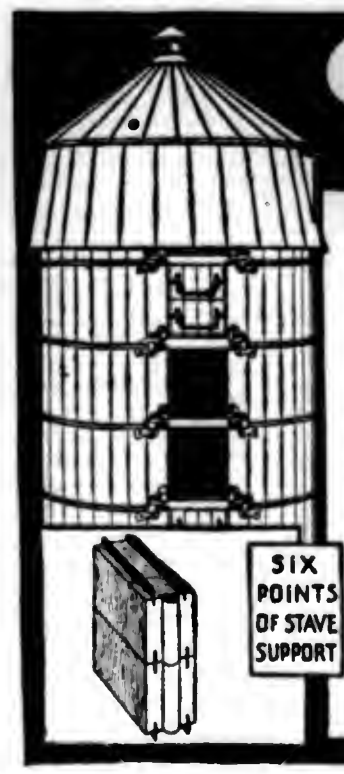
Sweet Clover Seed and honey direct from producer. Circular and prices free. JOHN A. SHEEHAN, Route 4, FALMOUTH, KY.

For Sale: Sweet Clover Seed, home grown. Purest you can buy. Write for particulars and prices. G. A. CARPENTER, Manns Choice, Pa.

STRAWBERRY Plants, 100 early to late $1 postpaid. Catalog of plants and trees free. L. G. Tingle, Box 77, Pittsville, Md.

Pure Garden Seeds, Ensilage and Field corn, Oats and Potatoes. Send for catalog. ALLENS SEED HOUSE, Geneva, Ohio.



GLOBE SILOS

Globe Silos are substantially built to keep silage prime, allow the farmer to use the full capacity of his silo, and to stand with the least amount of hitching and tinkering.

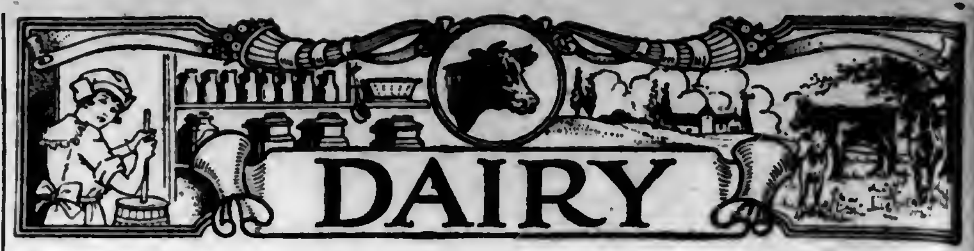
The Globe extension roof insures a silo full to the top.

Globe method of building up staves provides a smooth, strong silo, supported in every direction at every given point. Stave sections are put together with double steel splines and sealed between joints with roofing cement. Thus with the tongue and groove there are 6 points of support and airtightness insured for every stave.

SIX POINTS OF STAVE SUPPORT

Send for the Globe illustrated Silo Catalog

Globe Silo Company, 3-13 Willow St., Sidney, N.Y.



DAIRY

Profitable Bull Associations

BULL ASSOCIATION THE PRACTICAL MEANS FOR DAIRY DEVELOPMENT

In the past, Susquehanna County, Pennsylvania, was rarely heard from, and few people considered it a dairy county. To-day Susquehanna County ranks as the leading dairy county in Pennslvania, having the greatest number of registered Holsteins of any county in the state and more cow testing associations than any other county in the east, and with a higher average per cow than in any other county in Pennsylvania. The average yield per cow in our cow-testing assosiation is well over 6,000 lbs. of milk, including all breeds, while the average of all the Holstein herds is over 7,000 lbs. milk.

One of High Class Bulls Purchased by the Susquehanna Bull Association

We have realized that the only way we can increase our production is by the use of better sires. We have now in Susquehanna County six Bull Associations, embracing the use of twenty-four high class bulls, representing one hundred different breeders. It became a necessity for we noticed that many farmers would start in purebred stock and wouldn't get anywhere because they failed to appreciate the value of a good bull and would breed backwards instead of forward. The organization of these bull associations has recently changed conditions. The men are now appreciating the value of a good bull.

Two years ago it was difficult to induce the small breeder to join a bull association and get access to a $1,500.00 bull. He used any bull with registry papers. Let me illustrate this by giving the example of the 1st Susquehanna County Bull Association, located at South Gibson, Pa. To those who are not familiar with the Bull Association I will say it consists of the organization of three to five neighboring dairymen to form one block in a Bull Association. The association consists of four blocks, each block has the use of a bull for two years. At the end of the two years the bull is passed to the next block, so for one investment the breeders get the use of the four sires for eight years.

The South Gibson Bull Association has twenty members with four bulls, four sons of King Segis Pontiac Konigen from yearly record dams chiefly Colantha Johanna Lad daughters. These bulls are excellent individuals and from yearly record dams. The average price of these bulls was $1,200.00 a piece. We have been offered twice as much for one of the bulls as we paid for the four of them. We are practicing line breeding, not inbreeding. We believe line breeding is the only way to rapid development.

What has resulted at the end of the first year in this association? Two years ago these 20 breeders owned 18 bulls, 120 registered animals, and 280 grades. To-day, they own four bulls, 350 registered animals, and 50 grades, simply because we had in our by-laws that a man couldn't breed grade cows to the association bulls.

It is working out fine. The bulls are handled more and are soon broke to leading. During the breeding season, the bull can be broke to lead rather than leading all the cows; besides the exercise is necessary. We haven't had any trouble with abortion because we disinfect them, and if a man has a case of it he is honest with himself and the other breeders.

Susquehanna County has six bull associations, five Holsteins and one Guernsey. One of our young guernsay bulls was recently shown at the National Dairy Show and won 3rd prize in a class of nine.

In organizing these bull associations we have been going after milk production and individuality, buying bulls from young cows. Some of the records completed after we bought the bulls are Segis Pontiac Dewdrop, world's record eight months after calving and 18,155 milk 858.4 butter 305 days as a 3 year old K. S. P. Clara, 31 pound, four year old record, 30.95 and 630 pounds milk on a daughter of King Pontiac Konigen, and in 263 days she has produced 16,552 pounds milk and 761.5 pound butter. We have recently purchased two young bulls whose dams, Dutchland Colantha Welcome Lady, who is completing a 3 year old record of 22,000 pounds milk and Princess Concordia Pontiac 2nd, a 20 pound butter, 500 milk, 7 day, two year old and in 305 days she has produced 18,000 pounds milk and 823 pounds shown here at six months of age.

The average cost to the members using these high quality bulls is not over $200.00 a piece. This investment gives them the use of such a bull for 8 years.

Our men this year are getting $200.00 apiece for their heifer calves from these great bulls where formerly they got $50 to $125.00. It will pay to come to Susquehanna County and find out.

In addition to organizing bull associations we are co-operating with the breeders to get rid of all the grade bulls in the county. We are saving all the bulls calves from our association bulls and selling them to the men with grade bulls at their own price. At the annual meeting of the Farm Bureau on November 21st, we held a bull sale, twenty-five young bulls were sold averaging $50 and practically every one went to a man with a scrub bull. We expect to get rid of the scrub bulls in two years' time.

Tuberculosis is one of the most serious things that we are facing today. During the past week H. W. Jeffers, head of Walker Gordon Farms, at Plainsboro, said, at the Farmers' Institutes in the county that Susquehanna County is freer from disease than any other place where he has purchased cattle.

We have tuberculois here, as has every place; but if we are going to stay in the business we've got to get rid of it. Pennsylvania has been the dumping ground for so many tuberculous cattle because of employment of illicit testing in some places.

The "accredited herd" and the county "Bang Farm" under state supervision is the only solution.. Two cows there, one a 30 pound cow, were put then in the herd, and in August they received the first test in the accredited herd. The two York State cows reacted to the tuberculin test, the whole herd of fifty animals went thru all right. we have many other examples, why can't we have legislation to prevent any private veterinarian making a tuberculin test. Federal supervision with sixty day retest unless from an accredited herd will soon bring all honest breeders to the front, the dishonest ones will soon drop by the wayside.

Susquehanna County breeders are going to start a bang farm, inasmuch as the herds are not large enough to warrant having individual "bang farms." All animals that are worth saving will be kept. We'll raise clean animals and we will not need to deal, our bills will give us the breeding and we're going to clean up tuberculosis. If we could only get the state officials to take care of the tubercular cattle instead of paying indemnities we would get somewhere in the fight against tuberculosis.—B. H. Engle, County Agent, Susquehanna County, Pa.

TEN REASONS WHY A FARMER SHOULD USE A SILO.

1. As the principal business of farming is to make money, the silo, especially on the stock farm, will best accomplish this end.

2. Corn silage is the farmer's cheapest source of digestible carbohydrates. As this is the principal food element required by our domestic animals it certainly is wise to provide it.

3. Summing up all the experiments conducted by some twenty-three different State Experiment Stations over a period of fifteen years, silage has proven the most economic food

Peaceful Cows Produce More Milk

Your cows will like the natural, uniform action of the United Milking System. The smooth operation of the United Individual Pump causes the soothing, gentle suction in the "See-Thru" Cup. So natural that cows peacefully eat while they give down *more* milk. Long life, simple construction, adjustments for hard or easy milkers and reasonable first cost.

UNITED *The Peaceful—* MILKER

With the "See-Thru" Cup you always know which teats are milking. This clear, firm, transparent cup is very quickly washed, simple, lasting. PATENTED and exclusive with the UNITED milking System.

Every owner of six cows or more can make the United Milking System the best investment on his farm.

Write for Prices Today

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UNITED ENGINE Co.
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LANSING, MICHIGAN

Sturges Milk Cans

Make Cleaner, Better Butter

THE drawn steel barrel of the Sturges Churn, heavily tinned and finished perfectly smooth inside, not only guarantees a lifetime of service but insures perfect cleanliness in better butter making. It is easier to clean and keep sanitary. No corners to hold dirt or germs. Lighter in weight and easier to operate, it cuts down the labor of churning. Made in four sizes—there is a size that will exactly suit your requirements. Attractively finished in red and blue enamel. Just the churn for home use. Good dealers have Sturges Churns on display. See them and write for Circular No. 32X.

Sturges & Burn Mfg. Co.
Makers of Sturges Guaranteed Capacity Milk Cans
CHICAGO, ILL.
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Over One Million In Use

A Better Separator THE VIKING

Saves your cream dollars—
skims to a mere trace—
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Guaranteed for a Lifetime

The Viking is made with the new Straight Disc skimming device which has proven the best—skims faster, closer and most easily washed device made. Write for illustrated catalog and further particulars regarding the Viking.

Dept. V
Swedish Separator Company
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BARN PAINT $1.22 PER GALLON Get factory prices on all paints. We guarantee quality. We pay the freight. Franklin Color Works, Dept. 16 Franklin, Ind.

HAY Ship To The Old Reliable House Daniel McCaffrey's Sons 623-625 Wabash Bldg., Pittsburgh, Pa.

EARLY SHIPMENT IS ESSENTIAL

THE LIME that is Actually received and Spread on the Acid Soil which needs it, will be the only lime that counts this spring. Undelivered Lime will not help and Unfilled Orders are no benefit.

Few railroad cars and many orders at one time, is a bad combination for the Lime Manufacturer.

Buyers can easily assist, and for their own good should do so. ***Take Early Shipment.***

Charles Warner Company aims to give best Attention and Service to all orders for "Limoid;" but Buyer's Cooperation to get orders on the road early is Urgently Requested.

Warner's "LIMOID" is pure Hydrated Lime manufactured from the famous "Cedar Hollow" limestone. Can be stored in any dry place without loss.

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"LOW AND EASY TO FILL" "HARD TO WEAR OUT"
YOUR CATALOG IS READY. WHERE SHALL WE SEND IT?
"SPREADS" and "SPREADS RIGHT"

Full Value for Every Dollar When You Buy The Guarantee Spreader

Sold at an exceedingly low delivered price. HERE ARE A FEW REASONS, only a few. READ them, then write to us TODAY for our large catalog. IT'S FREE.

Pages 2 and 3 in our BIG SPREADER CATALOG are enough to convince you of the urgent need you have for this good, big, strong, durable spreader. Equipped with AUTOMATIC COVERING AND HARROWING ATTACHMENT and seven other patented features. Sold under a FIVE-YEAR GUARANTEE. Send today for SPREADER CATALOG, which is chucked full of spreader information. Tells all about lime, ground limestone and commercial fertilizers. Also tells "How to Find Out When Your Soil is in Need of These Fertilizers". Recently one of our customers wrote us stating this book saved him $200.00. It may do the same for you. Write quick, money saved is money made.

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Now is the time to Feed this Great Milk-Maker

WHEN natural pasturage is lacking and cows are housed-in, *then* is the time you need International Ready Ration the most. It maintains the milk flow at top-notch production and keeps the animals in A-1 condition. Thousands of dairymen all over the country readily testify to these facts.

International Ready Ration

The Great All-Year Milk Maker

is a perfectly balanced ration, ready mixed—ready to feed. Guesswork in feeding at this time of the year is dangerous and may mean not only loss of milk production but injury to the herd. Don't take chances!

International Ready Ration is the result of the work of specially trained chemists, expert millers, and practical feeders and is backed by all an ironclad guarantee can mean from a $1,000,000 company. You *know* what the results will be when you feed International Ready Ration.

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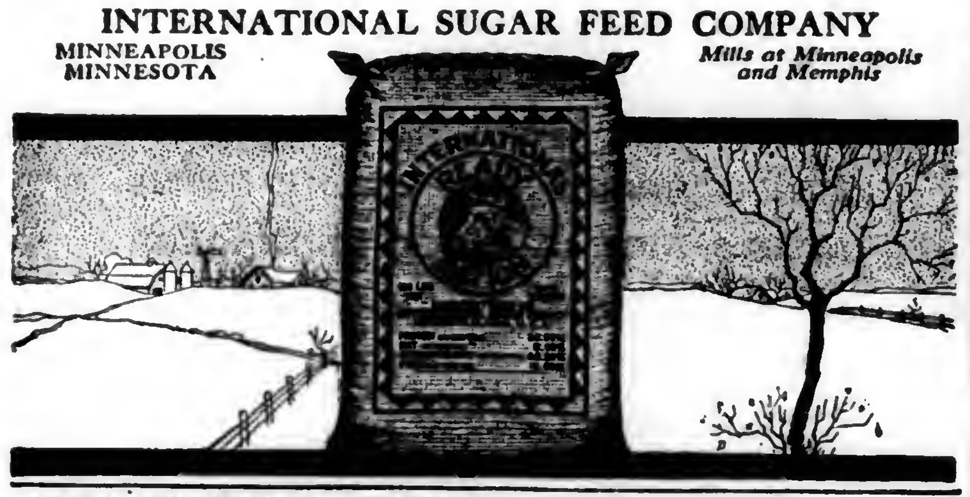
Place a trial ton order today—the results will surprise you. If your dealer cannot supply you, write to us and we'll see that you get the goods P. D. Q.

Live Salesmen Wanted

INTERNATIONAL SUGAR FEED COMPANY

MINNEAPOLIS
MINNESOTA

Mills at Minneapolis and Memphis



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Add a rich "June shade" to the splendid taste of your butter and get top prices. Try it! It pays!

Dandelion BRAND Butter Color

gives that even, golden shade everybody wants. *Purely vegetable.* Harmless. Meets all laws. Small bottle costs few cents at any store. Enough to color 500 lbs.

Before You Buy Your Silo, investigate the reliable Green Mountain. Send for circulars describing long-life, tight construction, new Anchorage System, etc. Creamery Package Mfg. Co., 345 West St., Rutland, Vt.

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THE FRONT THAT GAVE THE GRIFFIN SILO FAME

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Test the Soothing Action of the Empire Teat Cups

Visit some dairy near you where they are using Empires. If you don't happen to know of one write us and we'll direct you. Ask the man to let you test the action of the teat cup. Put your thumb in it. Then you'll understand why cows like the Empire—why they let down easily and give more milk and act so contented when the Empire is at work. If you're milking 10 or more cows you should use the famous Empire Milker. Write for our catalog 23-M

The Empire Cream Separator Co.
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Chicago, Denver, Atlanta, Toledo, Syracuse, Minneapolis, San Francisco, Montreal and Toronto

Also manufacturers of Empire Cream Separators, and Empire Gasoline Engines

EMPIRE MILKING MACHINES

for the production of stock and stock products.

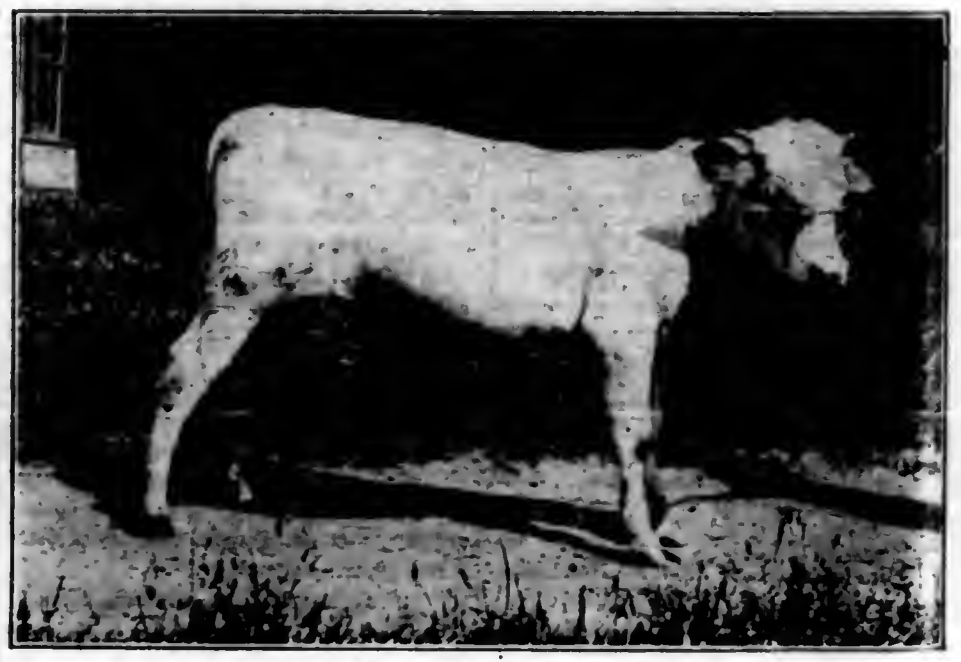
4. There are about one-half million silos now in use in the United States, and it is difficult to find a user who is not more than pleased with the results from his silo. Silo salesmen use as a slogan "Ask the man who has a silo."

5. The greatest expense connected with the live stock business is the cost of feeding the animals. The silo will lower this cost and therefore it should be one of the first considerations of the stock keeper.

6. The silo stands ever ready as an insurance against many of the common crop failures, especially such failures as damages from early frost, drought and hail. Wet seasons often prevent the putting up of a crop of clover or alfalfa; this can be saved in the silo. Whatever is grown in the way of forage can be siloed and preserved for future use.

Owned by a Susque hanna Bull Association

7. The silo is a labor-saving equipment and it saves in storage space. Eight times more feed can be saved in the silo then in the mow. Cattle can be fed quickly and easily from the silo as it is in a condensed form close to the point of feeding and is always in condition for feeding. Many feeding arrangements require the hitching up of a team to a wagon or cart and the hauling of feed from one place to another. A silo properly placed will do away with this.



High Grade Bull in Susquehanna Bull Association

8. Silage is a succulent, grasslike feed, easily digested, and seems to stimulate digestion. It has much the same effect as grass, giving thrift to the animal; and less sickness is experienced among the stock when good silage is fed. Silage stimulates the milk flow and all milking stock should receive it. Silage is cooling and appetizing; it prevents many of the troubles resulting from the over-feeding of concentrates.

9. Experiments and experience have taught that the most profitable feeding is liberal feeding, such as will supply the animal with its requirements. Quick growth is profitable growth, large production is profitable production, and the feeder of silage is more inclined to feed well, which means profitable feeding. The man with the silo is supplied with a large amount of good feed and in emergency it can be carried over for several years and still can be used with good profit.

10. Competition is keen in all lines of industry and the stockkeeper with a silo has an advantage over his neighbor without one. In order to compete with the silo keeper, all stock keepers must use silos. World competition in growing stock and products will require the American farmer to use the best and most economical means. With the silo we need fear no competition from any country of the world.—A. L. H.

"There's talk of abolishing the nickel."

"That shows that as a people we have no sentiment."

"How so?"

"Why, if we had, we would keep it if only as a reminder of the good old days when we could buy something with it."

It will take a mighty good hen to be proud of herself when she hears of the biddy that laid 263 eggs in twelve months.

Plants or flowers are among the best of gifts at any time. There are few people who do not like flowers.

243 COWS MAKE 40 POUNDS OR OVER

For the five Associations in Bradford County, Pa., in active operation there were 243 cows to produce 40 pounds or more of butterfat. Of this number ninety-four were in the Canton Association, forty-eight in the Laurel Hill Association, forty-six in the Eastern Bradford Association, forty-three in the Troy Association and twelve in Wilmot Association.

The highest producing cow was a pure-bred Holstein owned by C. W. Newman. She produced 88.9 pounds of butterfat. The second high cow was a grade Holstein owned by Hosmer Leity. She produced 78 pounds of butterfat. The third high cow was a registered Holstein owned by R. H Fleming. Her yield was 73.5 pounds of butterfat The fourth high cow was a pure-bred Jersey owned by M A Taylor. Her yield was 69.4 pounds of butterfat.

These five Associations cover thirty-one of the thirty-five agricultural townships of Bradford County. A big percentage of the members of these Associations are breeders of pure-bred cattle. The records obtained from Cow Testing work are the basis of information furnished to purchasers by the breeders in selling their surplus animals. These records are also being used as the foundation of facts for breeding up the herds thruout the county.—D. K. S.

THE CLINTON COW TESTING ASSOCIATION

The work of the cow testing associations of Wayne County, Pa., is bringing new honors to the Jerseys, Guernseys and Holsteins in this locality. In the Clinton Cow Testing Association the Jerseys are competing against the Holsteins in the five remaining associations of the county.

The dairymen are anxiously awaiting to find which breed is the most productive and profitable. This is very true of the Clinton Cow Testing Association where the farmers have been operating a butter factory for the past eighteen years and now are about to establish a milk condensary for the purpose of manufacturing ice cream.

The honor cow for the six months the association has been running, is a Grade Holstein owned by Russell Erk. In the six months she has made 7,870 pounds milk and 242 pounds butterfat.

Mr. Erk also has the record producing cow in butterfat, for the month of January, a Grade Holstein which made 56.8 pounds butterfat.

During the month of January there were 30 "quality cows" either over 1200 pounds milk or 40 pounds butterfat or over both the milk and butterfat margins.

The following members were on the honor list and number quality cows each: R. G Erk, 3; G. G. [illegible], 5; G. H. Knapp, 2; C. R. [illegible] 2; [illegible] W. E Rude, 1; L. H. [illegible] 1; A. H. Curtis and Son, 1; [illegible] Hennenstein, 3; F. S Wildenstein, [illegible] S Martin, 3; W. F. Hevenstein, 1 and G. J. Wildenstein, 2 —K. [illegible] Bailey, Tester.

[illegible] faddist was haranguing [illegible] the marvelous benefits to [illegible] from his particular diet [illegible]

[illegible]" he cried, "two [illegible] [illegible] my bible [illegible]. What do [illegible] brought this great [illegible]"

[illegible] see the effect of his [illegible] one of his listeners [illegible] hunger."

Here Is Still a 1918 Price!

Primrose Cream Separators Are Fighting the H.C.L.

PRIMROSE today presents a red-letter opportunity that no man interested in dairy profits can afford to ignore. Indulge your old habits of economy and buy a **Primrose Cream Separator,** which in this day of skyrocketing prices still sells as it sold two years ago. Primrose price today is but slightly more than the low price prevailing in 1914, instead of 60 or 100 per cent more, as in most cases where high-grade steel products are concerned. Buy Primrose now at the 1918 price. Why is so low a price possible?

Because:

The growing popularity of Primrose Separators has resulted in greatly increased demands;

The demand has resulted in greatly increased production;

Increased production means buying raw materials in greater quantities and keeping labor and manufacturing equipment operating at full capacity at all times;

Large-quantity raw material orders with quick turnovers into machine sales, means lower costs; active labor and equipment produce more for each dollar of operating expense than idle labor and equipment;

The increases in the general cost of raw materials and labor have been practically offset, in the case of Primrose Cream Separators, by the reduced costs of unit production and distribution, due to the increased demand.

Therefore the prices of **Primrose Cream Separators** still stand at the old figure of 1918—considerably less than the present high-priced separators. Make the most of this rare opportunity. See your International dealer.

INTERNATIONAL HARVESTER COMPANY
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(INCORPORATED)
CHICAGO USA

The Silo Beautiful That Lasts for Ages

Get the beauty and durability of vitrified tile in the Preston-Lansing patented block. One method of construction gives enormous strength—block braces block in slip-lap formation. Between each tier is a thick layer of cement and twisted steel reinforcing. Only a thin line of mortar shows inside and out, giving a smooth, beautiful finish. Silage settles better—less chance for frost to penetrate. The dead-air spaces protect against extremes of temperature.

Fire Proof—Weather Proof

The beautiful, even color of the blocks lasts indefinitely. The steel hip roof gives extra silage space. Steel or tile chute—continuous doorway. The first cost is the only cost. *Write for Catalogue and Prices.*

J. M. Preston Co.
Dept. 345 Lansing, Mich.
Factories at Uhrichsville, Ohio
Brazil, Ind., and Ft. Dodge, Ia.

Preston Lansing Vitrified Tile Silo

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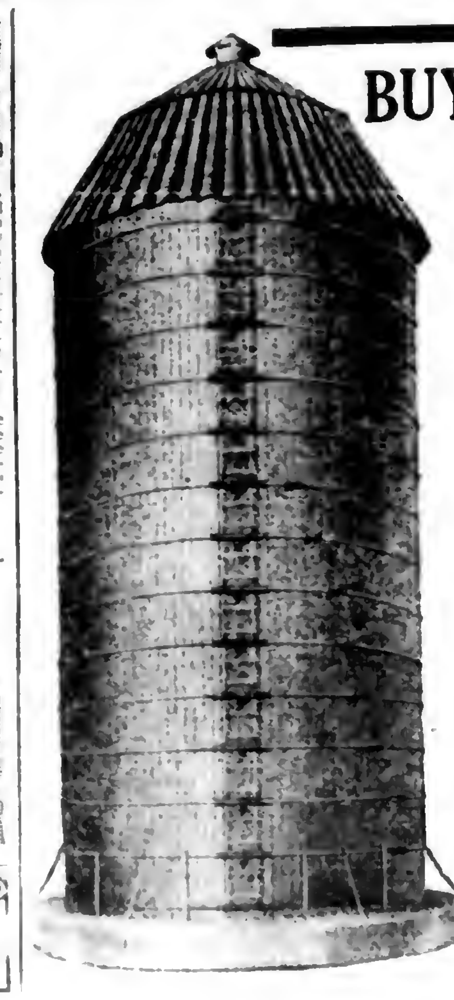
Hauser-Stander Tank Co. Dept. F Cincinnati, Ohio



BUY YOUR SILO NOW

Order before corn planting. Save money by ordering now.

FEED IS HIGH

Never before has a silo been so needed on the farm as now.

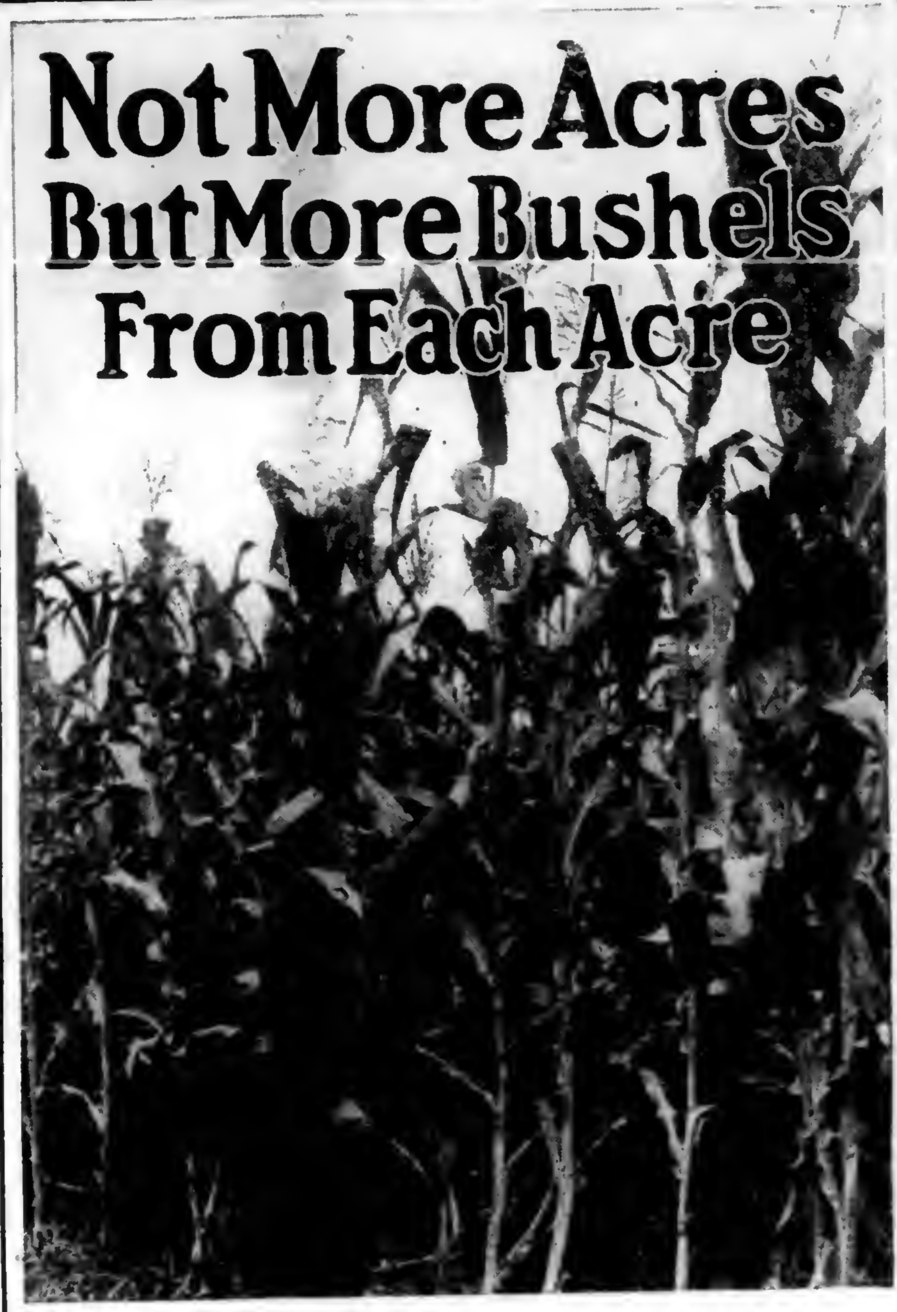
FARMERS AND DAIRYMEN: We will sell these silos at prices you cannot afford to overlook. Thousands of farmers will save money by buying now. We have made the TORNADO FIR SILO for twenty years and specialize on **high grade** fir only. TORNADO SILOS are everywhere. They speak for themselves. Ask your neighbor. Don't wait until railroad conditions, car shortages, etc., make delivery of your silo uncertain.

TORNADO SILOS

TORNADO SILOS are furnished with top and bottom storm proof anchors, inside iron loops at top of silo, heavy steel braced door frame, covered lugs, more hoops, more doors than other silos, positively air-tight door system etc.

Write at once for our silo broadside and special early prices.

THE W. R. HARRISON CO.,
MASSILLON, OHIO



Not More Acres But More Bushels From Each Acre

Cut Your Labor Cost with A·A·C· Fertilizer

TO PLANT MORE acres requires more labor; it is expensive to increase production by this method. Make the acres that you work grow more bushels of grain or vegetables, or more tons of hay or silage. Fertilized acres are the most profitable,—they make the biggest return per man and per team;—and *because they produce more,* the cost per bushel or per ton is less.

A·A·C· Fertilizers

Supply the plant food to grow big crops, and frequently the cost is returned several times over in increased yield and better quality. They also benefit the succeeding crops. We spare no expense to maintain "A. A." Quality for we consider our business reputation as valuable as our invested capital.

"How to Get the Most Out of Fertilizers" is a valuable little book of 60 pages. Every farmer should have it for reference. We will gladly send it if you will tell us the number of acres of each crop you expect to grow.

See the local A. A. C. Agent in regard to your requirements. If there is no agent in your town, write for the name of our nearest agent, or ask for the agency yourself. We have factories and warehouses conveniently located throughout the United States east of the Mississippi, also at Los Angeles, California.

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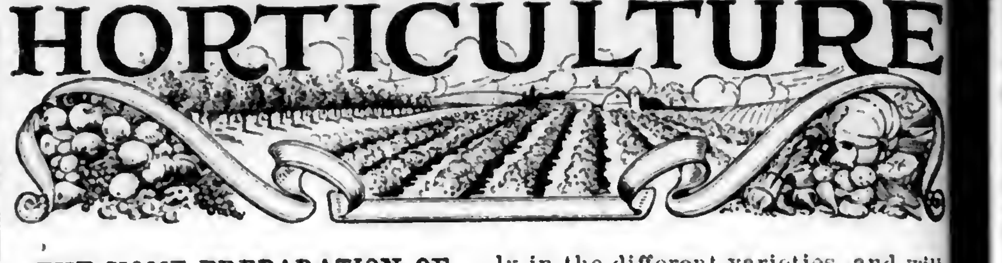
Please Address Office Located Nearest to You

Fertilizer is highly concentrated. It is many times richer than manure. It must be applied properly. When planting by hand, the fertilizer should be well covered by the soil or thoroughly mixed with it, before the seed is dropped. If applied by machine select one that mixes the fertilizer with the soil thoroughly. Some corn planters have a special attachment for mixing the fertilizer with the soil. If you have one, be sure to attach it. If fertilizer is applied broadcast, sow it evenly. Fertilizer should not be applied to grass or grain that is moist. Apply around, and not on, other plants. —Adv.



HORTICULTURE

THE HOME PREPARATION OF NICOTINE EXTRACTS

By J. P. STEWART

The high cost of fruit growing has broken out in a new spot. This time it has hit the man whose orchard is infested with a good crop of aphids, red-bugs, or leaf-hoppers, as indicated by his experiences of last season, and who is now considering ways and means of circumventing the enemy before it has assumed too large proportions again this season. The results of this consideration inevitably lead to conclusion that a good supply of nicotine is required as one of the sinews of the coming spraying campaign, and a very brief inquiry reveals the fact that the standard commercial preparations of this important material are now very high.

A Wheel Hoe Saves Time and the Back

We may also say right here that we are not entirely certain that there is any satisfactory means of escape from these high prices. As usual, however, it may be possible for at least some of us to fall back upon the old reliable resource of making the needed material ourselves, whenever the necessary raw materials are available at a reasonable price, and when we also have the information needed to carry the job thru to a successful finish. Fortunately most of the technical information bearing upon the home preparation of nicotine extracts has been worked out by the chemists of the Virginia Experiment Station, and it only remains for us to select and pass on the most important of these facts and perhaps to recast some of them a bit so as to be the most direct value to the man who is considereding making his own material.

Probably the first thing to be considered in this connection, is whether it is likely to pay one to try to make his own nicotine spraying material. This naturally depends on the price at which damaged tobacco, sweeping or stems can be obtained, and on the nicotine content of the material secured. The nicotine content of the different portions of the tobacco plant is quite variable, being generally highest in the leaves and lowest in the stems and sweepings. It also varies greatly in the different varieties, and with the same variety on different soils, or in different general localities, or under different methods of curing. The nicotine content of stems has been found to vary from .12 percent in leaves cured on the stalk to .82 percent in leaves cured by the priming method. In the former case the nicotine content of the leaves was 1.46 percent, while in the latter it was 3.43 percent.

The nicotine content of the leaves has been found to vary from about 1 percent to about 5.6 percent or even higher, depending on variety, soil, and other factors. Soils rich in nitrogen produce tobacco of high nicotine content. The highest nicotine content occurs just when the plant matures and it decreases from this time on, regardless of treatment, altho some treatments reduce it faster than others. In Virginia, the Narrow Leaf Orinoco had the highest nicotine content of any variety analyzed, and the flue-cured tobaccos were lowest, the latter ranging from 2.3 to 3.7 percent. In general, the dark colored varieties, such as the Burley and Orinoco above named, are much higher in nicotine than the brighter or flue-cured types. Unfortunately there is no way of determining even the approximate nicotine content of any lot of tobacco except by chemical analysis, but the general facts just given may be useful in case the analysis can not be secured.

The stems also have an important value from the viewpoint of their fertilizer content, and this should be considered in determining the net cost of the home preparation. In general, according to the Virginia report, tobacco stems contain about 2 to 3 percent of nitrogen, 3 to 5 percent of phosphoric acid (P_2O_5.) and about 5 to 8 percent of potash (K_2O.) A large part of the nitrogen is apparently lost during the extraction, but all the phosphoric acid and a large part of the potash remains in the stems. At present retail prices of these last two constituents alone therefore, the minimum quantity of phosphoric acid in a ton of stems is worth $5.25, and the similar quantity of potash is worth $18 to $20. In other words, at present fertilizer prices, we can reasonably count on a fertilizer value of at least $20 to $25 a ton for the stems after their nicotine is extracted,—provided of course that there is something growing on the place which can get these food values out.

In determining the possible nicotine value of a ton of stems, we have to make certain assumptions and then we can show how the actual value may be calculated in any actual case where the points now assumed are known. In the first place let us note that the Virginia work showed that about 75 percent of the total nicotine content could be extracted on the average either by a brief cooking with steam or by simply soaking the material in a sufficient quantity of water for about 24 hours, with frequent agitation. We should also note that the current rate of dilution for the standard commercial materials produce a diluted spray with a nicotine content of about .05 of one percent. At this rate, therefore about 4 and one sixth pounds of actual nicotine are required for every 1,000 gallons of diluted spray.

Assuming then that we can secure a lot of stems or sweepings that contain at least .6 percent of nicotine, we can figure on extracting about 45 percent of the total, which will give us about nine pounds of nicotine from the entire ton, and this in turn will be sufficient to make somewhat over 2,000 gallons of diluted spray material. At a cent a gallon for diluted spray, this would show a total nicotine value of about $20 a ton for tobacco materials which have a total nicotine content of .6 percent. The spray value of any other lot, with any other nicotine content can be figured out similarly, or its value can be readily obtained by reference to the present lot, by noting how its total nicotine content differs from .6 percent. For example, if the nicotine content were 1.2 percent, one ton would furnish enough nicotine for twice the above amount of diluted spray, and hence would either be worth twice as much per ton or else it would furnish the final spray at one half as much per gallon.

With even the low nicotine value assumed above, however, and with a satisfactory means of realizing most of the fertilizer value also noted, it is evident that one can now pay approximately $40 a ton for waste tobacco, and still secure his aphid red-bug and leaf-hopper sprays for considerably less than the present commercial preparations will cost. With a higher nicotine content or with a lower price per ton, the saving will be still more important.

In the actual preparation of the extracts, in the Virginia work, it was found that practically as good results could be obtained by allowing the tobacco to soak for 24 hours and straining, as by cooking with steam, which in turn was apparently better than the older method of boiling with bottom heat. In the last method, the yield of nicotine was regularly reduced by volatilization and by the evaporation of the water. Frequent stirring is necessary in the soaking method, for best results, and whenever practicable some provision should be made in either method to press out the refuse.

Unfortunately, the exact details of the making have not been worked out or described with sufficient fullness to enable one to go at the job with entire confidence. In general, however, we say that it is usually desirable to use plenty of water in either the soaking or cooking method of extraction, in order to take up the maximum amount of nicotine present. As a rule, a gallon of water to the pound of tobacco will be sufficient, unless the nicotine content runs rather high, as for example 2 percent or over, in which case two gallons or more to the pound are preferable, during extraction.

The chief difficulty, however, is in securing an efficient and proper rate of dilution for the solution after the extraction is made. This as already stated depends very largely on the nicotine content of the tobacco used, and this can only be determined by a chemical analysis. When the analysis is known, however, the approximate quantities of tobacco required to make 100 gallons of spraying solution of proper strength for aphids, red-bugs, etc., are shown in the accompanying table. This table has been made up by the writer by rearrangement, modification and some interpolation of certain results given in the Virginia bulletin. [illegible] the gaps that we had to fill

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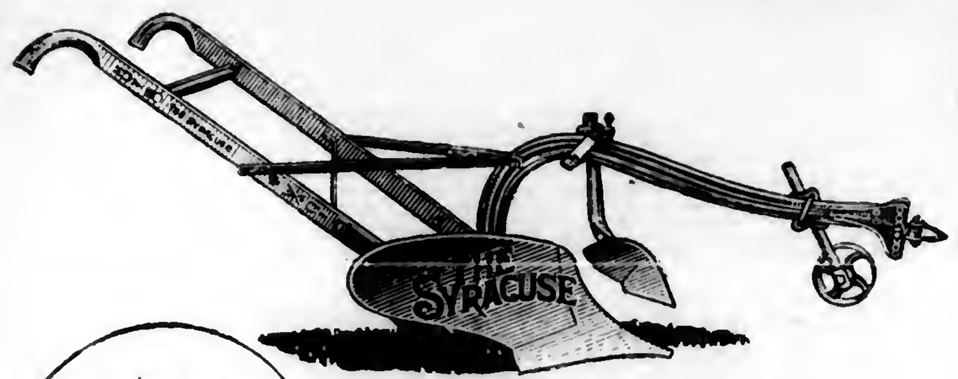

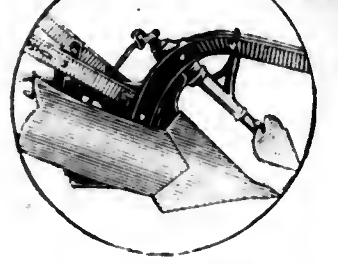

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in order to get a smooth table have been rather large, and hence the accuracy of the weights stated may be slightly reduced, but there is no important deviation from actual results so far as available, and we believe the present table will be sufficient for all practical purposes.

Table I.—Number of pounds of tobacco of stated nicotine content required to make 100 gallons of Aphid or Red-bug spray.

Nicotine Content Percent	Lbs. per 100 Gallons of Spray .05%	.06%
.4	145	173
.6	92	110
.8	73	87
1.0	58	69
1.2	46	55
1.4	39	47
1.6	36	43
1.8	31	37
2.0	29	34
2.2	26	31
2.4	23	27.5
2.6	20	24.5
2.8	19	23
3.0	18	21.5
3.2	17	20.5
3.4	16	19.5
3.6	15.5	19
3.8	15	18.5
4.0	14.5	17.5
4.2	14	17
4.4	13.5	16.5
4.6	13	16
4.8	12.3	15.3
5.0	11.6	14.6
5.2	11	13.5
5.4	10.5	12.6
5.6	10	12
5.8	9.5	11.4
6.0	9.0	10.8

This table is based on the assumption that about 75 percent of the total nicotine is extracted by either of the approved methods, i. e., by bringing the tobacco and water to the boiling point with steam and then allowing the solution to cool, or by simply soaking the tobacco for about 24 hours with frequent stirring as stated above. This percentage of extraction was frequently exceeded in the Virginia work, and it is therefore a reasonable basis. The additional strength of nicotine that may be obtained by a higher extraction will do no harm to any ordinary vegetation and it is better to have it amply strong for the bugs. As stated above it is best to use plenty of water in making the extract, and then bring the solution up to the required volume for use, after straining and pressing out the refuse where the latter is practicable. By the soaking method a considerable number of barrels can be made at once, but unless some preservative is added to prevent fermentation, the extract is likely to spoil if not used within two or there days. It is probable that this fermentation can be prevented with some such material as benzoate of soda, added at the rate of .1 percent, but we do not know of its having been used for this purpose, and hence further advice may be needed.

STATE COLLEGE ISSUES SPRAY ADVICE FOR PEACH AND PLUM

As with all other fruits a definite spraying plan must be resorted to in spraying peaches and plums. The following spray calendar for these two kinds of fruit has been prepared by the department of experimental pomology at the Pennsylvania State College:

1. DORMANT SPRAY. In spring, before buds start. Lime-sulphur solution, 1.03, for San Jose scale and leaf-curl. For lecanium scale, substitute miscible oil, diluted 1 to 16.

2. CURCULIO SPRAY. When the husks or calyces begin shedding. Lead arsenate paste, 3 pound to 5 gallon, and 2 pounds lime slaked. Add 40 percent nicotine extract, ½ to ¾ pint to 50 gallons, if aphis is bad. On plums, add self-boiled lime-sulphur (8-8-50) for leaf spot.

3. FIRST ROT SPRAY. 3 or 4 weeks after "2." Self-boiled lime-sulphur (8-8-50), and lead arsenate paste, 2 or 3 pounds. For brown rot, scab, and curculio. Repeat nicotine if needed for aphis.

4. Second ROT SPRAY. About 4 weeks after "3". Lime-sulphur solution alone, at 1.003; or self-boiled lime-sulphur (8-8-50,) if variety is especially subject to spray injury. For brown rot and scab.

All mummied fruit should be removed before growth starts.

TEACHER'S SYMPTOMS

"Jimmy," said the fond mother to her smart eleven-year-old, "what became of that little pie I made for you as a treat yesterday? Did you eat it?"

"No, mamma," answered Jimmy, with a grin. "I gave it to my teacher at school instead."

"That was very nice and generous of you, Jimmy," complimented his mother. "And did your teacher eat it?"

"Yes, I think so," answered Jimmy. "She wasn't at school today."

A MULE'S EPITAPH

An army mule at one of the cantonments "went west." The private who had charge of the last rites had to fill out the regulation form and came across the suggestion, "Disposition of carcass."

After a moment's thought Sammie wrote on the blank line:

"Mean and Deceitful."

SING IT

I cannot wear the old suit
I wore long years ago;
It's shiny at the shoulders,
My knees and elbows show
But on investigation I
Discover this is true;
I cannot wear the old suit
Nor can I buy a new.

While George Ade was spending a holiday at Palm Beach he sauntered into a barber shop and got shaved. When he had finished the barber handed him a check for sixty-five cents. Ade regarded it thoughtfully. "Do you happen to know the significance of that red and white striped pole in front of your shop?" "Yes, sir," said the barber. "You see, in olden times barbers were surgeons as well as tonsorial artists. When a man had to be bled he came to a barber." "Whatever you do, don't take down that pole."

NO ARGUMENT

A man stepped up to Henry Ward Beecher one day and said: "Sir, I am an evolutionist, and I want to discuss the question with you. I am also an annihilationist; I believe that when I die that will be the end of me."

"Thank goodness for that!" said Mr. Beecher, as he walked off and left the man dazed.

Constant dripping wears the stone. So does gentle tapping with a wooden mallet take the dents out of aluminum utensils.

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The Best Farms for the money, all sizes $50 to $100 per acre, good buildings, Cent. Schools, good soil. List free.
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POULTRY

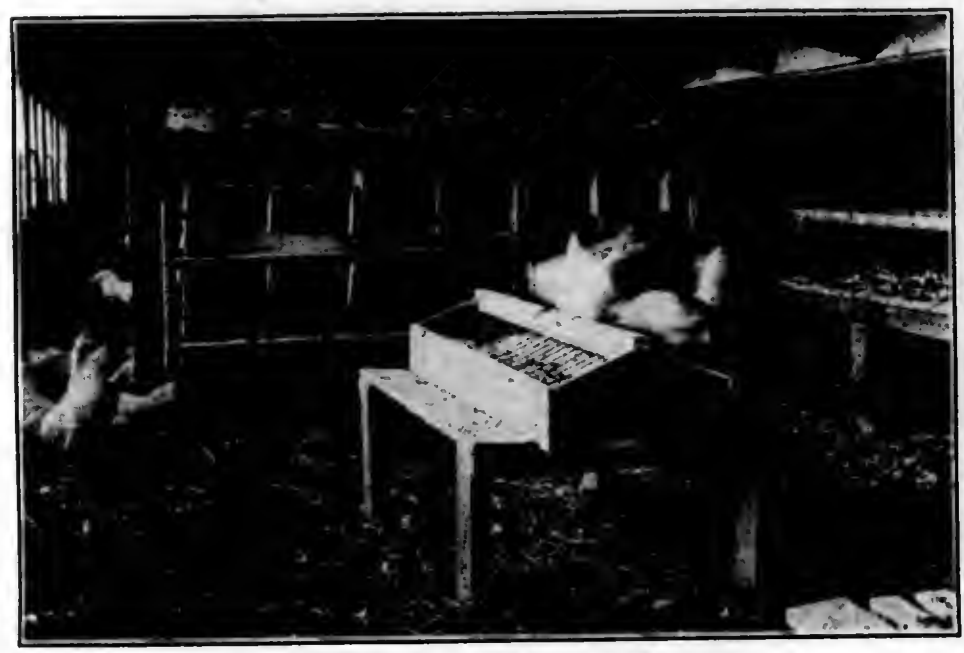
FACTS AND FACTORS IN POULTRY FEEDING

A nutrient is any organic or inorganic element in a feed made up of carbon, oxygen, hydrogen, nitrogen, sulphur, etc., in different combinations which is used by the body to supply energy and build up the tissues.

The four important nutrients in a feed are:

1. Protein. — This nutrient is used in building up of the tissues of the body; in repairing tissues as they are broken down; and supplying material for formation of the egg. It is the most expensive nutrient in feed and the cost of a feed should be based on the percentage of protein it contains.

2. Carbo-hydrates and Fat. These two nutrients occur in great deal larger quantities in our grain feeds than does protein. Their use in the body is to supply energy in the form of heat and motion. An excess energy is put on as fat.



Elevated Dry Mash Hopper. Easily Made

3. Ash. The inorganic nutrients in feed which occur in relatively small amounts in the form of lime, phosphorous, iron, etc., and which are used in combination with the other nutrients in making up the structure of the bird and the product it produces.

Protein is supplied at least cost thru the feeding of beef scrap. Oil meal is also a high protein feed, but is best fed only during the molting season, as it aids in the growth of new feathers.

Sunflower seed has the same effect as oil meal, and is used in the ration for birds being prepared for show:

Carbo-hydrates and fat are supplied at least cost thru the feeding of corn and barley.

Ash is supplied in varying amounts in all feeds, those being particularly rich in ash being wheat bran, ground bone (dry) green cut bone, blood meal, alfalfa, barley, oats, oyster shell, and grit.

A good ration has these nutrients in the right proportion for the purpose for which it is fed. The proportion between the amount of protein and the carbo-hydrates and fat in a ration is termed the nutritive ratio.

For a fattening ration, we desire a feed that has fairly wide nutritive ratio about 1 to 7, or 1 to 8.

For a growing or laying ration, a feed that has fairly narrow nutritive ratio, about 1 to 3 is desired.

A laying ration is a good growing ration, except that the feed is too coarse in mechanical texture for young stock.

Scratch grains are fed primarily to induce exercise.

More energy is required to digest whole grain than mash.

Breeding hens should receive about two parts of grain to one of mash.

Laying stock will give better results if allowed to consume as much and even twice as much mash as grain.

Scratch grain should be fed in a deep litter of straw.

A good ration should have the proper mechanical make up, that is, it should neither be too concentrated in character, nor too bulky.

A feed that is too concentrated mechanically, will not allow the digestive juice to work on all parts of the feed, but will ball up and pass thru partly undigested and consequently cause digestive disorders.

A bulky feed contains too much crude fiber and a bird will have to consume a proportionally larger amount of feed to secure the proper amount of nutrients. Bulky feeds will cause the condition known as crop bound, compaction, sour stomach, and constipation.

A good ration should be palatable. It is useless to put before the birds feed that they do not relish. Palatibility aids digestion.

A ration should be made up of a variety. This allows fowls to select to better advantage the feed they require and makes the ration more palatable.

Outdoor Self-Feeding Hopper

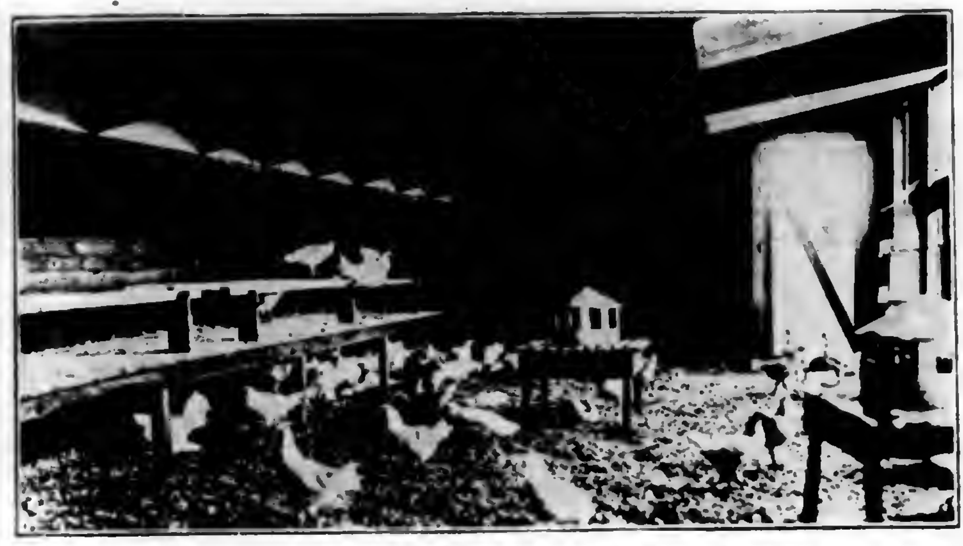
A ration should be wholesome. A too concentrated or too bulky ration is not wholesome. A ration into which any sour, heated, or moldy feeds have been mixed is an unwholesome ration.

A ration should be economical. That is, supply the greatest amount of digestible nutrients at the least cost. A cheap ration is not always an economical one. As an example of his, let us compare the cost of a pound of protein secured from the feeding of oil meal as compared to a pound secured from the feeding of high-grade beef scrap.

On a per-ton basis, oil meal is the cheaper by $15.00.

	Cost 1 ton	Digestible Pro.
Oil Meal	$80.00	26 lb. in 100
Beef Scrap,	$95.00	54 lb. in 100

In one ton of oil meal, there is 520 lbs. of digestible protein, while in one ton of high grade beef scrap, there is 1080 pounds. Thus, one pound of digestible protein secured from oil meal will cost you 14.4 cents per pound; while from beef scrap, it will cost you 7.9 cents per pound.



Showing Roosts and Raised Water and Feed Vessels

Charcoal is best fed mixed in with the mash, constituting about two percent of the ration by weight. It is a rectifier and purifier of the fowls' digestive tract.

Common salt fed mixed in dry mash, about four to six ounces per hundred pounds, adds palatability to the ration, and has a stimulating effect on layers It is not desirable to feed salt to breeding stock.

Epsom salts dissolved in water, about one tablespoon full per fowl, and mixed with mash is a good practice once a month.

A supply of grit and oyster shell should be before the birds at all times.

Green feed should be fed to all stock not on range or in yards where green fed is grown. Sprouted oats make excellent green feed. Beets, mangels, young rye, green clover, green alfalfa, cabbage, lettuce, etc., also make good green feeds.

Fresh ground green bone fed at the rate of one-fourth to one-half ounce per hen per day, will start your hens and pullets to laying. Great care must be taken, hwever, as bowel trouble and poisoning is the result of carelessness with this product. It should always be fresh and not fed more than one-half ounce per head, one-fourth ounce being safer. Mix your green bone with bran.

Sour milk, skim milk, and butter milk are unequaled as liquid poultry feeds. The condensed milk products such as semi-solid buttermilk, lacto-feed, etc., are desirable as poultry feeds where you can not secure the creamery product.

Fresh blood can be fed poultry but it should preferably be steamed or boiled and the seurm left to drain off. Dried blood has no advantage over beef scrap. Beef scrap can be used to the amount of ten to twenty percent of the total weight of the ration.

A hen can become too fat to lay; however, a good producer requires a layer of excess fat to be in good condition and still supply the necessary 33 percent fat that is in the make up of the yolk of the egg.

The American and Asiatic breeds are inclined to take on fat more rapidly than the breeds in the Mediterranean class, consequently, it is advisable to keep the feed hoppers closed about half the day (forenoon), and make them exercise as much as possible so as not to take on excess fat. It may be good policy to feed less corn and barley to the heavier breeds during laying season.

Never force your breeders for egg production until the time you want eggs for hatching. Egg production is reproduction, and there is a subsequent drain on the vitality of the hen. Have a system of feeding. It produces results.

The following is a system that was practiced successfully by a commercial poultry man with the Leghorn breed during the winter months.

After the fowls have retired, empty all water from the water founts or crocks. Scatter about three gallons of scratch in the litter for five hundred birds. This gives the birds something to do as soon as they leave the roost in the morning.

At about 8 A. M. a mash moistened with hot skim or buttermilk is fed, only enough however, to just heat up the birds, but not fill them up, as this would defeat your object. You do not want a bird to get filled and then sit around. Keep her busy. Warm water was supplied at this time. Automatic scratch grain feeders were workable by the hens at all times. At 9 A. M. the dry mash hoppers were opened. At noon, each fowl received one square inch of sprouted oats. At 2 P. M. there was given a feed of green ground bone, about one-fourth ounce per head. One hour before the time the fowls retired, they were fed a good feed of scratch in the litter, so that they retired on a full crop of hard grain.

The following are some good scratch and mash rations fed for different purposes.

Laying Rations

Ration No. 1

DRY MASH
250 lbs. wheat bran
250 lbs. shorts
300 lbs. corn meal
100 lbs gr. oats
120 lbs. beef scrap
3 lbs. salt

(Continued on Page 22.)

Bolgiano's TRADE MARK Vital Hatch BABY CHIX
CHICKS WITH VITALITY.
BRED FOR CONSTITUTIONAL VIGOR
BRED FOR HEAVY EGG PRODUCTION
ALL LEADING VARIETIES
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THEIR EGG PRODUCTION IS RIGHT
THE CHICKS ARE HATCHED RIGHT
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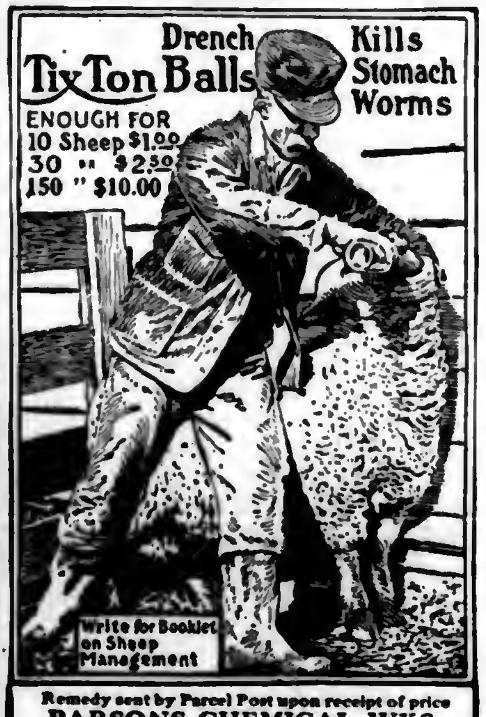

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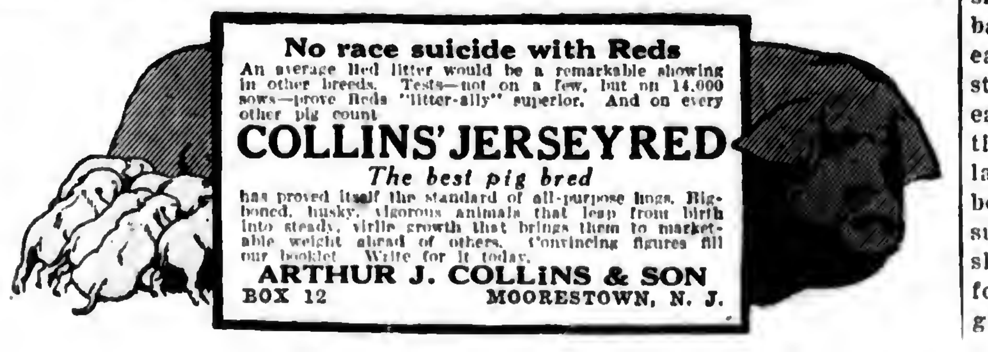

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LIVE STOCK

GIVE LAMBS A GOOD START IN LIFE

It is very important that young lambs are started right early in life in order that they may develop rapidly and continuously and thus reach the market age, size and condition at a minimum cost. After the lambs are dropped it is a good plan to keep them and their dams separate from the rest of the flock in order that they may gain the necessary strength to rustle with the flock The ewes should be fed plenty of roots or other succulent feed and a liberal ration which contains sufficient protein to promote a large flow of milk.

When the lambs have reached an age of ten days or two weeks, a small pen should be arranged in one corner of the sheep barn and a lamb creep provided, by which the lambs can gain access to this pen at all times, while their dams are excluded. In one side of this pen a covered trough should be placed in which the lambs may be fed separate from their dams. Some bran should be put into this trough at first and in a surprisingly short time the lambs will have found a way to it and eat a considerable amount of it.

After they have become used to the grain ration, a little ground oats from which the hulls have been sifted may be added. This, with what clover leaves they will pick if the ewes are fed clover hay as they should be, will materially hasten their growth and when turned to grass they will be well started. Where handled judiciously the thrifty single lambs of the larger breeds can be made to gain nearly a pound a day for the first few weeks of their life I have often had lambs weigh 40 pounds when only five to six weeks old, and have repeatedly weighed lambs when on grass that were gaining from six to seven pounds each week. But in order to make such gains as these the flock must be handled rightly and be in a thrifty condition when the lambs are dropped and the subsequent feeding and care must be of the very best.

I am confident that a great many sheep men make a mistake in taking the grain ration from their ewes as soon as they are turned out on grass. It must be remembered that the change from dry feed to succulent grass is a great one and it is very essential that the change be made gradually. The grain ration be continued at least until the sheep become thoroughly used to it, and the feeding of clover hay should be continued at least once a day for some time. Often farmers say their sheep will not eat the hay after they are turned out, but I have found by long experience that they eat a reasonable amount of good clover hay in the morning with a relish.

It is much better to confine the sheep in a yard with access to the barn at night, especially during the early part of the summer when storms are frequent, and feed the hay early in the morning and continue the separate grain ration for the lambs until the pasture gets at its best. Indeed, for most economical results I find that, except during the short season when the pasture afforded is the very best, it will pay to grain the ewes right up until the time the lambs are weaned.

This will prevent an abnormal shortage of flesh and will leave them in a condition to gain rapidly after the lambs are weaned. They will, also, go into winter quarters in good flesh making it unnecessary to grain so heavily during the period of winter confinement. This method of management will also give a better clip of wool as well as a more thrifty flock and much better lambs at a very slight increase in the amount of grain fed.

If you are short of clover or alfalfa, then a mighty good second is to sow and harvest a good pea crop or a combination of oats and peas. The lambs greatly relish pea hay and when it is put up vines, peas, and all they eat the pods very greedily. There is hardly a better feed for the ewes or lambs. Often it happens that a field can be sown to peas as a catch crop that will feed the ewes and lambs for a long time at slight cost.—R. B. Rushing.

HORSE ASSOCIATION OF AMERICA FULLY ORGANIZED

The Horse Association of America, a non-profit corporation organized under the laws of Illinois, is now an accomplished fact The organization is backed by horse breeders representing all breeds of horses, by the saddlery and harness interests, by the horseshoe manufacturers and master horseshoers, by the hay, grain and feed interests, and by the carriage and wagon builders of America. The purposes of the Association as set forth in its charter are to aid, and encourage, the breeding, rearing, and use of horses. The primary aim of the organization will be to bring prominently before the public and all transportation users the great part which the horse plays in agriculture, commerce and transportation, to emphasize the important part the horse occupies in pleasure, and to work ceaselessly for the improvement and upbuilding to higher standards of our existing types of horses. Of the twenty-one million horses now on farms and ranches in the United States, it is safe to say that less than five million are of distinct types well calculated to do their particular job in life. The Horse Association of America, through every conceivable avenue of effort, will work for the improvement of our horses to the end that the majority of them may be highly efficient in the particular line for which they are intended.

It must be understood that the Horse Association of America is not fighting mechanical motive power as such, for in its proper place it is of value, but the use of mechanical motive power units in lines of work where horses will do the work more cheaply and more efficiently is a distinct loss to everyone concerned and increases materially the cost of business operation and thereby the cost of living for every family in America.

. The officers elected were John W. Gaver, vice-president; Glen Perrine, second vice-president; Wayne Dinsmore, secretary and George S. Bridge, treasurer;

Messrs. Dunham, Gaver, Perrine and Bridge, are also members of the board of directors. The other eight

directors are as follows: L. J. Elliott, Racine, Wisc.; F. H. Sweet, Kansas City, Mo.; John E. Madden, M. C. Peters, E. W. O'Grady, Lynn H. McCurdy, Walter Schuttler.

Membership in the new association will be $5 a share, and individuals, firms, or corporations may subscribe for as many shares as they desire. The initial payment of $5 a share also pays the first year's dues; subsequent dues are $5 a year a share. The funds drawn from the different industries and sources will be used to carry out the purposes of the association which have already been outlined above.

Parties desiring to become members of the Horse Association of America and to become identified in the support of its work should make application to Wayne Dinsmore, secretary of the Horse Association of America, Union Stock Yards, Chicago, Illinois.

WINTER CARE FOR BREEDING EWES

Flockmasters are urged to see that their breeding ewes are receiving the proper kind of attention at this time in order to produce the most profitable lambs. The ewes should be in good thrifty condition. It is not necessary to feed a large amount of grain to breeding ewes which are receiving good, clean, mixed clover and timothy hay, clover hay, or alfalfa. Where bright corn fodder is available in conjunction with some leguminous feed very good results can be obtained from feeding what the ewes will clean up nicely in the middle of the day at one feed. Where the breeding flock is a little thin in condition a grain mixture of equal parts of corn, oats, and bran by weight, fed at the rate of one-fourth to one-half pound per head daily, will be found most satisfactory and will increase the profits, as the ewes will be better mothers and stronger milkers when the lambs come.

It is not necessary to provide close quarters for the breeding flock, according to United States Department of Agriculture. They should be kept in a clean, dry place, which is dry overhead and underfoot and free from drafts. Plenty of exercise is very important, and the breeding ewes should be out every clear day. Where forages are fed and winter pastures are not available it will be found beneficial to spread the forage over the ground some distance from the shed, and as the ewes feed back and forth over it they will thus gain plenty of exercise.

The flock which is in good thrifty condition, properly housed and properly fed, and receives adequate exercise, will lamb out much better and will cause the shepherd far less difficulty.

PROLIFIC BERKSHIRE SOW.

Walnut Grove Premier Queen, No. 219163, farrowed 14 pigs on April 22, 1919, and raised 11; and on the 28th of October farrowed 13 and raised 10. The 21 have been sold and all registered breeders. She is now due to farrow on March 19th. Four more of them would have been raised had they been taken away from their dam and fed.—David Wiant, Luzern County, Pa.

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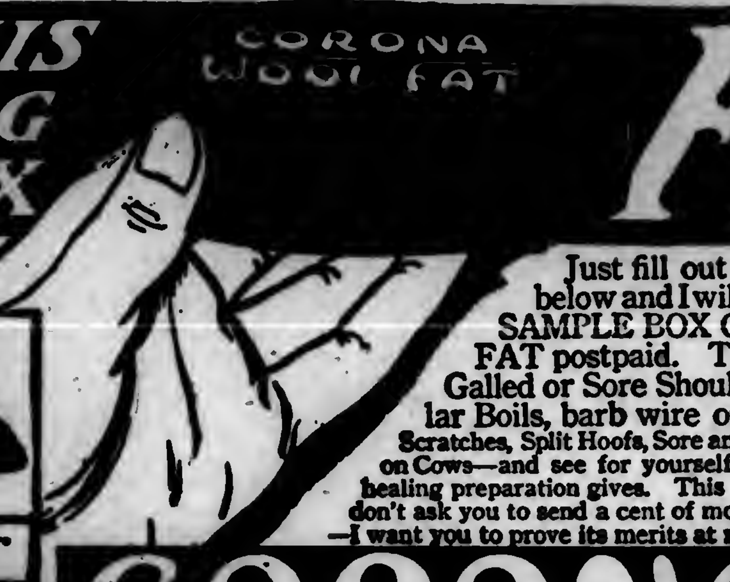

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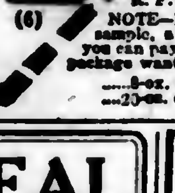

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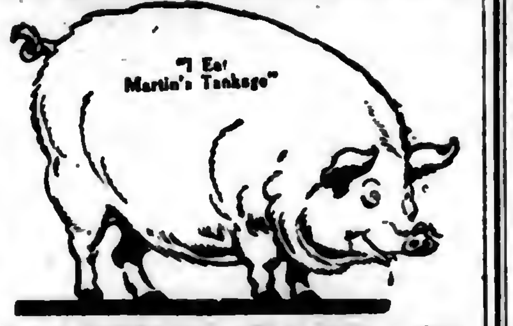

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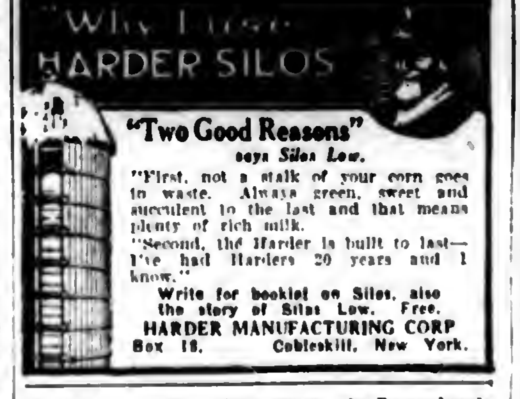

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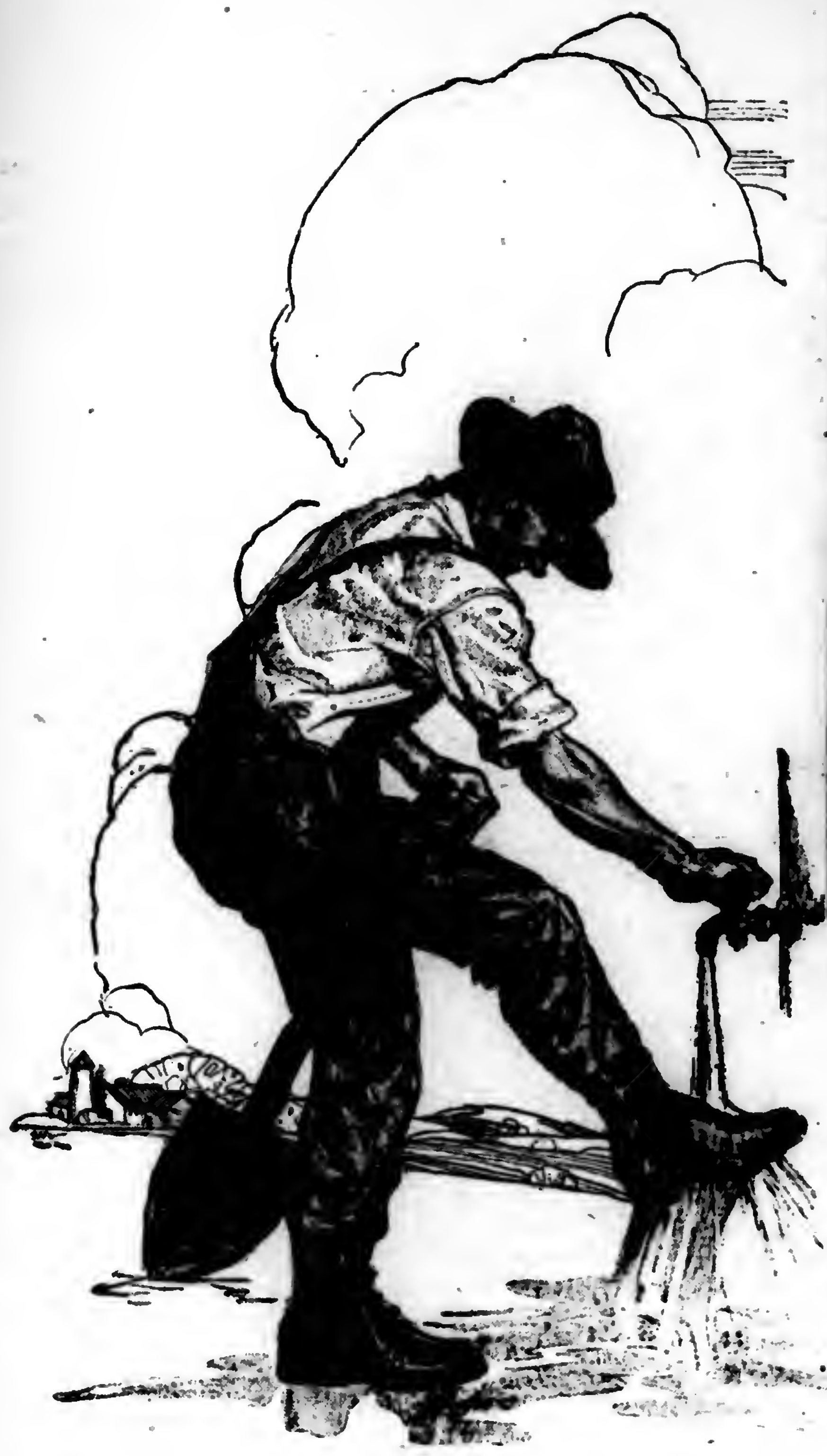
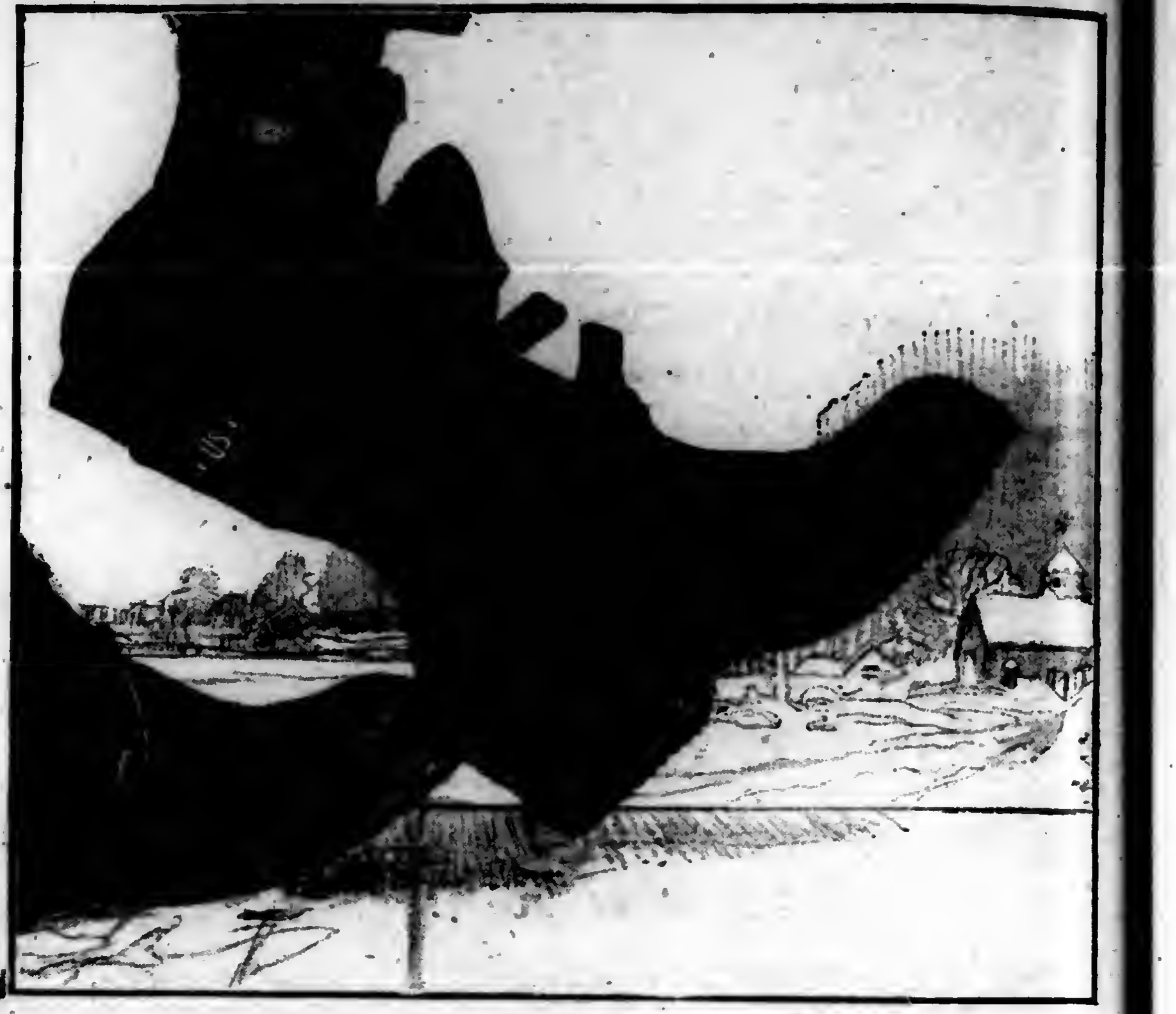
I have the best lot of bred sows for sale that I ever offered. They are well grown and will farrow in March. Also gilts and Fall pigs. Young boars old enough for service. Will sell my herd boar that is good enough to head any herd. He is a splendid animal. Write for prices.

Arrange to attend our public sale of 50 head of purebred Holstein cattle March 24, 1920. Mark the date on your calendar.

S. F. ZOOK, Curryville, Blair Co., Pa.





Wash them clean—Slip them off

Walk into the house with warm, dry feet—that's the new "U. S." Walrus

QUICKLY cleaned under a faucet or with a pail of water—buckled or unbuckled in an instant—warm and water-tight always—

That's why farmers everywhere are buying the new U. S. Walrus. You need a pair for all-year-'round use—for dozens of odd jobs around the farm.

You can slip on the U. S. Walrus right over your leather shoes—and slip it off with your toe when you're through. Its thick, fleecy lining keeps your feet comfortable in the coldest weather.

"U. S." Rubbers—A wide range of models in light and heavy styles to meet every need. Made in all sizes, for men, women, and children.

Wherever you go—working in drains or ditches—splashing through water half a foot deep—the U. S. Walrus gives you perfect protection. And then at your doorstep—no matter how dirty and muddy they may be—a moment's wash under a faucet leaves them as clean as before you started out. Every trace of mire washes quickly off their smooth rubber surface.

Made by the oldest and largest rubber organization in the world, the U. S. Walrus is *built to last.* At the very places where ordinary overshoes are weakest, the U. S. Walrus has been made *strongest.* Every point of strain is heavily reinforced.

Ask your dealer today to show you the new U. S. Walrus. After you've worn a pair for a day or so, you'll realize why they're fast becoming so popular with farmers everywhere.

Other "U. S." models—all built for the hardest wear

Whether you prefer a boot for the wet season, a bootee or rubber for general use, or a cloth-top arctic—you can find in U. S. Rubber footwear exactly what you need. Tough, heavy soles—special reinforcements at toe and heel—and *always* the highest quality rubber—these points are winning U. S. Rubber footwear thousands of new friends every year.

Ask for U. S. rubber footwear—it means solid wear and long service for your money.

"U. S." Arctics—Made of snow-tight cashmerette, warm and comfortable. Reinforced where the wear is hardest. In one, two, four, and six buckles, all weights and sizes.

"U. S." Boots—Reinforced where the wear is hardest

1 — ***The sole***—Five soles in one, all of the finest rubber.

2 — ***Back of the heel***—Every step you take puts a strain on the seam in back. At this point every U. S. Boot is reinforced with *ten thicknesses.*

3 — ***The toe***—Won't break through like the toe in so many boots. It has three heavy layers, a special toe-cap, and an extra sheet of highest quality rubber on the outside.

4 — ***The "bend" in front***—a boot has no lacing in front to "give" as you walk. Every mile you cover, the rubber there bends and buckles 750 times. Six heavy thicknesses give long wear to U. S. boots at this point.

"U. S." boots are made in all sizes and styles—Short, Storm King, Sporting, and Hip. In red, black, and white.

Ask for "U. S." RUBBER FOOTWEAR

United States Rubber Company

Real Comfort within, when it's zero without

When the Porch Thermometer Says Zero

every room indoors can be as warm as toast. It simply means putting in the cellar a

NEW-IDEA Pipeless Furnace

"The one you've heard so much about"

It takes but a day to install a New-Idea because there are no alterations to make—just the cutting of a hole for the big dust and gas-tight New-Idea register which heats the whole house evenly with clean, moist air.

Burn any fuel in the patented non-clinker grate. It means better heating at less cost than with stoves and you are free from the dust and dirt due to carrying ashes and coal through the house.

You take no chances when you order a New-Idea. The signed and sealed money-back guarantee of satisfaction goes with every one. Read it before you order. Expert advice on heating, free.

UTICA HEATER COMPANY
Box 80, Utica, N. Y.

Also manufacturers of "Superior" Warm Air Furnaces and "Imperial" Steam and Hot Water Boilers

Excellent proposition for the right kind of hardware dealers, implement dealers, etc. New-Idea dealers everywhere are "making good."

20-9

Dustless, Economical, Guaranteed Heating

GOOD SEEDS
GOOD AS CAN BE GROWN
Prices Below All Others
I will give a lot of new sorts free with every order I fill. Buy and test. Return if not O. K.—money refunded.
Big Catalog FREE
Over 700 illustrations of vegetables and flowers. Send yours and your neighbors' addresses.
R. H. SHUMWAY, Rockford, Ill.

BIG PROFITS
Growing Strawberries $500 to $700 per A.
Made by planting Keith's New Land Plants
Grown on Fresh New Soil they are the best Mother Earth can produce. Strong, healthy, full of life. One of our varieties brought growers $700 per acre. The most profitable plants for you. GUARANTEED to satisfy or your money back. Our "KEITH'S WAY TO SUCCESSFUL BERRY CULTURE" tells how to grow these plants for BIG PROFITS. Write for Catalog today, receive it tomorrow. IT'S FREE.
KEITH BROS. NURSERY
Box 506, SAWYER, MICHIGAN

BLUE BIRD BRAND FARM & GARDEN SEEDS

In the Legend, the Blue Bird stands for Purity, Happiness and Good Luck. In Seeds, for the Best that Grows.

Our 1920 catalog gives the Legend and tells why the Blue Bird was adopted as a trade mark for Good Seeds. It furnishes the most complete information on Red Clover, Alfalfa, Alsike, Sweet Clover, Vetches, Millets, Sudan Grass and other Farm and Garden Seeds of any free book published. It is larger and more beautifully printed than ever before. It will assist in planning your crop campaign for the coming season. A post card will bring YOUR FREE COPY.

Supplies of many seeds are very light. Order Now, Save Money and have your seed when wanted.

THE C. E. DePUY CO., Seedmen, Pontiac, Mich.
TRADE MARK REG. U.S. PAT. OFF.

Showing NEW DIRIGO door PARTIALLY OPEN.

At Last! A Silo Door Opening Outward

A new, exclusive feature of the famous

DIRIGO SILO

ALWAYS the distinctive silo this feature makes its value, its purchase even more desirable to you. In addition:

DOOR IS EXTRA LARGE

Swings on hinges built in for the exclusive purpose. No interference. No tugging, lifting, sliding. Ensilage becomes more easily accessible. Door is handy to ladder as shown in cut. DIRIGO Silos are

SOLD DIRECT FROM FACTORY

to you, with a guarantee that really guarantees. Middlemen's and traveling men's profits entirely eliminated. Extra value in silo. Special prices NOW. Write TODAY for special folder and regular catalog.

We make the reliable STANDARD Silo, too. A. H. STEVENS, President

Stevens Tank & Tower Co., Auburn, Me.

120

FACTS AND FACTORS IN POULTRY FEEDING

(Continued From Page 17.)

SCRATCH FEED

Cracked corn and equal parts wheat.

The above ration was fed at the eighth annual egg-laying contests at Mount Grove, Mo., in which were 300 hens laying an average of 121 eggs per hen for the twelve months. The nutritive ratio of the mash is 1:3.6, and of the scratch, 1:7.9.

Ration No. 2

The following ration is one that has been in use in the Vineland Egg Laying Contests at Vineland, New Jersey.

DRY MASH

100 lbs. wheat bran
100 lbs. middlings
100 lbs. gr. oats
100 lbs. corn meal
100 lbs. meat scrap

SCRATCH FEED

100 lbs. wheat
100 lbs. cracked corn
100 lbs. clipped oats

The Nutritive Ratio of this mash is 1 to 2.8 and of the scratch is 1 to 8.2.

Ration No. 3.

Still another excellent ration for winter layers:

DRY MASH

100 lbs. bran
200 lbs. middlings
200 lbs. corn meal
100 lbs. gluten meal
100 lbs. gr. oats
50 lbs. alfalfa meal
100 lbs. beef scrap
20 lbs. charcoal
2 lbs. salt

SCRATCH FEED

100 lbs. cracked corn
100 lbs. wheat
50 lbs. oats
50 lbs. barley

Nutritive ratio of mash: 1 to 3.2; of scratch, 1 to 7.5.

These rations supply variety and are very palatable.

Green food should supplement all these rations.

If the fowls do not have free range during summer, continue to feed the ration without change. If the fowls do have free range, as soon as the weather becomes fit, winter rations can be gradually changed, eliminating the corn meal, and alfalfa meal in mash ration No. 3, and the barley in scratch ration No. 3. All changes in feed should be made gradually.

Fattening rations: To produce yellow flesh: 30 lbs. yellow corn meal, 10 lbs. red dog flour, mixed with buttermilk to consistency of thick soup.

To produce white flesh: 10 pounds white corn meal, 10 pounds barley meal, 10 pounds buckwheat middlings, mixed with buttermilk.

Good general fattening ration: 60 pounds corn meal, 30 pounds middlings, 5 pounds beef scrap, mixed with buttermilk.—P. Thos. Ziegler.

House plants need fresh air as much as people. It should not be given them in draughts. Tender plants show the effects of lack of care very quickly.

Spraying is good crop insurance. Better get the equipment and materials now for use later.

SLIDEWELL COLLARS
H.H.&Co.

Illustrating FREEDOM

Made by Troy's Master Craftsmen

SLIDEWELL Collars save your Tie, Time and Temper

Hall, Hartwell & Co., Makers, Troy, N. Y.

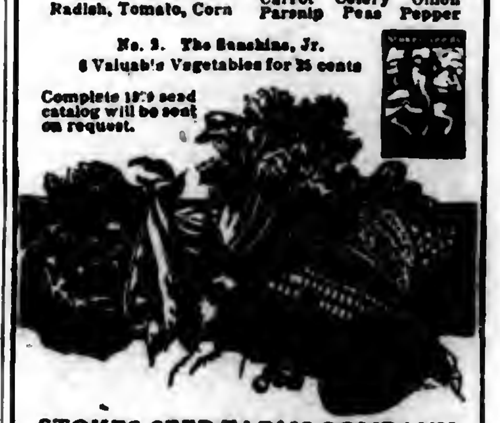
Stokes Sunshine Gardens

Are compact and complete seed assortments of delicious vegetables. Simplicity of culture on concentrated areas has been the watchword of their preparation. When April comes, be sure there is a bit of Sunshine in your garden. Prices as quoted include postage.

No. 1. The Sunshine
20 Vegetable Varieties for $1.00
2 pkts. each of Beans, Cabbage, Lettuce, Radish, Tomato, Corn
1 pkt. each of Beans, Lima, Beet, Carrot, Celery, Onion, Parsnip, Peas, Pepper

No. 2. The Sunshine, Jr.
6 Valuable Vegetables for 25 cents

Complete 1920 seed catalog will be sent on request.



STOKES SEED FARMS COMPANY
Growers
Windermoor Farm, Moorestown, N. J.

U. S. Army Wearing Apparel

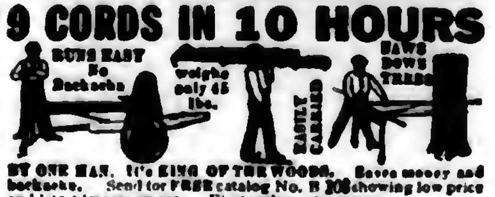
These goods, bought direct from the U. S. Government can now be obtained BY MAIL

Army KHAKI BREECHES, COTTON RENOVATED	$1.00
Army O. D. WOOL BREECHES, RENOVATED	$2.50
Army O. D. Wool Shirts, Relaundered, Perfect	$2.50
Army Wool Underwear, NEW, per garment	$1.75
Army Wool Underwear, Relaundered, Perfect, per garment	$1.00
Army Commercial Wool Blankets, Renovated	$5.50
Army Leather Jerkins, (Vests) Sizes 36 to 42	$6.50
Army Raincoats, Renovated	$5.00
Army Rubber Hip Boots, NEW	$5.50

Sent parcel post prepaid, insured, on receipt of money order. Money refunded if not as represented.

Salvaged Army Goods Store
Occupying Five-story building at
207 Sixth Avenue New York City
Army and Navy Stores Supplied Wholesale

9 CORDS IN 10 HOURS



BY ONE MAN. It's KING OF THE WOODS. Saves money and backache. Send for FREE catalog No. B 108 showing low price and latest improvements. First order gets agency.
Folding Sawing Machine Co., 161 West Harrison St., Chicago, Ill.

TELL the advertiser you saw adv. in Pennsylvania Farmer.

FORAGE CROPS FOR HOGS

The economy of pasturing pigs is shown by the results of thirty-three forage crop demonstrations conducted in 14 counties of this state last year by the animal husbandry extension service of the Pennsylvania State College. A summary of these demonstrations shows that it requires 475 pounds of grain to produce 100 pounds of pork when pigs were fed in the dry lot, while 312 pounds of grain produces the same amount of gain when pigs were on pasture. The saving in grain bill was 34.3 per cent. There is another phase to be considered: health, vigor and rapidity of growth are valued by experienced swine raisers as much as the saving in feed cost. They mean an efficient herd and one in which disease is not liable to gain a foothold.

Over 1000 pigs were used in these demonstrations, which ran 114 days. The quality of the animals was that of average feeder hogs found in Pennsylvania farms. At the beginning of the period they averaged 45 pounds. The average final weight was 134 pounds, making a daily gain of .79 pounds. Cost of producing the forage crops was computed from man and horse labor, rent of land, seed, fertilizer and fences. This amounted to $2.43 for each 100 pounds gain in the herds. Labor in feeding and interest on investment came to $0.84 per 100 pounds gain. Grain cost is the determining factor, amounting to over 75 per cent of the total cost of production. Thus a saving in the amount of grain used goes a long way toward the efficiency of producing pork. Under present conditions it often means the difference between profit or loss on the year's work for the swine grower. Nothing makes a better hog pasture than alfalfa or clover. Rape is good and may be sown early enough to make pasture for spring pigs as soon as they are ready for it. A succession of various crops planned to take care of the herd all summer is the only way to obtain all the advantages of this method of feeding swine.

A SUCCESS IN DIRECT MARKETING

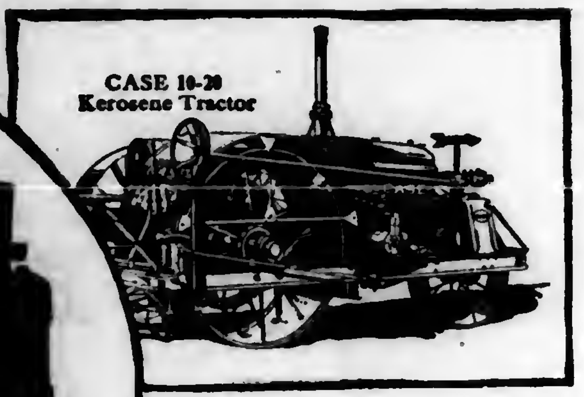
A poor local market for farm produce caused an Illinois farm woman to attempt marketing eggs, cottage cheese, dressed poultry, and vegetables direct to consumers and she has been very successful. She obtained her first customer through the list of names of producers issued by the Chicago post office; satisfaction led to recommendations and she now has a total of sixteen customers.

This farm woman derives a great deal of satisfaction from preparing, packing, and shipping high-grade produce. No eggs which are more than two or three days old are shipped; sweet cream is used in preparing the cottage cheese; only fresh vegetables and well-fattened poultry are marketed. Good containers are used and the produce is well packed and arranged so that an attractive appearance is presented. In summer a bouquet of flowers is added to each shipment.

The secret of this woman's success lies principally in the fact that she produces good articles and packs and ships them properly. She conducts the business in such a way that the customers are pleased and satisfied.

An experienced housekeeper's rule: Loaves of bread are ready for baking when they have doubled their original size.

CASE 20-40 Kerosene Tractor



CASE 10-20 Kerosene Tractor

To avoid confusion, the J. I. CASE THRESHING MACHINE COMPANY desires to have it known that it is not now and never has been interested in, or in any way connected or affiliated with the J. I. Case Plow Works, or the Wallis Tractor Company, or the J. I. Case Plow Works Co.

CASE 22-40 Kerosene Tractor

CASE 15-27 Kerosene Tractor

CASE 10-18 Kerosene Tractor

Look for the EAGLE Our Trade Mark

NOTE: We want the public to know that our plows and harrows are NOT the Case plows and harrows made by the J. I. Case Plow Works Co.

The Case Line Offers Choice of Required Power and Capacity

KEROSENE TRACTORS

The Case 10-18 Tractor drives 20 x 28 Thresher with Windstacker, Feeder and Grain Handler; No. 12 Case Silo Filler with 40-ft. blower pipe; 17 x 22 Hay Baler; will pull 2-bottom plow, 6 to 8 inches deep, depending on soil and field conditions; 8 ft. double-action Disc Harrow; 22 shoe Grain Drill; two 6 ft. Binders.

The Case 10-20 Tractor drives 22 x 36 Thresher and full equipment; pulls 3-bottom plow, under favorable conditions; other machinery requiring similar power.

The Case 15-27 Tractor drives 26 x 46 Thresher with Feeder and Windstacker; three 14 in. plows in hard plowing, or four under favorable conditions; 10 ft. double-action Disc Harrow; two 7 ft. Binders, etc.

The Case 22-40 Tractor drives 32 x 54 Thresher with Windstacker, Feeder and Grain Handler; No. 20 Case Silo Filler with 40 ft. blower pipe; four 14 in. plows in hard ground, or five under favorable conditions; battery of Grain Drills or Harrows.

The Case 20-40 Tractor will handle belt and drawbar jobs similar to 22-40.

The J. I. Case Threshing Machine Company also builds:
- Grand Detour Plows, all sizes and for all soils and conditions.
- Double Disc Harrows for use with tractors.
- Threshing Machines,—six sizes
- Hay Balers,—two sizes
- Silo Fillers,—three sizes
- Road Graders,—three sizes
- Steam Tractors,—eight sizes
- Rock Crushers,—two sizes
- Steam Road Rollers,—two sizes

Booklets, describing and illustrating any products above mentioned, furnished on request.

J. I. CASE THRESHING MACHINE COMPANY, Inc.
Dept. CO-2, Racine, Wis., U. S. A.
Making Superior Farm Machinery Since 1842

CASE
TRADE MARKS REG. U.S. PAT. OFF. AND IN FOREIGN COUNTRIES
POWER FARMING MACHINERY

IRON COOKING UTENSILS

Whether the cooks of the present day are more athletic than their mothers, or whether they endure the weight and the lack of beauty of iron cooking utensils as a fad, nobody seems to know, but certain it is that women are everywhere turning to the iron pots and spiders to turn out good tasting foods, and there is less talk about poor grandma and her heavy pots than there was a few years back.

If you can rummage in the attic and bring out one of these old-time pot-roast or doughnut kettles that can be dropped right into the open hole of range, you are in luck, for they ask good round prices for them now at the stores. If the kettle has a close-fitting cover, you are doubly blessed, for in it you can roast to delicious perfection all kinds of meat with little heat.

On Sunday such a covered kettle is the best thing in which to cook the dinner, for if the fire goes out or down while you are at church the vegetables and roast will still cook for quite awhile. Last Sunday I took a big beef roast and seared it well on all sides over a hot fire. When it was well browned but not scorched, I lifted it out, and in the bottom of the kettle I put the potatoes with one pint of water, then I returned the meat to the kettle on top of the potatoes, seasoned the contents, put on the lid and set the kettle in the oven. The kettle and cover were sizzling hot, so, altho the potatoes were raw when put in, and good-sized ones, too, they came out after church perfectly done, and the meat was delicious. Then it was a short job to make the gravy, and put the bread and dessert on the table. Chicken roasts better in an iron kettle than in any other way, and this method of cooking pork and beans can not be improved on, we think.

If you are buying new iron kettles, it is best to get them large and thick, because they cost only a very little more. My doughnut kettle could well be two sizes larger and not be too heavy to handle easily.

The old deep iron kettles are excellent for making soups, as they hold the heat and let contents simmer till done on the back of the stove, whereas a light kettle has to be kept more nearly over the fire constantly. For making mush an iron kettle is much better than a lighter one, because mush needs long and slow cooking. (Editor's Note.—But the very best way to make mush in order to get it thoroly cooked, and to bring out the best flavor, is to cook it in a fireless cooker. First salt it to taste, mix it up in cold water, set it over the fire to boil up for two or three minutes, then set the dish containing it in a water bath inside your fireless cooker kettle, put on the cover and set it on the heated stone in the cooker, cover and let it stay therein until morning. If you have no fireless cooker, make up your mind to have one right away. Make one if you think you cannot afford to buy a ready made one. If you do not know how, ask us for directions.

Two old-fashioned iron skillets turned together make an ideal roaster, and take up less room than the big granite ones. For making smothered meats they have no equal. We take a rabbit or a chicken or a thick steak and brown it on all sides on top of the stove in one of the skillets, sprinkling thickly with flour as we do so. Then the other skillet is inverted over it to keep in the steam, and the outfit is put in the oven for an hour to finish cooking with slow heat. It will come out deliciously tender, and all the flavor is kept in by the close cover. No water is needed as the steam from the meat is sufficient.

Iron griddles and iron gem pans are all coming back into favor. Also the iron heaters on which our grandmothers used to set their flatirons to heat. In my estimation there is nothing like one of these heaters for cooking liver and keeping it warm until a poky family gathers around the table; thus it will not dry out as it does when one tries to keep it warm in a frying pan or in the warming oven.

If properly handled the iron kettles and pans will not get sooty and greasy. An occasional cleaning in lye water will free them from any grease that may have burned on.—Mrs. W. C. Kohler.

One of the "Sports of Childhood"

CANNING FRUIT JUICES

A new and profitable side line for farmers and their families opens up with the termination of the traffic in alcoholic liquors—the canning of pure fruit juices. For a time, at least, there will be an active and thirsty market for this appetizing and thoroughly wholesome product. For many years there has been a large business done in bottled grape juice, but grapes are not the only juicy fruits and the industry can be indefinately widened. Apples, plums, pears, currants, gooseberries, elderberries, cherries, peaches, mulberries, blackberries, raspberries, strawberries, huckleberries, all can be drawn on for acceptable cooling beverages. Some will be too strong and harsh for use straight, but all they need to overcome that wholly is dilution with water at the time of use, and the addition of sugar to suit the personal taste.

And even tho none be stored away with the thought of marketing, a varied assortment of such juices will prove a desirable addition to the farm wife's store room. When "he" comes in hot and weary, from sweltering toil under the summer sun, looking for something that is wetter than water the woman who can open up a bottle of fruit juice will look very comely in his eyes.

The process is as simple as canning apple sauce. Bring the juice to a boil to kill the ferment germs, pour into jars or bottles and seal at once. That is all. No sugar is required, and the bottles need not all be full.

The writer put away several gallons of apple juice last fall in this way, and it is keeping perfectly. In this case a steam canning outfit was used, and the directions for canning apples was followed. Of course when opened it is not cider, but just apple juice as it went in. But any process that one can successfully use to keep canned fruit will work equally well with the fruit's juice. There is no preservative value in the pulp. A jelly press extracts the juice or even the primitive jelly bag. It needs no clearing as for jelly for the sediment which is after all only pulp, not dirt, all settles to the bottom and leaves the liquid clear and bright.

And the pulp left in the press on the bag cooked up with its own weight or less of sugar will supply an equal variety of delectable jams or fruit butters.

Bottled grape juice before 1914 had a standard price of twenty-five cents a pint or fifty cents a quart. There is no reason why any other fruit juice should sell for less than grape juice. But the pure food laws require that nothing not even water, be added in preparing it for sale.

For the present the Mason jar will be all right for container. Eventually some sort of standard bottle will help. But for 1920 the one essential will be to get enough fruit juices in the pantry and on the market. The one requirement is that the container be glass. Metal is subject to corrosion by the fruit acids.

This is not the season to can, but it is the season to think about the year's canning.—Charles H. Darlington, Chester Co., Pa.

LIVES OF SHOES AND STOCKINGS

Good care of shoes and stockings saves money and keeps the feet in good condition

Good care of stockings means that they should be washed before they are worn, for this makes them last longer. It is not practical for every one to wash their stockings every day but the nearer one can come to changing them every day having them washed as soon as removed, the better they will last and the more comfortable the feet will be. Perspiration rots stockings.

Six pairs of stockings bought at one time and worn by changing will outlast 6 pairs purchased in succession. Choose stockings which are long enough. Heels and toes will not punch thru so fast, and they will not cramp the feet and cause enlarged joints as too short ones do. More broken arches and enlarged joints are caused by improper shoes and stockings than by standing on the feet.

When buying shoes get those which fit so that they do not restrain the action of the toes. Most shoes are made so that people can only use their big toes in walking instead of all of them, as they should.

To make shoes last, have two pairs of every day ones beside best shoes. Have the everyday ones of the best fit and quality you can afford; wear one pair the first of the week and the other the last of the week. This lets each pair dry out between times of being used. Two pairs of shoes worn thus will last almost as long as four pairs, worn one pair at a time, for perspiration rots shoes as well as stockings. Keep the shoes shined and cleaned, and the heels built up. This keeps them in shape, makes them more comfortable and makes the owner respect them so that he will not abuse them.—Edith Allen.

OUR CHILDREN'S READING

I agree fully with the contributor who urged that we superintend carefully the reading our children are doing but I have yet to come in contact with the first case where drastic or even compulsory measures are necessary. It seems to be a phase of child-life that takes care of itself quite satisfactorily unless the child is allowed to acquire a perverted taste.

I taught rural schools for seventeen terms and a bit of experience gleaned in those days illustrates the point well. I had a particularly nice school—both pupils and parents, as a rule, were refined people—and I was surprised and almost horrified to discover that practically every one of those boys and girls seemed to have suddenly developed an abnormal taste for the trashiest type of love stories. They had several copies of the class of publications that cost 10 cents a year and do more than $10 damage to any family that reads them. And my children were revelling in these! It was before school libraries had become common. The young people had nothing else to read, and I sympathized with them in their loneliness.

My experience was very limited in those days but I gave them a "sisterly" talk on the subject of reading matter and I told them that I should burn up any copies of those papers that remained when I swept that evening. I wouldn't tell them that now, but it happened to work well then. The papers vanished that afternoon, and the next morning I filled the shelves with all the interesting and instructive stories I could "rake up" on short notice. I also ordered a few more at my own expense. Presently the whole bunch became absorbed in as good a class of literature as we could provide.

My girlie of six loves to read and I do not expect a particle of trouble from that source—I shall see that she has plenty of good books and she will be an abnormal child if she can still develop a preference for trashy stuff. She has already read "Alice in Wonderland," "The Five Little Peppers", etc., and about the next thing I shall give her will be Miss Alcott's "Little Women," and follow it with just as many other good

books for girls as it requires to satisfy her appetite for reading. We haven't access to a big library, but when the girlie is a little older, I shall let her visit her grandma who is near a particularly good one and thus give her the advantage of that for awhile every year.—E. M. A., New York.

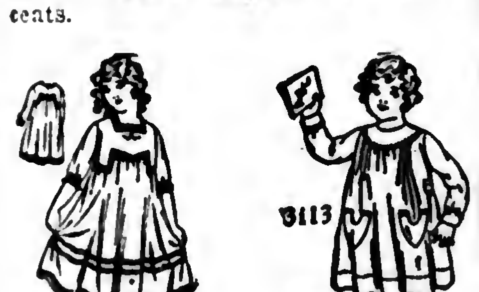
A well kept and well planted lawn is essential for every home. Most any one can erect a shelter of boards or cement but some thought must be put into making that shelter a home. Comfort, convenience, and beauty ought to be found there. They are all needed if young people are going to stay long in the home. There is something wrong with a family that is willing to live among unkempt surroundings.

Ground coffee which seems stale and weak may be freshened by stirring it in a hot frying pan until it is well dried, but not scorched.

PENNSYLVANIA FARMER PATTERNS

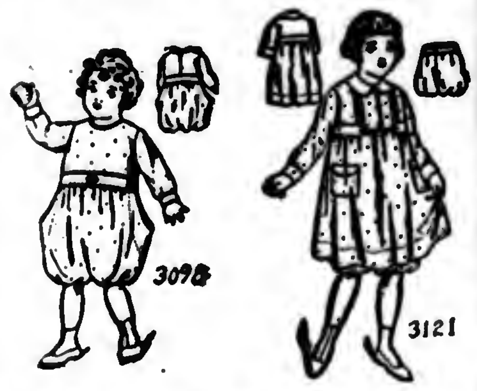
Give figures and letters of each pattern exactly as printed at beginning of each description or we will not be responsible for correct filling of orders. Give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261 S. Third Street, Philadelphia, Pa.

3123.—Dainty Frock.—Pattern is cut in 4 sizes: 4, 6, 8 and 10 years. White batiste with lace and insertion, or linen with embroidery would be effective. It will require 4 yards of 27-inch material for a 10-year size. The sleeve may be finished in wrist or elbow length. Pattern, 10 cents.



3113.—Popular Style for Little Misses.—Pattern is cut in 4 sizes: 2, 3, 4 and 5 years. For a 4-year size 2⅓ yards of 36-inch material will be required. Pattern, 10 cents.

3098.—Comfortable For Play.—Pattern is cut in 4 sizes: 1, 2, 3, and 4 years; will require 3¼ yards of 27-inch material for a 3-year size. Gingham, percale, or flannelette are popular materials for rompers. This style has deep pockets at the sides of the bloomers. Pattern, 10 cents.



3121.—School or Play Dress.—Pattern is cut in 4 sizes: 4, 6, 8 and 10 years. Size 8 will require 3¼ yards of 36-inch material for the dress, and 1¼ yards for the bloomers. The pattern includes the bloomers and costs 10 cents.

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THE HOSTILE CITY PRESS

The city press has misrepresented and maligned the farmer ever since the signing of the armistice but the acme of absurdity was reached by the New York World in an editorial several weeks ago.

The World said: "Of the millions of farmers in the United States less than one-quarter of 1 per cent. pay an income tax and practically all of them refuse to make returns. And yet the value of their annual products exceeds $20,000,000,000, which is largely profit, while the $30,000,000,000 worth of products turned out by manufacturers will hardly show 6 per cent. net profit."

The above statements are really too absurd and non-sensical to require comment yet every farmer and tiller of the soil must question seriousl if the city people are left who have even a particle of common sense and a modicum of gray matter in their craniums. He knows for a certainty that the editorial writers who were responsible for that paragraph and dozens of others like it, are either blithering fools who are incapable of thinking or writing straight or are deliberately engaged in poisoning the minds of city people and inflaming them against the farmer in what is just as truly class war as are the struggles in Russia between the Reds and the Whites.

In a venomous and acrid article middle west city paper comes out openly and shows its hostility to the farming class.

The paper says: "There is nothing in common between the man who works for a wage and the farmer. The main object in life of the wage-earner is to get for as little outlay in money or toil as possible the wherewith to feed himself and his family. The sole object of the farmer is to get as much as possible for the food products that the man in industry must buy to live. If it were not for the restraining influence of the abused middleman the two would be at each other's throats.

"We do not believe that there is a predatory interest in this country but agriculture. It controls congresses and legislatures and compels legislation in its own interest and to the exclusion of all other interest. It forces the Government to an expense of $40,000,000 a year to serve it through a governmental department which occasionally isolates a bug; it sets the country by the ears with the bugaboo of a boll-weevil when the price of cotton is to be boosted; it exploits everything from spring rains to early frosts to bolster the price of wheat. And between seasons the bucolic brother puts in his time beating the tax-collector and denouncing 'Capitalism'—the farmer invented the term in its opprobrious sense. Having a low sense of morality until his years beget in him a fear of hell, the farmer takes no thought for the welfare of any member of any other class. And he would dominate the country by numbers if, in the providence of God, he was not led to the practice of not sparing the club and spoiling the child. His autocratic and domineering rule at home has such a chastening influence on the more intelligent of his offspring that the roads city-ward are kept open by youths of spirit who seek the city to fulfill the destiny of this nation and recruit the forces of industry in order that there shall be a better market for the old man's pigs."

What must the farmer do to counteract these falsehoods? That he must defend himself at once or lose out in his attempt to secure a living and 10 per cent. is self-evident.

Just as I am writing this the newspapers are featuring an account of an egg boycott started by housewives in a Nebraska city and which resulted in the price of eggs dropping from 85 to 55 cents per dozen. The next day dozens of other cities are reported as enthusiastically taking up the idea. Not a word is said about the poor poultryman who, continually harassed by the high price of feeds, is practically ruined if the boycott continues.

I have not been able to find one word in city dailies protesting against high prices on shoes, clothing and other manufactured commodities. It is always the price of food that comes in for their condemnation.

It must be their profound ignorance of things rural and of the cost of producing food that permits the distorted facts and vapory fancies served up to them to take effect.

Town dwellers probably do not know that a farmer in eastern Pennsylvania, and a tenant farmer at that, paid over $300 in labor cost alone to harvest a 40 acre corn crop. They have never been told that the farmer did not receive more than $3.50 for the 4 to 5 pounds of wool that the average $45 suit contains. They must be shown the cost of producing food; the cost of fertilizer, of machinery, of labor and of overhead charges before they will cease their vicious persecution of the farmer. If farmers do not defend themselves by concerted action through advertising or any other effective medium, agriculture can never be made profitable so long as city people are in the majority and control practically all legislation.—L. F. S.

LONG AGO

I once knew all the birds that came
And nested in our orchard trees,
For every flower I had a name—
My friends were woodchucks, toads, and bees;
I knew where thrived in yonder glen
What plants would soothe a stone-bruised toe—
Oh, I was very learned then,
But that was very long ago.

I knew the spot upon the hill
Where checkerberries could be found,
I knew the rushes near the mill
Where pickerel lay that weighed a pound!
I knew the wood—the very tree—
Where lived the poaching saucy crow,
And all the woods and crows knew me—
But that was very long ago.

And pining for the joys of youth,
I tread the old familiar spot,
Only to learn this solemn truth:
I have forgotten, am forgot,
Yet here's the youngster at my knee
Knows all the things I used to know;
To think I once was wise as he!—
But that was very long ago.

I know it's folly to complain
Of whatsoe'er the fates decree,
Yet, were not wishes all in vain,
I tell you what my wish should be:
I'd wish to be a boy again,
Back with the friends I used to know.
For I was very happy then—
But that was very long ago!

—Eugene Field.

Clean hands and clean teeth are conducive to a happy stomach.

The thinking Farmer is Finding Out for himself

THE farmer who *thinks* for himself is rightly *suspicious* of the untried—the unproven.

Every year it is becoming *harder* to interest him in farm machinery that has nothing but *theories* or *appearances* back of it.

Everything he buys for his farm must meet these simple tests—Does it work—How long will it *continue* to work — What will it cost to operate?

When the thinking farmer considers buying a tractor, he disregards impressions. He gets at the bottom of the matter by finding out what tractor has always made an *honest return* in service for the money put into it.

He finds that the G-O Tractor for nine years has been *operating successfully* on farms all over the country.

He finds that in *every sort* of field work—from plowing virgin soil to the final harvesting, and on *every sort* of belt-job, from sawing wood to filling silos—the G-O Tractor does the work, does it economically, and keeps on doing it.

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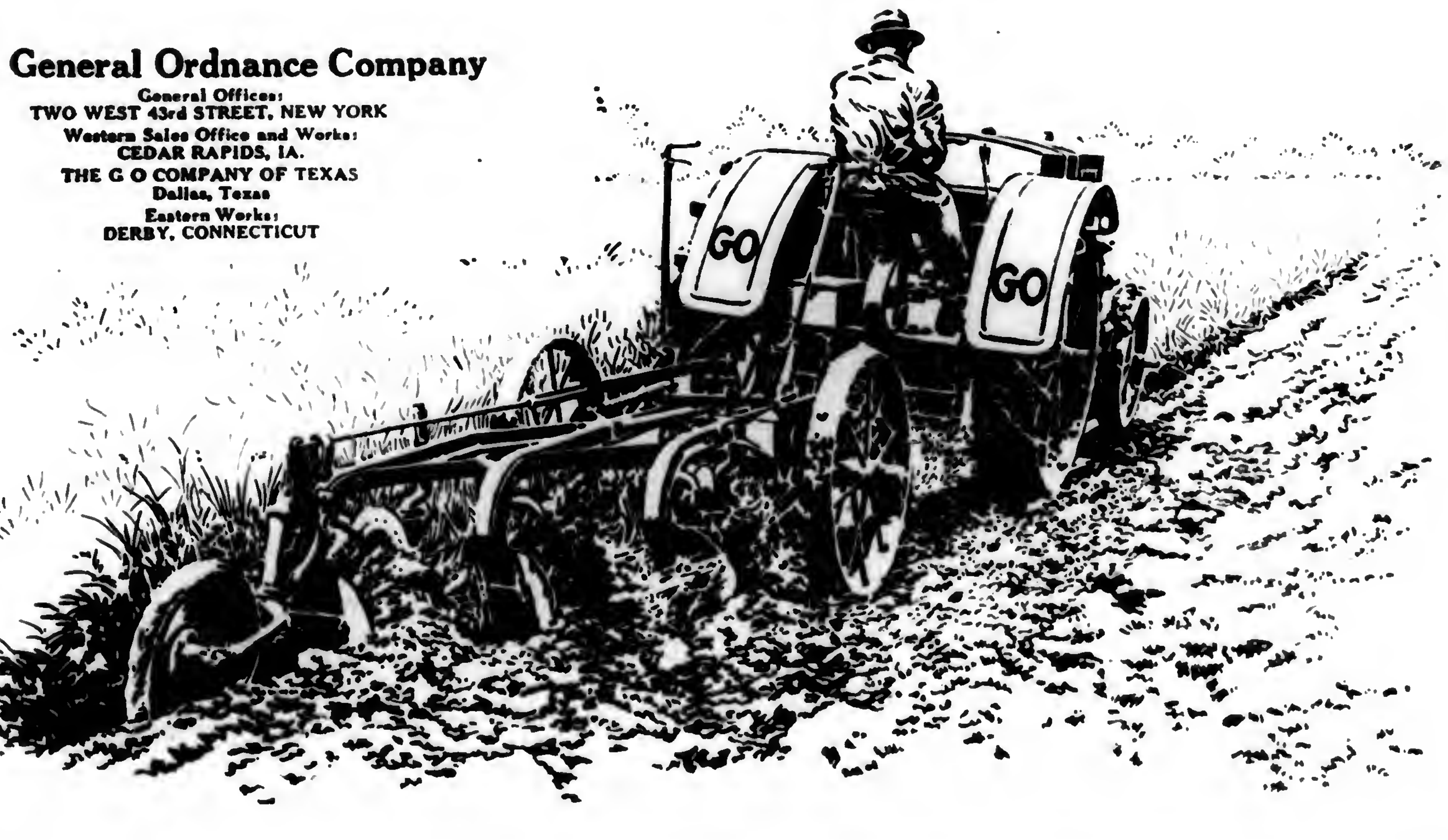

KEZIAH COFFIN

By JOSEPH C. LINCOLN

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(Continued From Last Week.)

"Sshh!"

"Hush up yourself. Where am I?"

"You're ashore. On Cape Cod. At Trumet."

"Trumet! Trumet!"

He was struggling to raise himself on his elbow. Ellery was obliged to use force to hold him down.

"Hush! hush!" pleaded the minister, "you mustn't try to——"

"Trumet! I ain't. You're lyin'. Trumet! Good God! Who brought me here? Did she— Is she——"

He struggled again. Then his strength and his reason left him simultaneously and the delirium returned. He began to shout a name a name that caused Ellery to stand upright and step back from the bed, scarcely believing his ears.

All the rest of that night the man on the bed raved and muttered, but of people and places and happenings which he had not mentioned before And the minister, listening intently to every word caught himself wondering if he also was not losing his mind.

When the morning came, Ebenezer Capan was awakened b a shake to find John Ellery standing over him.

"Capen," whispered the minister, "Capen, get up. I must talk with you."

Ebenezer was indignant.

"Judas priest!" he exclaimed; "why don't you scare a feller to death, comin' and yankin' him out of bed by the back hair?" Then, being more wide awake, he added: "What's the row? Worse, is he? He ain't——"

"No. But I've got to talk with you. You used to be a whaler, I know. Were you acquainted in New B dford?"

"Sartin. Was a time when I could have located every stick in it, pretty nigh, by the smell, if you'd set me down side of 'em blindfold."

"Did you ever know anyone named —" He finished the sentence.

"Sure and sartin, I did. Why?"

"Did you know him well?"

"Well's I wanted to. Pretty decent feller one time, but a fast goer, and went downhill like a young one's sled, when he got started. His folks had money, that was the trouble with him. Why, 'course I knew him! He married——"

"I know. Now, listen."

Ellery went on talking rapidly and with great earnestness. Ebenezer listened, at first silently, then breaking in with ejaculations and grunts of astonishment. He sat up on the edge of the bed.

"Rubbish!" he cried at last. "Why, 'tain't possible! The feller's dead as Methusalem's grandmarm. I remember how it happened and——"

"It wasn't true. That much I know. I know, I tell you."

He went on to explain why he knew. Capen's astonishment grew.

"Judas priest!" he exclaimed again. "That would explain why I thought I'd seen— There! heave ahead. I've got to see. But it's a mistake. I don't believe it."

The pair entered the sick room. The sailor lay in a stupor. His breathing was rapid, but faint. Capen bent over him and gently moved the bandage on his face. For a full minute he gazed steadily. Then he stood erect, drew a big red hand across his forehead, and moved slowly back to the living room.

"Well?" asked Ellery eagerly.

Ebenezer sat down in the rocker. "Judas priest!" he said for the third time. "Don't talk to me! When it comes my time they'll have to prove I'm dead. I won't believe it till they do. Ju-das priest!"

"Then you recognize him?"

The old man nodded solemnly.

"Yup," he said, "it's him. Mr. Ellery, what are you goin' to do about it?"

"I don't know. I don't know. I must go somewhere by myself and think. I don't know what to do."

The minister declined to wait for breakfast. He said he was not hungry. Leaving Ebenezer to put on the coffeepot and take up his duties as day nurse, Ellery walked off along the beach. The "dead line" prevented his going very far, but he sat down in the lee of a high dune and thought until his head ached. What should he do? What was best for him to do?

He heard the rattle of the doctor's chaise and the voices of Ebenezer and Parker in conversation. He did not move, but remained where he was, thinking, thinking. By and by he heard Capen calling his name.

"Mr. Ellery!" shouted Ebenezer. "Mr. Ellery, where be you?"

"Here!" replied the minister.

The old man came scrambling over the sand. He was panting and much excited.

"Mr. Ellery!" he cried, "Mr. Ellery! it's settled for us—one part of it, anyhow. He's slipped his cable."

"What?" The minister sprang up.

"Yup. He must have died just a little while after you and after I gave him his medicine. I thought he looked kind of queer then. And when the doctor came we went in together and he was dead. Yes, sir, dead."

"Dead!"

"Um—hm. No doubt of it; it's for good this time. Mr. Ellery, what shall we do? Shall I tell Dr. Parker?"

Ellery considered for a moment. "No," he said slowly. "No, Capen, don't tell anyone. I can't see why they need ever know that he hasn't been dead for years, as they supposed. Promise me to keep it a secret. I'll tell—her—myself, later on. Now promise me; I trust you."

"Land sakes, yes! I'll promise, if you want me to. I'm a widower man, so there'll be nobody to coax it out of me. I guess you're right, cal'late you be. What folks don't know they can't lie about, can they? and that's good for your business—meanin' nothin' disreverent. I'll promise, Mr. Ellery; I'll swear to it. Now come on back to the shanty. The doctor wants you."

The next day the body of "Murphy," foremast hand on the San Jose, was buried in the corner of the Regular graveard, near those who were drowned in the wreck of that winter. There was no funeral, of course. The minister said a prayer at the shanty, and that was all. Ebenezer drove the wagon which was used as hearse for the occasion, and filled in the grave himself. So great was the fear of the terrible smallpox that the sexton would not perform even that service for its victim.

Capen remained at the shanty another week. Then, as the minister showed no symptoms of having contracted the disease and insisted that he needed no companion, Ebenezer departed to take up his fishing once more. The old man was provided with a new suit of clothes, those he had worn being burned, and having been, to his huge disgust, fumigated until, as he said, he couldn't smell himself without thinking of a match box, went away. The room which the dead sailor had occupied was emptied and sealed tight. The San Jose was to stay at her anchorage a while longer. Then, when all danger was past, she was to be towed to Boston and sold at auction for the benefit of the heirs of her dead skipper and owner.

Ellery himself was most urgent in the decision that he should not go back to the parsonage and his church just yet. Better to wait until he was sure, he said, and Dr. Parker agreed. "I'd be willing to bet that you are all right," declared the latter, "but I know Trumet, and if I should let you go and you did develop even the tail end of a case of varioloid—well, 'twould be the everlasting climax for you and me in this county."

Staying alone was not unpleasant, in a way. The "dead line" still remained, of course, and callers did not attempt to pass it, but they came more frequently and held lengthy conversations at respectful distance. Ellery did his own cooking, what little there was to do, but so many good things were pushed under the ropes that he was in a fair way to develop weight and indigestion. Captain Zeb Mayo drove down at least twice a week and usually brought Mrs. Coffin with him. From them and from the doctor the prisoner learned the village news. Once Captain Elkanah and Annabel came, and the young lady's gushing praise of the minister's "heroism" made its recipient almost sorry he had ever heard of the San Jose.

Dr. Parker told him of Grace Van Horne's return to the village. She had come back, so the doctor said, the day before, and was to live at the tavern for awhile, at least. Yes, he guessed even she had given up hope of Captain Nat now.

"And say," went on Parker, "how are you feeling?"

"Pretty well, thank you," replied the minister. "I seem to be rather tired and good for nothing. More so than I was during the worst of it."

"No wonder. A chap can't go thru what you did and not feel some reaction. I expected that. Don't get cold, that's all. But what I want to know is whether you think I could leave you for a couple of days? The Ostable County Medical Society meets at Hyannis to-morrow and I had promised myself to take it in this year. But I don't want to leave you, if you need me."

Ellery insisted that he did not need anyone, was getting along finely, and would not hear of his friend's missing the medical society's meeting. So the physician went.

"Good-by," he called as he drove off. "I guess your term is pretty nearly over. I shall let you out of jail inside of four or five days, if you behave ourself."

This should have been cheering news, but, somehow, John Ellery did not feel cheerful that afternoon. The tired feeling he had spoken of so lightly was worse than he had described it, and he was despondent, for no particular reason. That night he slept miserably and awoke with a chill to find a cold, pouring rain beating against the windows of the shanty.

He could not eat and he could not keep warm, even with the cook-stove top red hot and a blanket over his shoulders. By noon the chill had gone and he was blazing with fever. Still the rain and the wind, and no visitors at the ropes, not even the lightkeeper.

He lay down on his bed and tried to sleep, but though he dozed a bit, woke always with a start and either a chill or fever fit. His head began to ache violently. And then, in the lonesomeness and misery, fear began to take hold of him.

He remembered the symptoms the doctor had warned him against, headache, fever, and all the rest. He felt his wrists and arms and began to imagine that beneath the skin were the little bunches, like small shot, that were the certain indications. Then he remembered how that other man had looked, how he had died. Was he to look that way and die like that? And he was all alone, they had left him alone.

Night came. The rain had ceased and stars were shining clear. Inside the shanty the minister tossed on the bed, or staggered back and forth about the two rooms. He wondered what the time might be; then he did not care. He was alone. The smallpox had him in its grip. He was alone and he was going to die. Why didn't some one come? Where was Mrs. Coffin? And Grace? She was somewhere near him—Parker had said so—and he must see her before he died. He called her name over and over again.

The wind felt cold on his forehead. He stumbled amidst the beach grass. What was this thing across his path? A rope, apparently, but why should there be ropes in that house? There had never been any before. He climbed over it and it was a climb of hundreds of feet and the height made him giddy. That was a house, another house, not the one he had been living in. And there were lights all about. Perhaps one of them was the light at the parsonage. And a big bell was booming. That was his church bell and he would be late for the meeting.

Some one was speaking to him. He knew the voice. He had known it always and would know it forever. It was the voice he wanted to hear. "Grace!" he called. "Grace! I want you. Don't go! Don't go! Grace! oh, my dear! don't go!"

Then the voice had gone. No, it had not gone. It was still there and he heard it speaking to him, begging him to listen, pleading with him to go somewhere, go back, back to something or other. And there was an arm about his waist and some one was leading him, helping him. He broke down and cried childishly and some one cried with him.

Early the next morning, just as day was breaking a buggy, the horse which drew it galloping, rocked and bumped down the lighthouse lane. Dr. Parker, his brows drawn together and his lips set with anxiety, was driving. He had been roused from sleep in the hotel at Hyannis by a bo with a telegram. "Come quick," it read. "Mr. Ellery sick." The sender was Noah Ellis, the lightkeeper. The doctor had hired a fast horse, ridden at top speed to Bayport, gotten a fresh horse there and hurried on. He stopped at his own house but a moment, merely to rouse

his wife and ask her if there was any fresh news. But she had not even heard of the minister's seizure.

"My soul, Will!" she cried, "you don't think it's the smallpox, do you?"

"Lord knows! I'm afraid so," groaned her husband. "What made me leave him? I ought to have known better. If that boy dies, I'll never draw another easy breath."

He rushed out, sprang into the buggy, and drove on. At the ropes, early as it was, he found a small group waiting and gazing at the shanty. The lightkeeper was there and two or three other men. They were talking earnestly.

"How is he, Noah?" demanded the doctor, jumping to the ground.

"I don't know, doc," replied Ellis. "I ain't heard sence last night when I telegraphed you."

"Haven't heard? What do you mean by that? Haven't you been with him?"

"No-o," was th rather sheepish reply. "You see, I—I wanted to, but my wife's awful scart I'll catch it and——"

"The devil!" Dr. Parker swore impatiently. "Who is with him then? You haven't left him alone, have you?"

"No-o." Noah hesitated once more. "No-o, he ain't alone. She's there."

"She? Who? Keziah Coffin?"

"I don't cal'late Keziah's heard it yet. We was waitin' for you 'fore we said much to anybod. But she's there—the—the one that found him. You see, he was out of his head and wanderin' up the lane 'most to the main road and she'd been callin' on Keziah and when she come away from the parsonage she heard him hollerin' and goin' on and——"

"Who did?"

"Why"—the lightkeeper glanced at his companions—"why, doc, 'twas Grace Van Horne. And she fetched him back to the shanty and then come and got me to telegraph you."

"Grace Van Horne! Grace Van— Do you mean to say she is there with him now?"

"Yes. She wouldn't leave him. She seemed 'most as crazy's he was. My wife and me, we——"

"How is he?" demanded the doctor.

"I think he seems a little easier: at any rate, he's not delirious. He's in there. Oh, I'm so thankful you've come."

"Is that the doctor?" called Ellery weakly from the next room. "Is it?"

"Yes," replied Parker, throwing off his coat and hat. "Coming, Mr. Ellery."

"For God's sake, doctor, send her away. Don't let her stay. Make her go. Make her go! I've got the smallpox and if she stays she will die. Don't you understand? she must go."

"Hush, John," said Grace soothingly. "Hush, dear."

Dr. Parker stopped short and looked at her. She returned the look, but without the slightest semblance of self-consciousness or embarrassment. She did not realize that she had said anything unusual, which must sound inexplicably strange to him. Her thoughts were centered in that adjoining room and she wondered why he delayed.

"Well?" she asked impatiently. "What is it? Why do you wait?"

The doctor did not answer. However, he waited no longer, but hurried in to his new patient.

CHAPTER VIII

In Which Keziah Decides to Fight

The news was flying from house to house along the main road. Breakfasts were interrupted as some neighbor rushed in to tell the story which another neighbor had brought to him or her. Mr. Ellery was very sick and it was feared he had the smallpox, that was what Mrs. Parker, the doctor's wife, told those who lived near her. By the time the Corners heard of it the tale had grown until the minister was said to be dying. And when it reached Gains Winslow's home at the upper end of the town he was reported dead. This was denied, upon investigation, but soon another rumor grew and spread; Grace Van Horne was with him, had taken him back to the shanty, and insisted upon staying there until the doctor came. Facing that dreadful disease and— It was wonderful—and queer.

At the Danielses' house the servant girl rushed into the dining room to serve the toast and the story at one swoop. Captain Elkanah's dignity deserted him for an instant and his egg spoon jingled to the floor. Annabel's face turned a dull red. Her eyes flashed sparks.

"Pa!" she cried. "I—I—if you don't do something now I'll never—" Her father shook his head warningly. "Debby," he said to the maid, "you needn't wait."

Debby departed reluctantly. After the kitchen door had closed, Captain Elkanah said: "My dear, we mustn't be too hasty in this matter. Remember, Mr. Ellery is very sick. As for —for the Van Horne girl, we haven't heard the whole truth yet. She may not be there at all, or it may be just an accident——"

"Accident! Pa, you make me boil. Accident! Accidents like that don't happen. If you let her stay there, or if— Oh, to think of it! And we were calling him a hero and—and everything! Hero! he stayed there just so she might——"

"Hush! hush, child!"

"I shan't hush. Pa, are you going to let him disgrace himself with her?"

"No, no. Probably there ain't any idea of his marrying her. If there is——"

"If there is you put him out of the church and out of this town. And as for her— O-oh! And we've been having him here at dinner and—and I have— Oh, I shall die! I wish I was dead!"

Then followed hysterics and agony, greedily listened to by Debby, whose ear was at the crack of door.

Lavinia Pepper sprung the mine on her brother. Kyan was horrified. He had grown to be one of Ellery's most devoted worshipers.

"Smallpox!" he groaned. "The minister got the smallpox. Oh! that's turrible."

"Ain't it?" observed his sister, also horrified, but rather relishing the horror. "And if it hadn't been for Gracie Van Horne——"

"What?"

"What's the matter with you? I say, if Gracie Van Horne hadn't happened to meet him, wanderin' around, crazy as a coot, and toted him back——"

"Gracie—Van—Horne! Godfreys mighty! She—she met him? Where? Down to Peters's grove, was it?"

"Peters's grove! No. What on earth made you think 'twas there? She'd been visitin' Keziah Coffin at the parsonage, and when she come out on the main road she heard him aravin' down the lane. Must have passed right by this house and we never heard him. I never see such a dead man as you be when you're asleep. You don't sound dead, I'll say that for you, but nothin' wakes you up."

(Continued Next Week.)

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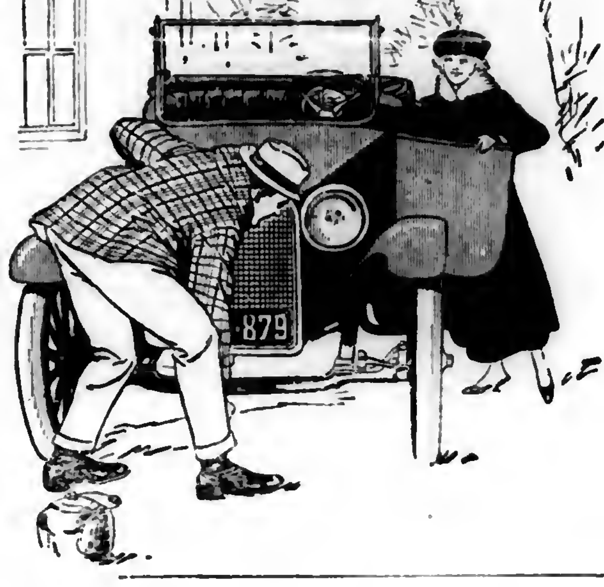

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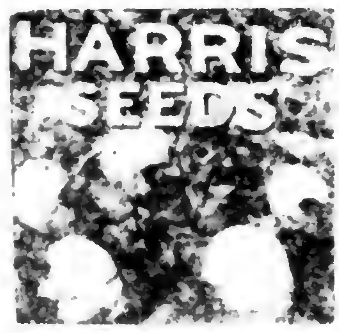

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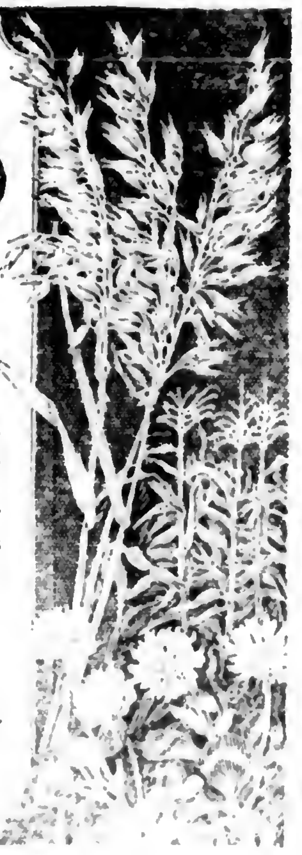

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Our Washington Letter

The Government Nitrate Plants

There is one bill pending in Congress which, while providing for the national defense in a military way, means much to the farmers in the states east of the Mississippi River. This bill aims to establish a self sustaining Federal agency for the manufacture, production, and development of the products of atmospheric nitrogen. In plain English it authorizes the Secretary of War to organize a corporation to be known as the United States Fixed Nitrogen Corporation. This corporation is to purchase, develop and operate for the United States the nitrate fixation plants at Muscle Shoals, Alabama. The corporation is obliged to sell to the government such nitrogen products as may be manufactured for military or other purposes, and shall sell any of its products not required by the government to producers or users of fertilizers.

It is estimated that $185,000,000 was expended for commercial fertilizers in the United States during the year 1914. Of this amount, $86,000,000 was paid for nitrogen. Figures made public by the Department of Commerce show that we imported during the years from 1915 to 1918 inclusive 4,517,529 tons of Chilean nitrate, paying thereon to Chile an export tax of $50,506,000.

It is claimed by the experts who have investigated the matter that the proper and legitimate government co-operation in the development of the nitrogen industry will give the farmer his nitrogen fertilizer for one-half of what he would otherwise pay for it, and save one million tons of cottonseed meal for stock feeding purposes.

At the annual session in Syracuse in 1918 of the National Grange the special committee on agricultural reconstruction reported favorably on a proposition recommending to the government that "munition plants should be converted to the manufacture of fertilizers, freeing the nation from depending on foreign supplies.

The National Farmers' Union and the National Board of Farm Organizations have also adopted resolutions in favor of the development of the nitrate plants at Muscle Shoals for the purpose of providing the farmers with fertilizers.

Objections to Bill

There are some objections to the bill. All government undertakings during the hurry-on period of the war preparations were accompanied with more or less needless waste and misuse of funds, and judging from reports that get into the Congressional Record and the proceedings of the various hearings, the Muscle Shoals project is not an exception to the rule.

The government spent $70,000,000 on the Muscle Shoals plant, much of which was wasted under the cost-plus system of paying contractors. "Reckless extravagance" are the words used by Colonel Fred H. Wagner in describing conditions at Muscle Shoals in his report to the House committee investigating war expenditures. In the construction of this plant, Colonel Wagner says "the accounting system was so bad no business however efficient could tolerate it and exist."

Testimony given before the War Expenditures Investigating Committee shows, however, that conditions at Muscle Shoals were no worse than at other places where munition plants and training camps were constructed on the cost-plus basis, a war time expediency which proved to be an unqualified success as a promoter of extravagance, waste and graft, and caused the government to lose hundreds of millions of dollars.

These disclosures are being used very effectively in opposition to further efforts to develop the Muscle Shoals project and convert it into a great plant for the production of fertilizers. Friends of the bill, on the other hand, do not think that it is fair to charge up the mistakes of the war preparation period, with its profligate cost-plus contract system, against the present measure. They argue that the proposition should be discussed and acted upon wholly on its merits. If the government was justified in undertaking such improvements as the building of the Roosevelt dam, at a cost of $15,000,000 for the purpose of enlarging the area of crop production and providing cheap water power for the people of Arizona, it is fully justified, they say, in developing the Muscle Shoals plant, not only as a matter of military preparedness and economy, but for the production of fertilizers for our Eastern farmers.

Farmers and Labor

The union labor leaders aided by a few radicals claiming to represent the farmers are backing the American Federation of Labor in its nonpartisan campaign to elect only friends of the trades union movement to Congress.

T. C. Atkeson, Washington representative of the National Grange, is just as outspoken in declaring that the organized farmers are not lining up with labor in its fight to compel Congress to continue government operation of railroads and enact the Plumb bill and other so-called labor legislation. In an interview in which he referred to the recent conference of farm organization leaders, Dr. Atkeson says: "We decided that the interests of the farmers and of organized labor were not identical—in fact, were diametrically opposed on some questions. The union man wants shorter hours and higher pay, which means higher prices to the consumer.

The railroad bill up-to-date is a compromise measure, with the anti-strike clause eliminated. The Interstate Commerce Commission is given the right of prescribing dividend returns, and also the power to investigate strikes, and its authority over the issuing of securities and rate fixing is considerably enlarged. Competition is restored under a plan which aims to promote economy of operation, and provisions have been made for protecting the public against extortionate freight and passenger charges.

Free Seeds Again

True to its ancient custom the House by a vote of 130 to 17 has retained in the agricultural appropriation bill an appropriation of $239,000 for the distribution of garden seeds by congressmen. One representative very truthfully spoke of the appropriation as a "cheap political graft," but this had little effect upon a Congress which is demanding economy in the conduct of other departments of government but fails to be economical in its own affairs.—Elmer E. Reynolds, Washington, D. C.

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Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., February 16, 1920

The supplies of potatoes are not heavy. Unfavorable weather conditions have been hampering the movement since last week's report. The heavy snow storm of last week made hauling conditions extremely bad for several days, and when the snow was removed, cold weather set in again, and dealers were reluctant to open cars. The market is firm on strictly fancy potatoes, with Pennsylvanias selling around $4.25@4.50 per cwt., and New York state and Maines around $4.25 per cwt. There are some potatoes here, however, which are showing frost damage and these are selling at lower and irregular values, some sales being reported as low as $3.80@4 per cwt., according to condition. Sweet potatoes are showing very little change over last week's prices, best No. 1s selling around $2.25@2.35 per hamper, with some poor ones down to $2. No. 2 sweet potatoes do not seem to be very active, however, and are a little lower with best selling around $1.15@1.25 per hamper, with an occasional lot up to $1.35, while some sold at $1 per hamper. Yams are dull and meeting a very slow market at $1.75@1.90 per hamper and around $4.50 per barrel, for best, with some poor stock showing frost damage selling at low and irregular prices as to condition.

Vegetables

Artichokes continue in very light supply, and when here, are selling around $8@10 per box. Some Anise from Louisiana is bringing around $4 per barrel. Both green and wax beans are very scarce, and when fancy are bringing high prices, some sales being made up to $7 per hamper, while the poorer grade of beans are ranging from $3@5.50 per hamper. Old beets from nearby Pennsylvania and New Jersey points are doing a trifle better than they did last week as they are now selling from $2.75@3.25 per barrel. New beets from the South, however, appear to be a little easier and selling at 5@7c per bunch. Brussel sprouts are in light supply and about steady at about 20@25c per quart or $8@9 per drum. Old cabbage is in light supply and about steady at $70@90 per ton, the new cabbage, however, is easier and selling mostly at $1.50@1.75 per hamper and $3.50 per crate. Carrots are very scarce, and when here, are bringing very high prices, one car of New York State carrots in the rough sold here this morning at $3.50@3.75 per cwt. Fancy washed Pennsylvania carrots would probably sell around $6@8 per barrel. Cauliflower is very plentiful and selling mostly at $1.50@1.65 per crate. The new crop of celery from Florida is much more plentiful, and the market has gradually been seeking a lower level, and today good Florida celery was sold at $2.75@3.50 per crate with culls $2. The only cucumbers on the market are hot house grown stock which have been bringing $1.75@2.25 per dozen. Egg plants are scarce, and fancy when here, are bringing from $4@5 per box but there is some wasty stock here that sold as low as $1.50@2.50 per box. Endive is in good demand at $5.50@6 per barrel and Escarole is active at $6@6.50 per barrel. There has only been three cars of Norfolk kale on the market since our last report which sold at $1.75@1.90 per barrel. The lettuce market is doing better when the lettuce shows good quality but there is still plenty of poor lettuce on the market which continues to bring low prices. Florida lettuce has sold from 75c@$2 per hamper, and the California Iceberg lettuce also went out at 75c@$2 per hamper. Mushrooms are more plentiful and the market is weaker with prices ranging from $1@1.75 per 3-lb. basket. Most of the onions on the market are poor, and such are selling mostly from $4.75@5.25 per 100 lbs. sacks; good onions, however, are wanted, one car selling here today up to $5.75 per sack. Parsley is in good demand under the light supplies, curley selling at $12@14 per barrel and plain at $15. Southern peas are scarce, the few arriving selling around $4 per hamper. Some peas from California are bringing $7@7.50 per drum, and $8@9 per box of about 60 pounds. Peppers are in light supply and selling from $4@5 per crate for fancy and $2.25@3.50 on choice with red peppers bringing from $1.50@3.50 per crate as to condition. Romaine is now about steady at $1@1.50 per hamper. Hot house radishes are easier at $3.50@4.50 per 100 bunches. Hot house rhubarb is showing the wide range of 60c@$1 per bundle as to size and condition. Tomatoes are showing a very wide range in quality and condition, good tomatoes being wanted at $2.50@3.50 per crate but poor tomatoes are hard to sell at any price; some very poor going as low as $1 per crate. Pennsylvania grown parsnips are wanted at $5@5.50 per barrel. Spinach is bringing from $1.50@2 per bushel. Turnips are in light supply and firm at 75c@$1 per ⅝ basket for the whites, and 90c@$1.25 per ⅝ basket for the yellows. Medium size Canadian rutabagas are wanted at $2.25@2.40 per cwt. but the large sizes are not wanted at $1.75@1.85 per cwt. Watercress is showing little or no change, best selling readily at 3@3½c per bunch while poor is hard to sell at 2@2½c.

Fruits

The market on apples is showing little or no change. The trade are looking for strictly fancy apples and are taking all offerings of such at good high prices. Poor apples on the other hand are selling at low and irregular values as to condition and quality. There were 15 cars of barreled apples here today from various points in New York state, Pennsylvania and Virginia, and three cars of far western box apples. The barreled apples sold about as follows: Baldwins, $4@8.50; Ben Davis, $3@6.75; Greenings, $5.50@9; Starks, $5.50@8.50; York Imperials, $4@7; Rome Beauty, $7.50@9; No. 2 Gillflowers, $5; Sutton Beauty $6.50@8.50; Hubbardsons, $5@8; other odd varieties, $4@7.50. Far western box apples have sold about as follows: Winesaps, $3@3.50; Spitzenbergs, $2.75@3.25; Rome Beauty, $2.50@3.15; Stayman Winesaps, $2.75@3.50; Ortleys, $2.75@3.25; Cranberries continue dull and neglected by the trade but the dealers are holding them about steady at $6@8 per barrel and $1@2.50 per crate. Strawberries continue scarce and are still bringing very high prices.

The market has been ranging mostly from 40@60c per quart but today under the very light supplies prices took an advance and sales were made from 75@90c per quart.

Poultry

Supplies of poultry have shown quite an increase during the past week, which caused the market to decline and prices today were some 3 cents or 4 cents lower than those prevailing a week ago. The market is strong at this decline, however, and no further immediate decline is expected. At this writing live poultry is selling about as follows: Heavy fowls, 38@40c; smaller sizes, 35@37c; Average chickens, 37@40c; inferior, 35@37c; broiling chickens, 50@55c; roosters, 25@30c; ducks, 30@40c; geese, 30@45c; turkeys, 50@52c. Dressed poultry: turkeys, 52@60c; old toms, 45@50c; fowls, 35@43c; broiling chickens, 45@60c; ducks, 37@43c.

Eggs

There has been no change whatever in the egg market since our last report but prices have been ruling steady and unchanged from day to day, as follows: Pennsylvania and other nearby current receipts, 62c; firsts, 64c; Western firsts, 61c; western extra firsts 63c. As we have been stating for some time past the egg market is now entirely a weather proposition and we refrain from making any prediction as to the trend of the market further than that the tendency at this period of the year is generally lower.

LANCASTER PRODUCE MARKET

Lancaster, Pa., February 16, 1920

Threats of the Fair Price Commission that egg handlers would be closely watched, and prosecuted in cases where the supplies were bought from the farmers and resold at exhorbitant prices, are thought to have been responsible for the decline in egg quotations today to as low as 60 cents per dozen. The offerings were unusually large and the demand brisk at the cut rates. Butter was held firmly at last week's prices. The quotations:

Butter and Eggs.—Creamery butter, 80@85c lb.; country butter, 70@75c. Fresh eggs, 60@65c dozen; duck eggs, 90c; goose eggs, 10c each.

Poultry.—Dressed old chickens, $1.75@2.25; dressed young chickens, $1.25@2 each; no live fowls offered.

Vegetables.—Spinach, 20c ½ peck; turnips, 15c ½ peck; potatoes, 30@40c ½ peck; do., $2.50 bushel; swett potatoes, 35c ½ peck; cabbage, 10@30c head; cauliflower, 10@15c head; lima beans, 20c quart; lettuce, 15@25c head.

Fruit.—Apples, 35@50c ½ peck.

Grain Market.—Wheat, $2.20 per bu.; corn, $1.25; oats, 85c. Timothy hay, $31 per ton; mixed hay, $30; wheat straw, $15.

YORK PRODUCE MARKETS

York, Pa., February 16, 1920.

Owing to the severe snow storm the markets on the week ending the 7th were lightly attended. The roads have been closed for a longer period than I have known them to be for twelve years. Many of the stalls this week were yet vacant on account of the difficulty of getting to town. These conditions caused all produce to move quickly and at rather stronger prices than before.

Eggs in the country districts are selling as low as 42 cents and here they dropped to 55 and 58c but have advanced slightly again. Butter is holding its own.

Eggs.—58@62c per dozen.

Butter.—Country, 65@70c pound; separator, 75@80c pound; milk, 12c quart.

Poultry.—Hens, 25@28c lb.; dressed, $1@2 each.

Vegetables.—Potatoes, 20@35c ½ peck; $2@2.15 per bu.; cabbage, 5@15c hd.; lettuce, 5@15c hd.; radishes, 6c bunch; onions, 5c bch.; 10c box.; 30c ½ pk.; beets, 5c bx.; lima beans, 30@40c qt.; soup beans, 20@30c qt.; celery, 5@15c per stalk; turnips, 15@20c ½ peck; apple butter, 45@50c qt.; sausage, 30@38c lb.; pudding, 30c lb.; steak, 40@45c lb.; bone meat, 25@32c lb.; lard, 30@32c lb.; dressed hogs, 20@21c.

Fruit.—Apples, Yorks, 25@50c ½ peck; other varieties, 25@60c; Stayman, 60@80c per ½ peck; pears, 30c ½ peck.

Retail Grain Market.—Wheat, $2.50; corn, $2; oats, $1; rye, $1.75; bran, $3 per cwt.; middlings, $3.50 per cwt.

Wholesale Grain Market.—Wheat, $2.25; corn, $160; oats, 85c; rye, $1.45; bran, $54@57 ton; middlings, $57@70 ton.

BALTIMORE PRODUCE

Baltimore, Md., February 16, 1920

Butter.—Western separator, creamery, extras, 64@65c; do., firsts, 62@63c; Western prints, ½-pound, extras, 65@66c; do., firsts, 63@64c; do., 1-pound, extras, 65@66c; do., firsts, 62@64c; nearby creamery, extras, 62@63c; do., firsts, 61@62c; dairy prints, Maryland, Pennsylvania and Virginia, extras, 46@47c; do., firsts, 45@46c; rolls, West Virginia, extras, 44@45c; do., Ohio, extras, 45@46c; do., Maryland and Pennsylvania, extras, 45@46c.

Eggs.—Western Maryland, Pennsylvania and nearby firsts, 56@57c; Eastern Shore, Maryland and Virginia, firsts, 56@57c; Western (Ohio), firsts, 56@57c; West Virginia, firsts, 55@56c; Southern (North Carolina), firsts, 54@55c. Storage Eggs.—Candled, 50c; uncandled, 48c.

Grains.—Wheat, bag lots of Southern sold at $2.13 and $2.18; oats, No. 2, white, 95@96c; No. 3, white, 49@95c; rye, nearby, $1.50@1.60.

Hay.—No. 1 Timothy, nominal, $39; standard Timothy, $38.50; No. 2 Timothy, $38; No. 3 Timothy, $34@36; No. 1 light Clover mixed, $38. No. 2 light. Clover mixed, $36@39; No. 1 Clover, mixed, $37; No. 2 Clover, mixed, $33@35; sample Hay, $33@35.

Straw.—No. 1 straight rye, $20; No. 1 Tangled, $17, No. 1 wheat, $15; No. 1 oat, $17.

NEW YORK PRODUCE

New York City, February 16, 1920

Butter.—Firm; receipts, 10,478 tubs; creamery, higher than extras, 67½@68c; extra (92 score), 67c; first (88 to 91 score), 59@66c; packing stock, current make, No. 2, 41c.

Eggs.—Unsettled; receipts, 15,565 cases; fresh-gathered extra first, 59@60c; do. first, 56@58c; state, Pennsylvania and nearby western hennery white, first to extra, 68@72c; do. brown extra, 63@64c; do. gathered brown and mixed colors, first to extras, 58@62c.

Cheese.—Weak; receipts, 1,085 boxes, state whole-milk flats, held specials, 30@31c; do., average run, 28½@29½c; state whole-milk twins, held specials, 29½@30½c; do., average run, 28½@29c.

Poultry.—Live not quoted. Dressed Steady; western chickens, 31@40c; others unchanged.

Vegetables.—Potatoes, Maine, $7@7.50 per 165 lbs.; State, $6.50@7.25; Long Island, $7.50@8.75 per 180-Beets, $3@4 per bbl; Carrots, $3.50@5 bbl.; onions, $4@6 per 100-lb. bag.

Fruit.—Apples.—Ben Davis, $4@5.75; Winesaps, $4@8.50; Yorks, $4@7; Staymen, $4.50@8; Greenings, $5@10.

PITTSBURGH PRODUCE

Pittsburgh, Pa., February 16, 1920

Butter.—Prints, 69@69½c; tubs, 68@68½c; cooking, 54½@55½c; Ohio, 63@63½c.

Cheese.—New York full cream, 36½@37c. Ohio, 35@35½c; Wisconsin Swiss, 60@61c; Philadelphia cream, $1.00 per dozen.

Eggs.—Fresh, select, 61@62c; at mark, 59@60c.

Potatoes.—Round, $6.25@6.75 per 150-lb. sacks. Onions, $5.25@5.75 sack. Cabbage, $6.50@6.75 barrel. Sweet potatoes, $2.50@2.60 hamper. Turnips, $2.25@2.50 bushel.

Fruit.—Apples, $3@4 box.

PHILADELPHIA LIVE STOCK

Philadelphia, Pa., February 16, 1920

Receipts of live stock for week ending February 16, were as follows:

	Beef Cattle	Sheep and Lambs	Hogs
Total for Week	1881	4854	5658
Previous Week	2,232	5,490	10,749

Calves.—Receipts of calves last week were 1,467 head against 1,058 head week previous.

Beef Cattle.—Demand was slow and the market for steers and cows was quiet, with prices showing little change. Desirable grades of veal were in fair request and steady, but offerings were largely of more or less unattractive stock, which was dull and irregular in value. Quotations: Steers, fair to good, $12.50@14.25; common to fair, $11@12.50; cows, per lb., good to choice, corn fed, 8@10c; do., fair to good, 6¾@8½c; common to fair, 4@6¾c; calves, extra to choice, $23@23.50; do., fair to good $20@22; do., common, $14@18; do., heavy and rough, $8.50@12.50; do., Tennessee, choice, $19@20; other southern, 10@15c.

Sheep and Lambs.—There was a fair demand for sheep of fine quality and values were steadily maintained. Prices of lamb were easier, due to a slow demand and increased pressure to sell. Quotations: Sheared sheep, wethers, extra, $13.50@14; do. good to choice, $11@12; do., medium, $8.50@9.50; do., common, $5@6.50; heavy, fat, $11@12; lambs, spring, choice, $21@21.50; do., medium grades, $18.50@20; do., culls and common, $13.50@15.50.

Hogs.—The general market ruled steady under moderate supplies and a fair demand. Quotations: Best western, $18 per 100 lbs.; hogs, nearby, good, $16.25@16.75.

City Dressed Stock.—Steers, heifers and cows were dull and unchanged, with moderate but ample offerings. Lamb was dull and unchanged, the high prices checking demand. Other kinds were in moderate supply and demand, with little change in prices. We quote: Steers, 18@23c; heifers, 17@22c; cows, 13@16c; calves, city dressed, choice, 29@31c; do., country, 24@27c; sheep, choice, 14@24c; lambs, choice, 33@35c; hogs 23@24c.

PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., February 16, 1920

Baled Hay and Straw.—Receipts, 132 tons of hay. The market ruled firm on desirable grades of both hay and straw, with demand absorbing the limited offerings. We quote: Timothy hay; No. 1, $37@38; exceptional lots higher; No. 2, $35@36; No. 3, $32@33; sample, $27@28; No grade, $21@24. Clover, mixed hay; Light mixed, $35@36; No. 1 mixed, $33@33.50.

Straw: No. 1 straight rye, $17.50@18; No. 2, do., $16@16.50; No. 1 tangled rye, $16@16.50; No. 2 do., $15@15.50; No. 1 wheat straw, $16@16.50; No. 2, do., $14@14.50; No. 1 oat straw, $16@16.50; No. 2, do., $14@14.50.

Bran.—Was quiet but steady. We quote car-lots, to arrive including sacks: Soft winter bran, Western, in 100-lb. sacks, per ton, $50.50@51; spring bran, in 100-lb. sacks, per ton, $49.50@50.

Corn.—New, $1.60@1.70.

Oats.—No. 2 white, $1.02@1.02½; No. 3, white, $1.01@1.01½; No. 4, white, $1@1.00½.

NEW YORK HAY AND GRAIN

New York City, February 16, 1920

Feed.—Talk of further closing down of mills in the West and the scarcity of cars for shipment of all kinds of grain and grain products to the East gave the feed market a comparatively steady tone, altho the demand was irregular and moderate.

Quotations: City feed, bran, $50; middlings, $54, in 100-pound sacks; red dog, $67, nominal, in 100-pound sacks; Western spring bran, $50; standard middlings, $53; flour middlings, $62.50; red dog, $68, all in 100-pound sacks, 30-day shipment. Oat feed, $32; rye middlings, $52; white hominy feed, $67.50, all in 100-pound sacks. Cottonseed oil meal, $78; linseed oil meal, $74, in 100-pound sacks.

Hay and Straw.—More hay being unloaded at 33d Street shed toward the close but it is moving out fairly well and the situation continues firm thruout. No 2 hay in big bales is reported sold up to $43, and No. 1 if here would undoubtedly bring even more money. In Brooklyn prices are averaging somewhat under 33d Street. Rye straw scarce and firm. Oat straw also scarce and wanted.

Hay.—No. 1 large bales ton; No. 2 $41@43 ton; No. 3, $39@41; shipping, $38@39 ton. Fancy light clover mixed, $41 ton. Clover, No. 1, mixed, $39@40.

Straw.—Per ton, No. 1 rye, $19@20; No. 1, oat $19@20.

Oats.—No. 1, white, $1.03½; No. 2 white, $1.02; No. 3, white, $1.01; No. 4 white, $1; ordinary white, clipped, $1.02½; fancy white, clipped, $1.03.

Wheat.—No. 2, red, $2.36½.

Corn.—No. 2, yellow, $1.66¼; No. 3 yellow, $1.63¼. No. 2 mixed, $1.65¼.

Rye.—$1.76½.

Buckwheat.—Milling, $3.25 per 100 lbs.

PITTSBURGH HAY AND GRAIN

Pittsburgh, Pa., Feb. 16, 1920

Hay.—Receipts of hay are the lowest at present that they have been for some time. The demand is absolutely urgent. The prices quoted are the highest for a number of years. The inability of shippers to get equipment is, no doubt one of the causes and at the present writing we fail to see how conditions are going to better themselves. Market very strong.

No. 1 Timothy, $37.50@38; Standard Timothy, $36.50@37; No. 2 Timothy, $34.50@35; No. 3, $32@33; No. 1 Light Clover Mixed, $37@37.50; No. 1 Clover Mixed, $38@38.50; No. 2, $34@36; No. 1 Clover, $39@39.50; No. 2, $34@36.

Straw.—Receipts while moderate are fully equal to demand. Market easier.

No. 1 oat, $15@15.50; No. 2, $14.50@15; No. 1 Wheat, $14.50@15; No. 2, $14@14.50; No. 1 Rye, $15@15.50; No. 2, $14.50@15.

Ear Corn.—Arrivals few but the demands slow. Market a little unsteady.

Yellow No. 2, $1.55@1.57; No. 3, $1.50@1.52; Mixed No. 2, $1.53@1.56.

Oats.—Demand for oats light; receipts same. Market quiet but steady.

No. 2 white, 95¾@96; No. 3, 94¾@95¼c; No. 4, 91@93c.

PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., February 16, 1920

Butter.—Receipts, 1395 tubs. As usual on Saturday the market was practically neglected by wholesale buyers and there was no important change in prices. We quote: Solid-packed creamery, fancy, high-grade goods, 69@71c; the latter for jobbing sales; extra, 68c; extra firsts, 64@67c; firsts, 59@63c; seconds, 52@55c; sweet creamery, choice to fancy, 70@72c; fair to good, 57@69c; ladle-packed, as to quality, 46@48c; packing goods stock, 42@45c; fancy brands of nearby prints jobbing at 76@78c; good to choice 68@73c; fair, 65@67c.

Cheese.—Quiet and barely steady. New York, whole-milk flats, held, fancy, 31@32c; fair to good, 30@30½c; current make nominal; Wisconsin, held, fancy, 31@32; fair to good, 30@30½c; jobbing sales of fancy held goods, 34@35c.

NEW YORK MILK MARKET

New York City, February 16, 1920

Receipts have been heavier and distributers still greatly handicapped in delivering the milk to consumer. Surplus which is increasing is mostly going into butter and cheese. The February rate for 3 percent milk in 200 mile zone is $3.48 per 100 lbs.; 3.06 percent milk is $3.72 and 4 percent milk $3.88.

Receipts of milk and cream in 40-quart cans for the week ending February 14th, 1920, were as follows:—

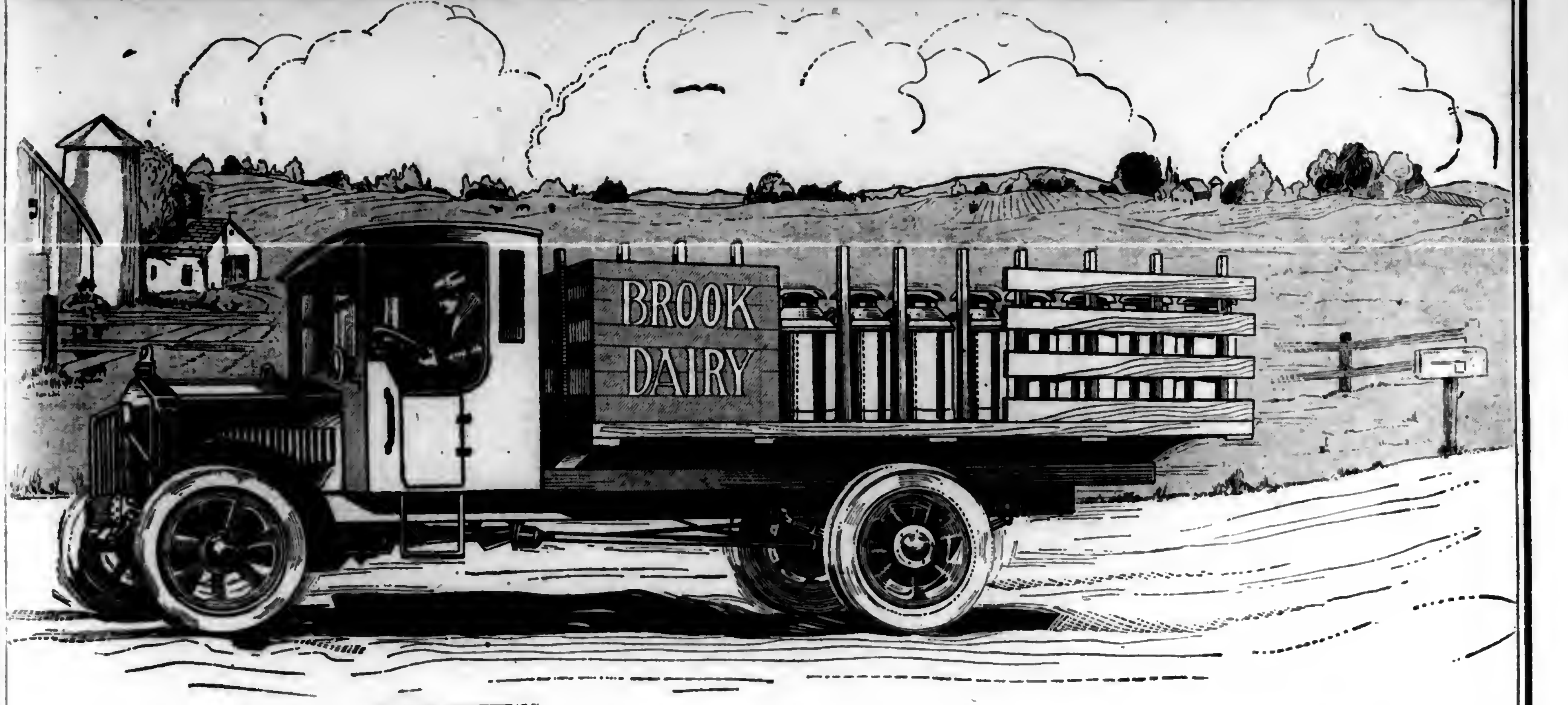
Railroad	Milk	Cream
Erie	45,280	3,063
Susquehanna	8,651	116
West Shore	12,743	988
Lackawanna	51,780	1,210
N. Y. Central (long haul)	126,122	1,938
Ontario	42,918	1,877
Lehigh Valley	54,555	558
New Haven	5,916	15
Pennsylvania	11,464	471
Other Sources	6,000	200
Totals	365,629	10,436
Same week last year	326,713	9,628

INTERSTATE MILK PRICES

The basic price for 3 percent milk within 10 miles of Philadelphia is $3.28 per 100 pounds, and one cent per hundred less for each 10-miles distant. Four cents per 100 pounds is paid for each one-tenth of one percent fat above 3 percent. These are prices for the basic quantity or less. Amounts exceeding the basic quantity are paid for at a less price.

TOBACCO MARKET

Tobacco deliveries were hindered somewhat by the great snow storm, but now that drifts have passed away transportation is again established, the many auto-trucks and other conveyances being on hands every day. Many of those who do not own trucks lease them as the most practical means of delivery. Tobacco was, in practically all instances, satisfactory to buyers as shown by the absence of complaints. It is said that in some localities sellers have been influenced to invest their surplus tobacco money in securities not wholly in conformity with the name. They are said to be promised an interest return of 7 to 10 percent and to involve certain features quite speculative to say the least. Investments should be made with the greatest care and only after thorough investigation and recommendation of one's local banker. The greatest activity in tobacco circles was in the Burley section where a large product is being marketed in the greatest possible haste. Prices here were exceedingly variable according to grade, the general average being about $30 per cwt. There was little activity in the cigar leaf section of Ohio, much of the crop being unsold and with a remarkably slow demand. Sellers, it is said, are seeking buyers with more or less disappointment and loss. In the other cigar leaf localities, the situation was more satisfactory, much of the product having been sold and generally at satisfactory prices. It is now predicted that in practically all instances a full average effort will be made to grow a tobacco crop this year. Some have been disappointed, and doubtless a few will devote their land to other purposes but these will be replaced by others who are just beginning or are now returning to the industry.

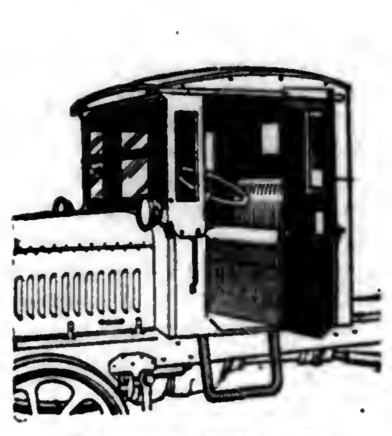


JUMBO—The Complete Truck

WHEN you buy a Jumbo, you get a *complete* truck. There are no extras to buy except the body most suitable to your particular business.

Jumbo trucks are built stronger than other trucks to give you more years of steady, dependable service at lowest possible upkeep cost. All equipment that makes for efficient operation is *standard* on Jumbo trucks.

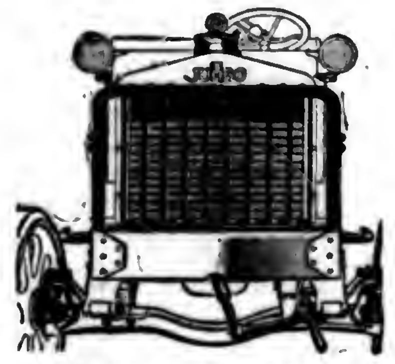
This generous provision in the matter of equipment listed on this page, is typical of Jumbo construction throughout. Jumbo trucks *must* give you unusual service—that's the idea around which our business is built.



Steel cab with three-man seat, fore doors and sliding sash curtains.

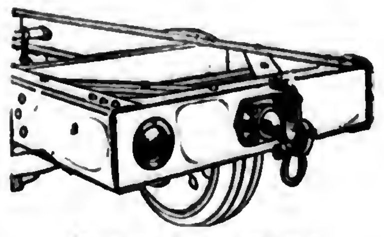
Standard Jumbo Equipment

Includes steel cab with fore doors, windshield, sliding-sash curtains opening with doors, electric lights, storage battery, generator, ammeter, radiator shutters, moto-meter, fan-shroud, radiator guard, extended frame forming bumper, hub-odometer, pig-tail tow hooks, spring drawbar, and 14 other big features.



Radiator guard, shutters, pig-tail towing hooks, oversize ball thrust in steering knuckle.

Space won't permit description of design features that positively assure longer life and lower upkeep cost than any other truck built today.



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Jumbo Trucks are ideal for farm haulage. Write for full information showing why.

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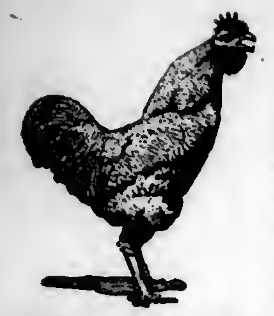
JUMBO



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National Junior Incubator

The National Junior is a fully guaranteed, copper tank hot water heated incubator at a startingly low price. The case is made of selected lumber, thoroughly insulated. Double glass in door. Tubular tank and boiler are made of the best cold rolled copper—will never rust out. Automatic thermostat regulator keeps the temperature even. The leak-proof lamp has sun-hinge burner and metal chimney. Capacity, 60 average-sized hen eggs. A good, practical incubator and fully guaranteed.
No. FA-17—National Junior Incubator.
Shipping weight, crated, 50 lbs. Price, $9.50.

60 Egg Capacity
$9.50

Leak-proof lamp with sun-hinge burner and metal chimney.

National Standard Incubator

A high-grade hot-water heating system incubator with genuine copper tank. Guaranteed to hatch every fertile egg when operated according to directions. Run off a hatch at our risk.
No. FA-12—National Standard Incubator; capacity, 150 average-size hen eggs. Price . . . $19.65
250-Egg size, $26.50. 400-Egg size, $34.75.

National Outdoor Brooder

This Brooder can be used outdoors or indoors. It is made of heavy wood with glass window for sunshine. The floor is built off the ground to prevent dampness. A felt curtain divides the sun-lighted exercise room. Overhead hot air heating system, with safety lamp and automatic regulator. No. FA-28—150-Chick Outdoor Brooder. Shipping weight, 70 lbs. Price, $9.75. 200-Chick size, $12.00.
You will save time by ordering brooder with incubator.

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It contains 333 money-saving ideas. Think of it—333 ways to save money on gasoline engines, sawing outfits, feed mills, cream separators, tractors, sprayers, farm machinery and equipment of every kind. Every article is backed by our broad guarantee of *full satisfaction or your money back.* Write to-day. Delay means loss of money to you.

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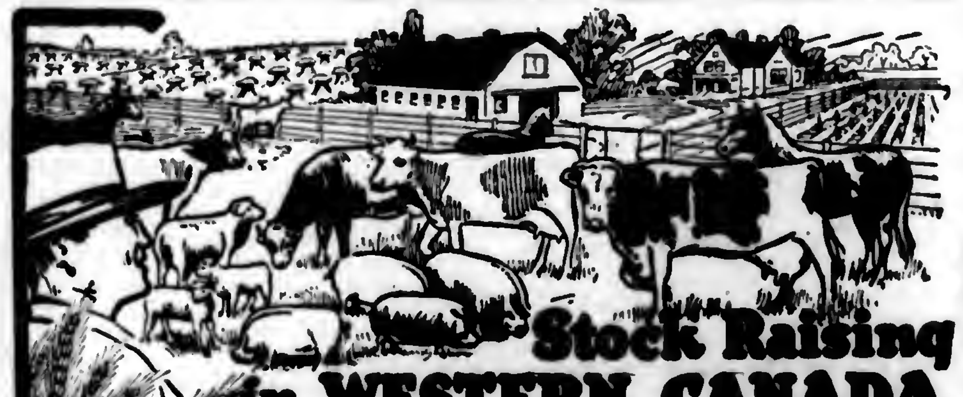

Stock Raising in WESTERN CANADA

is as profitable as grain growing. Successes as wonderful as those from growing wheat, oats, barley, and flax have been made in raising Horses, Cattle, Sheep and Hogs. Bright, sunny climate, nutritious grasses, good water, enormous fodder crops—these spell success to the farmer and stock raiser. And remember, you can buy on easy terms

Farm Land at $15 to $30 An Acre

—land equal to that which through many years has yielded from 20 to 45 bushels of wheat to the acre—grazing land convenient to good grain farms at proportionately low prices. These lands have every rural convenience; good schools, churches, roads, telephones, etc., close to live towns and good markets.
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WESTERN CANADA
Farm Lands Low Prices
Wheat Belt of America

WHISKY IN INFLUENZA

In view of the statements appearing in wet and misinformed secular papers that whisky was needed now to combat influenza and that prohibition interfered with the work of physicians, the following is printed:

Last year the information department of the Anti-Saloon League took pains to ascertain the views of leading physicians and health authorities respecting the use of alcohol in cases of ifinuenza and pneumonia and discovered that as a matter of fact many of the best physicians are not prescribing it.

Dr. Howard A. Kelly, of Johns Hopkins, says: "You have heard the statement about the medical value of whisky during the epidemic of influenza. I wish to brand it as a lie. Forget it."

Dr. William Brady, who conducts the "How to Keep Well" department in the Brooklyn Eagle, in answer to a question whether whisky would prevent influenza, said: "If enough whisky is uesd the individual will soon be safe from all earthly afflictions; it has no other value."

Dr. W. A. Evans, former health commissioner of Chicago, during the epidemic of 1918, wrote to the Chicago Tribune: "I have questioned a good many doctors and others about the medicinal use of whisky in influenza and pneumonia. The other day I found a man who advocated it. He was a janitor in an apartment building."

The late Dr. Jacobi, a bitter and active opponent of prohibition, said: "Do not take any meat or any wine, beer, whisky or other spirits unless you are ordered to by the doctor."

About pneumonia, the ally of influenza, the following statements from four prominent physicians are quoted in favor of non-alcoholic treatment:

The assistant surgeon-general of the United States public health service says: "The use of alcohol for the patient of pneumonia is not recommended or encouraged by the public health service."

Professor Frank Meara, of Cornell Medical College, New York City, teaches his students not to advise alcohol in pneumonia. He says: "Alcohol has been much used in pneumonia, I believe without justification. I believe that there are few cases in which the patient would not be better off without than with alcohol."

Dr. Alexander Lambert, of Bellevue Hospital, estimates that the death rate in pneumonia in which patients are treated with whisky is ten per cent higher and Dr. Kuplik, of the same hospital, has discontinued its use.

Health Commissioner Copeland of New York city issued a warning last year to Spanish influenze sufferers against the use of alcoholic beverages and recently he said that while he personally did not think whisky essential either in influenza or pneumonia, he was getting in touch with proper authorities that such physicians as did think it necessary might have their prescriptions filled with the least possible delay.—Christion Advocate.

PRESERVE MILK CANS BY PAINTING

It is a common practice to paint milk cans, but as a rule the dairyman's only thought in doing it is to enable him to pick out his cans more readily from among others when they are put out on station platforms by train crews The object in painting should be a double one which can be attained at no increase in cost. That is, by selecting the right kind of paint—antoxide, it is called by the paint trade—the can is made easily distinguishable by its color, and is also made rust-proof by the use of the special metal paint. This rust inhibitive paint should at least be applied to the bottom of the can, as the protective plating of tin is soon worn off there, and the unprotected iron then becomes a quick and easy prey for rust. The paint greatly lengthens the life of the can; and new ones and even patches cost money these days.

MINNESOTA FARMERS LEAD IN COOPERATION

There has been an increase of 1750 in the number of farmers' co-operative organizations in Minnesota from 1913 to 1919. There are 3754 associations, according to figures compiled by the Minnesota State Department of Agriculture.

The volume of business of these associations has increased from $58,260,000 in 1913 to about $210,000,000 in 1919. Minnesota leads all states in the number of co-operative companies. Farmers' co-operative companies in Minnesota include creameries, elevators, livestock shipping associations, cheese factories, stores, potato warehouses, fire insurance companies, telephone companiesc and miscellaneous organizations such as farmers' clubs doing co-operative buying, horse-breeding associations, county breeders' associations, co-operative bull associations, cow-testing associations and farmers' lumber yards.

Most successful of all the co-operative enterprises in Minnesota are the creameries. The total number of creameries in the state is 830. Of this number 630 are co-operative enterprises. Only thirty-eight failures were reported in recent years.

BEST SEED FOR EARLY PLANTING

Experimental work performed by the United States Department of Agriculture and observations made at University Farm show that under favorable conditions there is a definite relationship between the time of planting corn and the time of maturity. This is a matter of importance where the season is sometimes rather short for best results with corn. Two points are emphasized in this connection: First, that planting corn early necessitates early and thorough preparation of the seed bed; second, that the seed must be particularly good for proper germination and growth will not be obtained in the somewhat colder soil.—Minnesota News Bulletin.

PROTECT THE MAIL BOXES

Most rural delivery mail boxes are made of galvanized iron. Exposed to severe weather conditions as they are, the galvanizing soon wears off, the iron is attacked by rust, and the box gradually goes to pieces.

Mail boxes are so expensive now that it is worth while to protect them by an occasional coat of paint. Ordinary house paint answers the purpose very well, but for boxes finished in a Japan, stove enamel makes a very good re-finish. It imparts a brilliant, glossy black, and stands exposure splendidly.

Fresh rhubarb from the cellar comes in hand now. It doesn't take many plants to furnish a good supply

---

The Maynard Kerosene-Gasoline Engine is expressly designed for farm use. See the complete description on pages 862 to 870 of the new 1920 Charles William Stores Big Book.

Farm implements for every need

Reliable machines at rock-bottom prices

A SHORTAGE of 3,000,000 men on the farm with no increased supply in sight—this is the critical situation which today confronts every American farmer.

Reliable farm implements and labor-saving devices offer the only means of assuring the maximum return from your farm. These improved implements are more necessary than ever before.

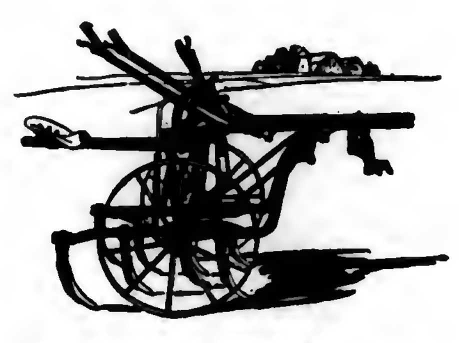
To aid in the selection of them, The Charles William Stores maintains a special Farm Implement Store. The purpose of this store is to enable customers to secure the utmost value in reliable implements and machinery for the farm. Only such lines are stocked as have proved reliability in the field.

The Charles William Stores' guarantee protects you fully on every one of these products. Yet because practically every article of merchandise comes to our stores *direct from great factories*, to be shipped, direct to you, we are able to offer you substantial savings on everything purchased.

These rock-bottom prices which we are able to make in the Farm Implement Store are reflected throughout the big Charles William Stores catalog. Look at it and you will find a tremendous variety of Implements, of Kerosene-Gasoline Engines, of Cream Separators, of Modern Power Washers and of everything which makes for economy in labor and money.

FREE—
Big Book of wall paper samples
Distinctive new patterns in choice papers, at 10 cts. to 48 cts. per double roll of 16 yards—all remarkable values. Send today for the free "Wall Paper Book" containing 101 large size samples. Address The Charles William Stores, 567 Stores Bldg., Dept. W, New York City.

Cream separator that gets all the cream
This skimming device is guaranteed to skim to one-hundredth of one per cent.
The Maynard separator illustrated above is a surprising value. There are shown on pages 856 to 861 of the Spring Catalog of The Charles William Stores, Maynard separators for every size farm or dairy.



The cultivator with low wheels and quick dodge
The Richland Pivot Axle Cultivator is adapted for all around cultivation. It will do good work in corn, potatoes, cotton, beans, cabbage or peanuts, or any crop grown by the general or truck farmer.

YOUR BARGAIN BOOK
Spring and Summer
1920
CHARLES WILLIAM STORES
NEW YORK CITY

FREE—
This Big Book
If you have not received your copy of The Charles William Stores Big Book—write for it today. It is free.
This great bargain book contains more than 900 pages of money saving merchandise, including everything you need for the family, home, farm or shop. Address The Charles William Stores, 561 Stores Bldg., New York City.

The CHARLES WILLIAM STORES INC.
New York City

Practical Tractor Facts

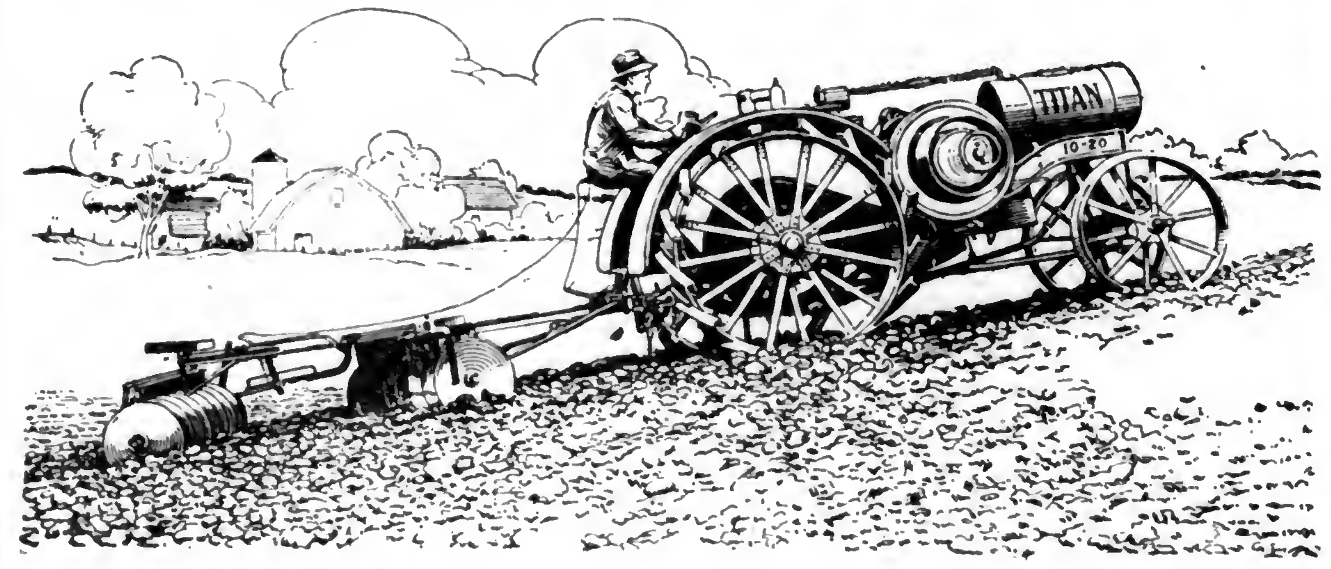
THE 1920 "Ten-Twenty" that is going to outdistance all other tractors not only in the matter of nation-wide popular demand, but also in general satisfaction to the farmer, is the **Titan 10-20.**

Titan 10-20 Features
1. **Wide friction-clutch pulley**
2. **Economy throttle governor**
3. **Adjustable drawbar**
4. **Safety fenders**
5. **Comfort platform**
6. **Sixteen-tool set**
7. **Free starting-instruction service**

In five years' time a great many thousands of Titan tractors have been manufactured at the great Milwaukee Works, the home of the Titan. Practically every one of these tractors is in use today. They are serving not only the farmers of America, but also thousands in Europe, rebuilding the dormant war-torn acres that are hungry for crops.

With so great a number of Titan 10-20's in active use — setting so many good examples to farmers in need of right power — it has been necessary to enlarge the manufacturing facilities to meet the rapidly developing demand for this most popular of popular tractors. The scene at the tractor plants is one of night-and-day activity, with 5,000 men on the job. It is probable that, by the time this notice appears, producing volume will have been increased sufficiently to enable you to get a **Titan 10-20** for early spring delivery *if your order is placed at once.*

There has been no increase in price. **Titan 10-20** is available for you at the 1920 price fixed last July **—$1,000 cash, f. o. b. factory.** See your International dealer.



INTERNATIONAL HARVESTER COMPANY
OF AMERICA Inc.
CHICAGO USA

BE CAUTIOUS IN BUYING FARM SUPPLIES

Better seed means better crops and more money. More money means better living. Our county agent in talking one day while out on my farm said this: "When a man gets a yield of 5 or 6 or even 10 bushels over the ordinary one in a wheat crop, I can see that he is farming better than the others. But when he reports a yield of 20 or 30 bushels to the acre over the average I look for something wrong."

When you come to think of it there are very few miracles in our crop production. With fairly equal soil and growing conditions there will be no great extreme. Yet as this county agent says we may by better seed be able to get a bigger than average yield.

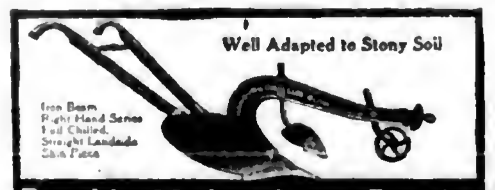
We are rather hoggish I think sometimes in looking for an extraordinary yield. An increase of 5 bushels an acre may not look so very big but on a field it amounts to considerable. But when we come to comparing it to the increase of 30 bushels we think it is pretty poor. So if a man comes along with a wheat seed that is "guaranteed" to yield 60 bushels to the acre under ordinary conditions we are apt to bite. My, won't that be fine to produce twice the average yield for our neighbohood? And so we go to it.

Really, the experiment - station folks are about as live when it comes to seed production as any of 'em. That's their business. Last year a man came along selling oats. The finest seed I ever saw was in his sample sack. It yielded oats that had been shown to weigh 40 pounds to the bushel when in our state the standard weight is 32. That looked good. I didn't take any but many neighbors did. The price was $2.75 a bushel. They showed testimonials from experiment stations that were duly signed and affirmed. But when they were asked to show their results on our Ohio station ground they said they had none. The didn't say tho that the oat had not been tried here. It had. And there was no particular difference.

The difference in climate makes a big difference in yields. I know that in Canada where certain oats are raised that the yields are almost what they claim, and also, that the grain is heavier than it is here. This thing must be kept in mind. This winter will find you entertaining a visitor more than once with something to sell that is just being introduced in the country or state. In the other states it is doing so well that it must do the same here. Take your caution with you and don't sign up until you find out. Your experiment station can tell you. They're there for just that.

Farm seeds are not the only thing either. Plants, shrubs and so on will be offered. Some of them are worthy of your money but more often they are not. If they are exceedingly worth while your local nursery will have them undoubtedly. If he hasn't he will tell you about them.

Go slow on extremely big yields. There doesn't seem to be any quick way to big money on the farm outside of good farming. The big yields are in the catalogs and the maker of the catalog gets the money. There are many farmers who spend a good share of their profits on these partly fake seeds and plants and never get very far. It pays to go slow. You can tell these days. We have a department in each state that can study better seeds and their value. Ask them.—Earl Rogers.



Durably Made---Saves Repairs

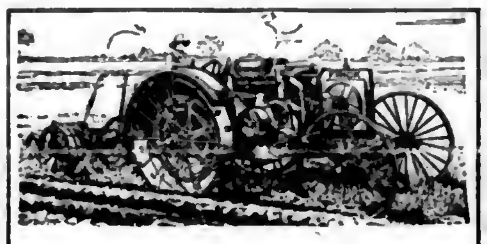
Here's a Plow that will turn a complete furrow cleanly and easily—and do it for many years. It runs lighter and sticks to the ground better than other plows. You will be pleased with its faithful service every time you use it.

HAMBURG PLOWS

HAMBURG PLOW PARTS for repairs—fit guaranteed; and wear so good that we place Hamburg on every piece. Hamburg parts to fit other makes of plows can be had, too. Prompt delivery from our factory stock, located right in your section. Ask your dealer about Hamburg Plows and Plow Parts. Write us for catalog and prices.

HPW

HAMBURG PLOW WORKS, Hamburg, Pa.



Do Your Farm Work
WITH THE
FRICK TRACTOR

A light, easy running Kerosene Tractor for general farm work. Is small, sturdy and has plenty of power. Made and sold by Frick Company, manufacturers of substantial Farm Power Machinery since 1853. Write for price and further information. Dealers wanted. Immediate deliveries.

FRICK COMPANY, Inc.
347 W. Main St., Waynesboro, Pa.

FARQUHAR *for* SAWMILL MACHINERY

OUR Standard Farquhar Portable Sawmill insures you fast, accurate service and long life. Built in four sizes with capacities 2000 to 15,000 feet. Also the Pony Mill for light work.

The Farquhar Double Belt Feed equals the flexibility of a variable friction feed in cutting, besides has the speed for quick return of carriage. Simple, easy to operate, with wear reduced to a minimum by shifting the friction on to specially prepared belts instead of on feed proper. We offer the choice of either Standard or Log Beam Carriage.

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GAS TRACTORS and PORTABLES
THRESHERS
POTATO DIGGERS
GRAIN DRILLS
HYDRAULIC CIDER PRESSES
Catalogs on request

Farquhar Mills are most economically operated by Farquhar Power; Cornish "Slab Burner" and Locomotive Portables, also styles K and W Tractors.

Write to us concerning your requirements, and we'll send full descriptions and make recommendations.

A. B. FARQUHAR CO., Ltd.
Box 646 York, Pa.

FARMS AND HOMES Where life is worth living. Moderate prices—genial climate—productive lands. For information write STATE BOARD OF AGRICULTURE, DOVER, DEL.

For Sale— 2 Greenhouses with 8 room dwelling, shed and other out buildings, situated centrally in thriving town. Never been able to supply the demand; big money for man doing work himself. Snydertown Greenhouses, Snydertown, Pa.

For Sale 640 ACRES productive land on R. R. Lake Co., Mich. Improved modern house, dairy barn, silo, and sheep barn. Woven wire fencing, running water, blue grass pasture. All or part. Bargain. E. H. SKINEN, Chestertown, Md.

PASSING EVENTS IN PICTURES

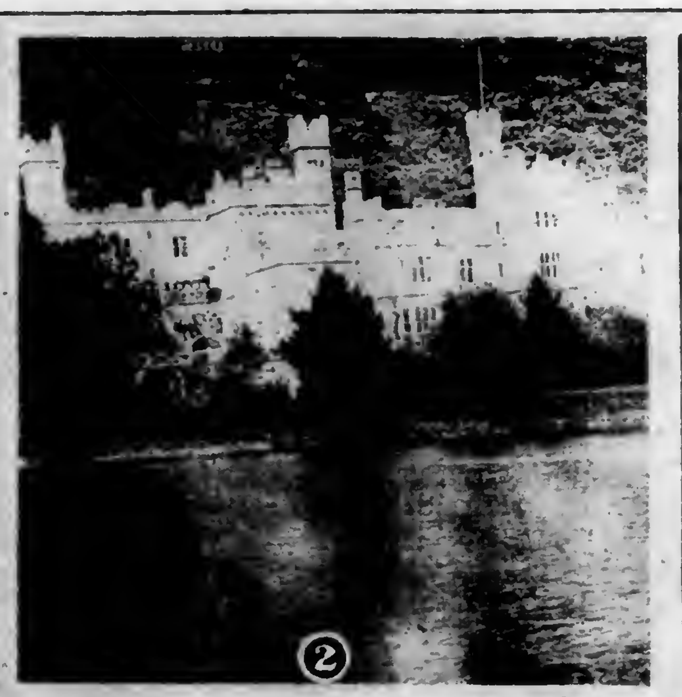


Photo Copyright by Underwood & Underwood)

1.—Even Parisians Enjoy the Delights of Palm Beach, Florida.

2.—One of the Old Castles of Ireland, Kylemore, Upkeep Cost, $7,500 a Month.

3.—The Duchene D'Acosta, Head of the Italian Red Cross, Decorated by France.

4.—Ruotelo, Italian Sculptor, Making a Bust of Thomas A. Edison.

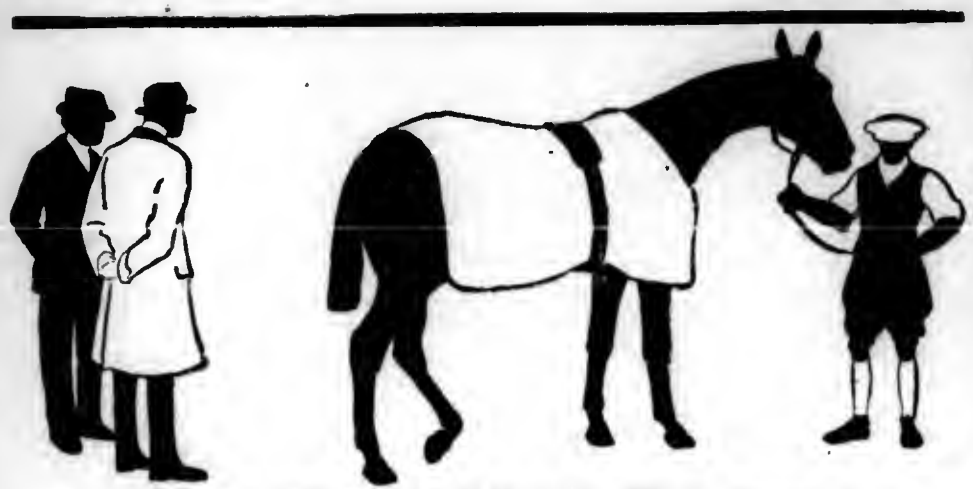
5.—Mrs. Thomas Marshall and Morrison, the Vice-President's Adopted Son

6.—Sister in a Foundling Asylum Receiving an Unknown Infant from the Outside.

7.—Navy Diver, Up After a Half Hour's Work 110 Feet Under Water.

8.—Washington's Corps of Police Women Who Look Out For the Welfare of Women.

9.—Miss Helen Taft (at right) Acting President of Bryn Mawr College



SAVE-The-HORSE *Will Cure It!*

OVER 280,000 cases of lameness successfully treated with **Save-The-Horse.** It is a by-word now among noted horsemen and breeders that **Save-The-Horse** is a prompt-acting, sure-cure remedy for Ringbone--Thoropin--**SPAVIN** or **Any** Shoulder, Knee, Ankle, Hoof, or Tendon Disease, no matter how old, serious or complicated.

NO BLISTERING. HORSE WORKS AS USUAL.

That is why we sell **Save-The-Horse** with Signed Guarantee to return money if remedy fails. Write for copy of this Guarantee and unquestioned proof.

Our **FREE** 96-page **BOOK** makes it possible for you to diagnose and treat cases, and our free expert veterinary's advice is here to help you if you are not sure. **Don't run the risk** of having horse laid up when you most need him. Keep a Bottle of **Save-The-Horse** on hand, and be prepared for any emergency. Write today for copy of Guarantee, **BOOK** and Advice—all **FREE.** Be prepared.

TROY CHEMICAL COMPANY, 370 Commerce Ave., Binghamton, N. Y.

Druggists Everywhere sell Save-The-Horse with GUARANTEE, or we send by Parcel Post or Express Paid.

Poultry

GULDIN'S WHITE LEGHORNS
HAVE MADE GOOD

If you want STRONG VIGOROUS CHICKS of a HIGH FLOCK AVERAGE LAYING STRAIN, write to

PAUL R. GULDIN, Yellow House, Pa.

Baby Chix: Sturdy, thorobred chicks that live, grow and pay, from the four great American breeds—White and Barred Rocks, White Wyandottes, R. I. Reds and White Orpingtons. Safe delivery guaranteed. $25 per 100. Cash with order, postpaid delivery, any week after February 15th.
LEONARD STRICKLER, SHERIDAN, PA.

LOOK: BABY CHICKS AND DUCKS 10 breeds of chicks, 4 breeds of ducks. Utility and Exhibition grades Postage paid and live delivery guaranteed. Capacity 100,000 weekly. Catalog free. Stamps appreciated.
NABOB HATCHERIES, Gambier, Ohio

AMERICAN POULTRY ALMANAC Our 1920 catalog FREE. How we breed the 200-egg hen. Scientific facts plainly told. Each month's routine Feeding for winter eggs. *How We Win Medals at the Egg Laying Contests.*
HOPEWELL FARMS, Box 65, Hopewell, N. J.

Baby Chix: Pedigreed Heavy-Laying Barron 300 egg strain S. C. White Leghorn Baby Chicks. Heavy, deep-bodied, red-combed birds. Bred to lay and do lay. $20 hundred, parcel post delivered. 10 percent will book your order now for May and June. Sold out for April.
LEONARD STRICKLER, SHERIDAN, PA.

BIG STURDY BABY CHICKS AND HATCHING EGGS from high egg producing strains of quality. Martin's Dorcas White Wyandottes, Ringlet Barred Rocks, Shepard Anconas, Eglantine White Leghorns, S. C. R. I. Reds. Hatches every week after February 15th. Catalog free. SUNNY SIDE POULTRY FARM, COOPER HILL, N. J.

Hatching Eggs A Specialty, from Kreider's improved fine white Leghorns that are the persistent laying and big paying kind. Healthy, vigorous, free farm range stock. 15 eggs $1.50, 100 eggs $8.00. Orders accepted.
ELMER KREIDER, GORDONVILLE, PA.

Day Old Chicks and Hatching Eggs White Leghorns, Barred Plym. Rocks, Rhode Island Reds. Safe delivery guaranteed. Place orders now to insure prompt delivery. PARADISE POULTRY FARM, BOX C, PARADISE, PA.

Tiffany's Superior Chicks That live. Silver, White, and Columbian Wyandottes, Buff, Barred, and White Rocks, R. I. Reds, White and Brown Leghorns, Pekin, Rouen, and Indian Runner Ducklings (heavy type). Aldham Poultry Farm, R. 39, Phoenixville, Pa.

200,000 Chicks R. I. Reds, B. P. Rocks, White and Brown Leghorns, Black Minorcas and Broilers, at low prices, in parcels post, charges prepaid. Safe delivery guaranteed. Our 11th year. Fine catalog free.
KEYSTONE HATCHERY, Dept. 5, Richfield, Pa.

Eggs $1 Setting Parcel Post paid. Purebred Barred, White and Buff Rocks; White and Brown Leghorns; Reds, White Wyandottes, Buff Minorcas; Black Langshans; Buff Orpingtons. Philip Condon, Box 119, West Chester, O.

Hampton's Black Leghorn Chicks. Get my free circular before you order chicks. Tells why the Black Leghorn is the greatest layer and most profitable breed on earth. Write today. A. E. Hampton, Box P, Pittstown, N. J.

Selby Service Satisfies Ship us your produce, poultry and eggs. Pecans, Potatoes a specialty. Returns day goods are sold. Ask for our market letter.
SELBY PRODUCE CO., PHILADELPHIA

Chickens Sick?—Use Germozone Roup, colds, bowel troubles, sore head, limber neck, etc. At dealers or postpaid 75 cts, with 5 book Poultry Library.
GEO. H. LEE CO., Dept. F-49 OMAHA, NEB.

CHICKS Deduct $2 per 100 chicks from list price in placing your order or when sending in balance. Barred P. Rocks, Leghorns & mixed chicks. Booklet free. THE CYCLONE HATCHERY, Millerstown, Pa.

Glendale S. C. WHITE LEGHORNS. Barron strain. Chicks with vitality, bred for vigor and heavy egg production $18 per 100. GLEN DALE POULTRY FARM, Hillsburg, Pa.

Bronze, Narragansett, Bourbon Red, Black and White Holland breeding turkeys from the finest flocks in America. Write for special prices to close them out. F. A. CLARK, Xenia, Ohio, R 5.

50 Breeds Fancy Poultry Our big Instructive Book mailed. Stamps appreciated. Address "HATCHWELL," Cochranville, Pa.

Swine

BERKSHIRES

Registered sons and daughters of the Grand Champions Longfellow's Double and Baron's Successor. Splendid individuals. Prices from $75 to $250.

Registered grandsons and granddaughters of the Grand Champion Longfellow's Double. Prices from $25 to $100.

This is the blood that produced the winners at the International this year. Absolute satisfaction guaranteed.

INDERKILL FARMS
S. O. Stevenson, Supt. Staatsburg, N. Y.

DUROCS YOUNG PIGS, BRED GILTS AND SERVICE BOARS Visit the Farms and talk with a Recognized Duroc-Jersey Hog Authority. See the greatest Herd of Pure Duroc Jersey Hogs within 500 miles. (We pay R. R. Fare of any buyer.) Write for Particulars and Prices. We guarantee to exchange any animal purchased by mail if not satisfactory.
ENFIELD FARMS, Dept. PF W. H. Whitney, Owner, 50 Church St., New York

HAMPSHIRES All ages, free circular. Reg. Guernsey Bull Calves from tested herd. LOCUST LAWN FARM, BIRD-IN-HAND, BOX 2, LANC. CO., PA.

CHESHIRES The best white hog on earth. 6 mo. sows and boars at $20. Bred sows at fair prices. R. D. Button, Canastota, N. Y.

Durocs.—Boars ready for service. Spring gilts, bred for March, April and May litters. Fall pigs, either sex. All immuned. I. D. Jackson, Van Wert, Ohio.

REG. O. I. C.'S ALL AGES. Booking orders for September, October and November Pigs. BLACK DIAMOND MINORCA FARM, MT. BETHEL, PA.

BERKSHIRES AND CHESTER WHITES All ages, for sale; write your wants; we can please you.
TWIN BROOK FARM, NEWVILLE, PA.

DUROC JERSEY GILTS bred for spring farrow, July and fall pigs, Col. and Orion Cherry King breeding. Priced to sell. Geo. W. Crim, Uhrichsville, Ohio.

Chester Whites Boar and Sow Pigs. Bred Sows. Collie dogs.
ARCADIA FARM, BOX D, BALLY, PA.

Large Berkshire Swine Registered High Grade. Prices reasonable. Write
HOME FARM, CENTER VALLEY, PA.

Berkshire Bargain. Three year old Shenandoah "O" Dorchester Prince 4th and 2 bred sows $200. All reg.
L. C. TOMKINS, ELLENTON, PA.

O. I. C. and CHESTER WHITE Fall Pigs and Bred Sows. Good individuals. Popular breeding. Reg. free. SPRING VALLEY FARM, MEMPHIS, N. Y.

Chester Whites. Spring boars, bred gilts, and trios from some of the best blood lines. Immuned. Also good fall pigs. C. J. Stough & Sons, R 1, Findlay, O.

Reg. O. I. C. and C. W. Pigs. Bred gilts and sows Satisfaction and safe delivery guaranteed.
JOHN L. VAN HORN, TROY, PA.

Reg. Big Type SPOTTED POLAND-CHINA pigs, bred from a son of O. K.'s Pride No. 30.
H. C. KYMER, R 4, Shippensburg, Penn'a.

Prolific Berkshires with size and type. Priced to sell.
JOHN C. BREAM, GETTYSBURG, PA., R. D. No. 4

HAMPSHIRES A few choice September Boars. Write for prices.
R. Z. YODER, MASCOT, Lanc. Co., Pa.

Fine Reg. Duroc Pigs of Ohio Chief and Cherry King. Also fine young boars. Prices reasonable.
JAMES F. ROBINSON, Rt. 1, Amelia, Ohio

Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain

Chronic Lymphangitis. — During the later part of August, 1919, and one Monday morning I found the hind leg of my 14-year-old mare swollen and very tender on inside of thigh, I gave her some medicine, she seemed to get over it, but the leg has remained thick. Both hind legs are inclined to stock, but now she has another bad attack, showing all the symptoms of the first ailment. Will you tell me what is the cause, also prescribe a permanent cure or remedy. S. A. W., Bethney, Pa.—Lymphangitis is a specific inflammation of the lymphatic structures usually affecting the hind legs; very seldom a fore leg. This disease is very sudden in its attack, exceedingly painful, usually accompanied by a high temperature and great general disturbance. Causes. — Horses of lymphatic or sluggish temperment are predisposed to this affection. It usually attacks well fed animals, and in such cases may be due to an excess of nutritive elements in the blood. Sudden changes in work or in the habits of the animal may induce an attack. The most common cause is feeding an idle work horse as much grain as when resting, as if working. Treatment.—The parts should be bathed freely and frequently with water, as hot as the hand can bear, and then foment with vinegar and water, equal parts, to which add 2 ounces of saltpeter to each gallon. This should be applied frequently after the hot water, for the first day. Afterwards the leg may be dried with a woolen cloth and bathed with camphorated soap liniment, which you can obtain at any drug store. Internally, administer artificial Carlsbad salts in two to four ounce doses 2 to 3 times a day. Feed no grain, but bran mash and roots. This treatment, if instituted early in the attack, very frequently brings about a remarkable change in 24 hours. Remember there is always danger in feeding a work horse much grain when he is not working. Your mare will be benefited by giving her one dram doses of potassium iodide in mash or drinking water 3 times daily. Gently hand rub swollen leg and give her walking exercise.

Puzzling Case. — New Hoof. — I have a 6-year-old black mare, weighing about 1100 pounds. She appeared all right until last April was working her on the manure spreader when she began throwing her head, she would draw her lip, let her tongue hang out, flop ears and work at the bit; so I had to unhitch her. There would be times when I could work her; at other times I couldn't. She would have those spells whether in the team, in the barn, or in pasture. Had three different Veterinarians. One thought best to cut nerves in nose, another seemed anxious to operate on top of head and divide the nerves, the third veterinarian advised against the operations. J. H. Gillet, Pennsylvania. — It is no easy task to make a correct diagnosis in this case, therefore it is good practice to leave her in the hands of nature. Are you sure that this is not a case of Neuralgia, if so atmospheric conditions would of course cause her to suffer more pain during and preceeding a storm, especially if the change in temperature was from hot to cold. It will be no mistake to keep close watch on her molar teeth, for here a whole lot of her trouble may lie. I fail to understand how a surgical operation and what nerve or nerves could be divided that could give her permanent relief. Give her good care, keep her in warm, well ventilated stable. It is important to keep her digestive organs in good condition, as some of the symptoms she has shown, indicate digestive disturbance; also, keep her bowels open. Apply any one of the commercial hoof ointments to hoof daily.

Facts in
BLACK & WHITE

Purebred Holstein Cows Return $1.54 for One dollar of Feed

Even though you may regard your farm as a diversion or your hobby, you would doubtless prefer to see it self-supporting, and perhaps take still greater pride in it for that very reason. Here are two or three facts! Holsteins are the largest, most vigorous most even-tempered, the easiest-cared-for breed, and the greatest yielders of milk in the world. Their milk is the most evenly balanced in fat, sugar and proteids, and for that reason easily digested. It is everywhere recognized by the medical profession as absolutely the best for infant and invalid feeding as well as for general use. A herd of Holsteins will give you on the average $1.54 for every dollar's worth of food they eat. Send for our free literature and look it over. Perhaps you will be interested in buying Holsteins.

THE HOLSTEIN-FRIESIAN ASSOCIATION
218 Hudson Street
Brattleboro, Vermont

GUERNSEYS

$546 was the average price paid for all Guernseys sold at public auction in 1919. This figure indicates the buyers' high estimation of the value of the breed. Let us tell why Guernseys lead in popular favor.

The American Guernsey Cattle Club
Box M 44 Peterboro, N. H.

QUALITY ECONOMY QUANTITY

MILKING SHORTHORN BULL CALVES of the best breeding. Also a few females for sale.
C. M. KENNEDY & SONS, ULSTER, PA.

Miscellaneous

HAY AND POTATOES Poultry and all produce wanted at market prices. Good, steady, active demand. GIBBS & BRO., 325 N. FRONT STREET, PHILADELPHIA, PA

PENNS VALLEY STOCK FARM
Percherons Berkshires Holsteins
Ready for service, High Class Boars, 12 sows and gilts bred for March and April farrow.
W. F. BISHEL, CENTRE HALL, PA.

Best Breeds Poultry, Ducks, Geese, Turkeys, Guineas, Hares, Cavies, Pigs and Holstein Calves. Stock for sale. Hatching Eggs in season. Write your wants. Catalogue Free.
H. A. SOUDER, BOX P, Sellersville, Pa.

NEAR-BY STOCK FARM offers Reg. Ayrshire cattle. Reg. Berkshire pigs 3 to 5 months, a few bred sows. Best of breeding. White Wyandottes.
J. A. McMAHAN, POTTSGROVE, PA.

REG. P. CHINAS, BERKSHIRES, C. WHITES, large strains, all ages, mated, not akin; 8-wk. pigs, br. sows, service boars, Beagles and Collies. Write for circ. P. F. HAMILTON, COCHRANVILLE, PA.

Highland Stock Farm Belgian Horses, Jersey Cattle, Large Berkshires, and Indian Runner Ducks. Stock for sale at reas. prices. Anselm B. Kirsch, Nicktown, Pa.

FOR SALE: COLLIE DOGS, 1 to 3 years old, broken on stock. Beagle Pups wanted, two to three months old.
I. R. TANGER, YORK SPRINGS, PA.

FOR SALE—O. I. C. PIGS. ALSO RABBITS, Pigeons, Owls, and Bluerocks. Write for prices.
FRANCIS SCHEIB, GRATZ, PA.

100 Shetland and larger Ponies. Colts $50 to $75; broken ponies $75 to $150. List for stamp.
P. B. STEWART, ESPYVILLE, PA.

Chester White Hogs, All Ages
Shorthorn Bulls. R. L. MUNCE, Canonsburg, Pa.

For Sale: Registered C. W. gilts and serviceable boars and pigs. Also Jersey Bulls, all ages. J. A. BOAK, NEW CASTLE, PA. R. 4.

Cattle For Sale, 2 loads feeders and 2 loads yearling steers. Also any number 1, 2 and 3 yr.-olds from 600 to 1000 lbs. Isaac Shanstrom, Fairfield, Iowa, R-8.

BARRED ROCK COCKERELS: Muscovy Ducks: Eggs for hatching, 12 varieties: Duroc Jersey Hogs, all ages. Free list. Kahler & Son, Hughesville, Pa.

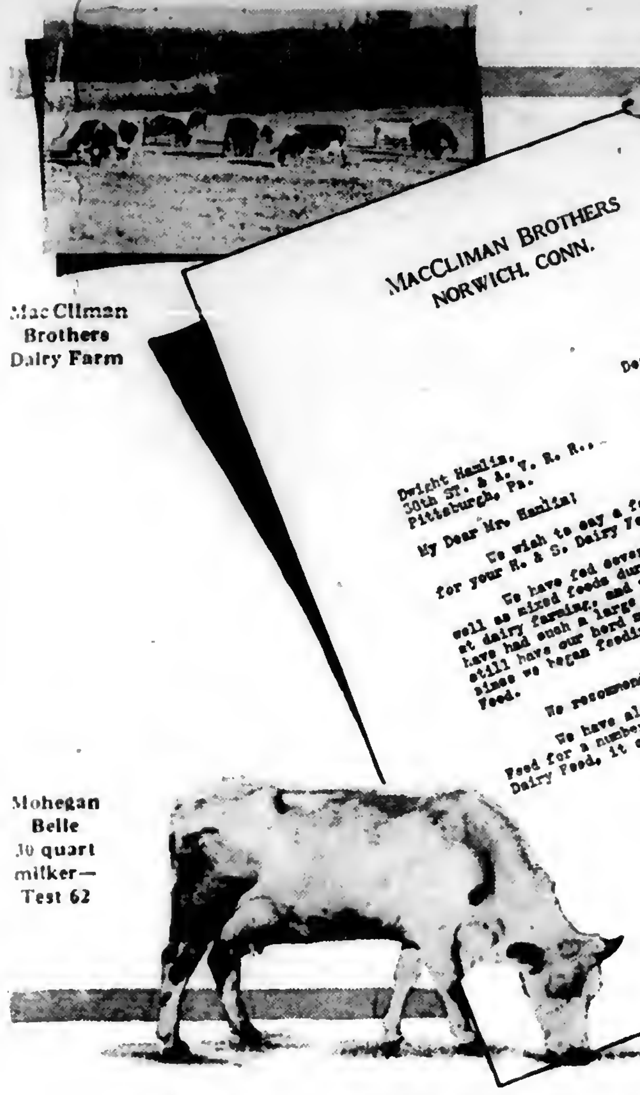
Hummer's Famous Baby Chicks. Big Healthy fellows. They live and grow. Six varieties. Circular free.
E. R. HUMMER & CO., FRENCHTOWN, N. J.

For Sale BABY Chicks, Barred Rocks, R. I. Reds, Buff Orpingtons, and White Leghorns. Buckeye Hatchery, Millerstown, Perry Co., Pa.

White Leghorns: Reds, both combs: White Wyandottes, Barred and White Rocks. Best strains in country. Eggs; Chicks; Pullets. Forest Farms, Rockaway, N. J.

SHIREY'S S. C. White Leghorn Baby Chicks 14c and up according to season. They make the greatest egg producers on earth. C. P. Shirey, Stewartstown, Pa.

Baby Chicks Barred Rocks, White Rocks, White Leghorns and Reds. Circular Free. Mechanic Grove Poultry Farm, Mechanic Grove, Pa.



MacCliman Brothers Dairy Farm

MACCLIMAN BROTHERS
NORWICH, CONN.

December 15, 1919

Dwight Hamlin,
30th St. & A. V. R. R.,
Pittsburgh, Pa.

My Dear Mr. Hamlin:

We wish to say a few words of praise for your H. & S. Dairy Feed.

We have fed several dairy rations, as well as mixed feeds during our long experience at dairy farming, and will say that we never have had such a large milk production and still have our herd maintain their flesh, as since we began feeding your H. & S. Dairy Feed.

We recommend it very highly.

We have also fed your H. & S. Horse Feed for a number of years and, like your Dairy Feed, it cannot be beat.

Yours respectfully,
MacCliman Bros
Norwich
Conn

Queen Holstein 25 quart milker—Test 55

Mohegan Belle 30 quart milker—Test 62

HERE'S EVIDENCE

"We never have had such a large milk production and still have our herd maintain their flesh," say the Mac Climan Brothers, Dairymen of Norwich, Connecticut.

And to substantiate their statements they sent with their letter, several photographs of their noted herd. Three of these photographs reproduced opposite, speak for themselves. Mac Climan Brothers are not the only modern dairymen who have experienced such excellant results from the use of

H & S Dairy Feed

For years, thousands of other dairymen throughout the country have been enabled to maintain healthy stock that produce maximum milk yield at a minimum cost per gallon with H & S Dairy Feed. That's why we don't hesitate to guarantee such results.

It can be fed right from the bag—no mixing with other feeds required.

It contains just those nutrients which thorough study and scientific knowledge have found is really needed. It contains no oat hulls, screenings or filler of any kind.

In first cost it may be a little higher than ordinary feeds but considerably less per pound of milk produced.

Send now for free sample.

DEALERS—Write for our attractive proposition.

DWIGHT HAMLIN
Department 8
PITTSBURGH :: PENNA.
"Hamlin's feeds are money feeds"

Dairy

M & P Healthy HOLSTEINS

Young bull calves of superior quality, sired by our herd sire whose ten nearest dams' average production for 7 days is 570 lbs. of milk, 29 lbs. of butter. Fat 4%. The dams of these calves are all proven producers.

Price, $60.00

A FEDERAL TUBERCULIN TESTED HERD

Markham & Puffer, Avon, N. Y.

Registered and High Grade Holsteins: 30 reg. heifers, bred to freshen in fall, 10 reg. heifer calves 3 mths. old, 18 reg. bulls, 2 to 15 mths. old, 60 reg. cows, fresh & springers, 60 high grade Holstein springers, federal tuberculin tested. 25 high grade heifers part of them bred. ⅞ Holstein heifer calves $20 to $25 each. The Spot to buy Holsteins worth the money.
J. C. Reagan, Tully, N. Y.

For Sale Registered May Rose Guernsey Bull Calf, price $150. Sired by Brookside's Royal Master of Riverview, who is brother to Great Bull, Langwater Stars and Stripes 2nd and grandson of the famous Imp King of the May, who has 26 A. R. daughters who exceed an average of 600 lbs. fat and is also sire of Dolly Dimples May King of Langwater. RIVERVIEW FARMS, SWARTHMORE, Del. Co., Pa. (Suburb of Phila.)

King Cornucopia Dekol Paul No. 204356 First prize 2-year-old bull N. Y. State Fair 1919. Dam gave 74 lbs. milk in 7 days, as a 3-year-old world record when made. Two nearest dams average 30.01 lbs. butter, 721.75 lbs. milk in 7 days. Bull and heifer calves for sale at all times. Postal brings full information. Write me before buying a bull calf for your herd. E. G. DORAN, PREBLE, N. Y.

STEVENS' HOLSTEIN FARM
OF CORTLAND, N. Y.
King Korndyke Sadie Vale Jr., No. 20391, two nearest dams averaging 36 pounds of butter in 7 days, heads my herd. Butter records from 17 pounds two-year-olds to 34 pounds at full age. Also high grade Holstein calves, either sex, $15.00 each. Write your wants. PAUL H. STEVENS, Prop.

HIGH GRADE HOLSTEIN CALVES. Either sex, shipped anywhere. Write for prices. Satisfaction and safe delivery guaranteed. FRANK GAMEL, PINE GROVE FARM, LOCKE, N. Y.

Ayrshire Bull Calves From high record A. R. Dams
ROBERT TEMPLETON & SON, ULSTER, PA.

Registered Holstein Friesian Cattle Sons of the great Finderne Sir Valdessa, a 37 lb. bull, for sale.
MILLARD E. BASEHOAR, Littlestown, Pa.

Reg. Holstein Heifer Calves, from officially tested dams and a 30 lb. sire. Write for prices, pictures and peds. Walter M. Cruttenden, Wilkes-Barre, Pa.

Announcing the Webster Styer and Twin Broom Herd Dispersal Sale
At Ivins C. Walker's Sales Bazaar, East Main Street, Norristown, Pa.
March 15, 1920, at 10 A. M.

75 Head Registered Holstein-Friesian Cattle including the Herd Sires, KING KORNDYKE REBA VEEMAN, No. 116541, and TWIN BROOK KING MASTER, No. 158864, two show boys.
20 Granddaughters of KING KORNDYKE SADIE VALE.
12 Granddaughters of KING of the SADIE VALES.
2 Granddaughters of KING HENGERVELD AAGIE FAYNE.
4 Daughters of SIR KORNDYKE PONTIAC ARTIS, 3d, including TWIN BROOK LASS, Senior 2-year-old Champion Butter Cow of Pennsylvania for two years, A. R. O. 7 days 546.3 lbs. milk, 24.75 lbs. butter.

W. B. DEVANEY, Malvern, Pa.
WEBSTER STYER, Spring City, Pa.

MAPLE LAWN HOLSTEINS

BEST in High grades and Registered Holsteins. Elegant high grade calves $25 each. With ten calves will give choice registered bull free. Will accept Liberty Bonds and W. S. S. at par. Guarantee safe arrival and gladly ship C. O. D. Write your wants. C. W. ELLIS, JR., Cortland, N. Y.

REAL BARGAIN

Pure Bred Ayrshire Bull Calves. We offer four handsome bull calves, large, heavy-boned and of show caliber. Big A. R. Records on both sides or now in the making. We can refer you to our satisfied customers. It will pay to get our prices.

CRESTMONT FARM, SUNBURY, PA.

HOLSTEINS— 20 head of [illegible] heifer calves; about [illegible] tered, balance high grades. These are [illegible] of particularly well marked and growthy [illegible] from my large producing cows.
Plumlyn Farm, Fairview Village, Pa.
(Near Norristown)

A Great Bargain in registered Holsteins. A ton show bull, [illegible] white, good sure breeder, well broke. Sire is King Segis Pontiac Alcartra and Dam has an A. R. O. record. Also a few good big young cows. Write for my extremely low prices.
C. E. CASSEL, HERSHEY, PA.

COUNT PONTIAC IT (281956) from a 33 lb. sire and from a 20 lb. 5-yr. old cow. Eight months old, nearly all white, good individual and thrifty. Price $125. THE OAKS DAIRY FARM, Wyalusing, Pa.

Guernseys 11 head registered, fine animals. Must be sacrificed on account of disposing of farm, 7 cows and 4 heifers. C. O. HUTCHINSON, MORRISVILLE, Pa., Box 169

For Sale: Reg. Guernsey Bulls—May Rose, Jessie and Gov. of Chene lines. Reasonable.
HAYES C. TAYLOR, Embreeville, Pa.

Registered Holstein and Guernsey bulls from calves to serviceable age. 250 animals in the herd. BONNYMEADS FARMS, R. D. 1, Harrisburg, Pa

BRADFORD COUNTY, PA. "A LAND OF GOOD LIVESTOCK"

10,000 Cow Testing Association records are available to show the quality of Bradford County Livestock. Special prices now on young registered Jersey, Holstein, Guernsey, Ayrshire and Milking Shorthorn bulls.

D. K. SLOAN, Secretary, BRADFORD COUNTY LIVESTOCK BREEDERS' ASS'N.
Office with County Farm Bureau, Towanda, Pa.

Swine

PERFECTION 1st JR.
ONE OF OUR MANY GREAT SOWS

The Famous O. I. C. Swine

We have the undefeated herd of the world. Winning premier breeder and exhibitor at every fair shown in 1919, 1918, 1917 including the following state fairs—Ohio, Michigan, Indiana, Illinois, Missouri, Kentucky, Tennessee, Oklahoma, New York, Alabama, Tri-State Fair at Memphis, and the National O. I. C. twice. Stock of all ages for sale, registered free in the O. I. C. Association. Order now. We will ship any of our stock on approval and allow you to keep three days before you have to pay for it. You will be your judge on your own farm.

Crandell's Prize Hogs, Cass City, Mich.

HAMPSHIRES All ages. Strong and vigorous stock. When you buy you want the best, don't you? Then write us. Inspection invited. ROSS B. WITMER, LAMPETER, PA. Member Lanc. Hampshire Breeders' Co-operative Association.

BELROSE DUROCS— EXPRESS PAID Boars and Bred Sows, bred and open gilts all sizes. Prices right.
BELROSE FARMS, RICHFORD, N. Y.

POLAND-CHINA PIGS Registered Breeding Prospects, from the Big-Ben and Disher's Giant Families, that competitors do not equal. DR. KNOX, BOX 50, DANBURY, CONN.

Viewmont Farm, Mainville, Pa., has 20 reg. O. I. C., 90 to 110 lbs. Oct. pigs from Schoolmaster boar and Callaway Edd sows. Good enough to ship anywhere. C. O. D. $10.00

O. I. C.'s of the very best breeding, strictly big, short-nosed type. Every one guaranteed to please and registered free.
C. E. CASSEL, HERSHEY, PA.

TARRYMOOR BERKSHIRES
Quality Growthiness Prolificacy
We guarantee satisfaction.
Robt. E. Atkinson, Wrightstown, Pa. Bell Phone

Reg. O. I. C. Pigs January farrow. Big size. Quality guaranteed. [illegible] SMOKETOWN, PA

Large Berkshires Registered May farrow, also October pigs. Both sexes. Prices reasonable. [illegible] TOLAND, FREEPORT, OHIO

For Sale [illegible] O. I. C. Boar, 18 mos. old. 1 Reg. O. I. C. [illegible] with pig. 1 Grade Sow [illegible] A. Corkran, Midlothian, Va.

REGISTERED DUROC-JERSEY PIGS $10 each while they last, all from imported Southern stock, none better. Bargains in bred gilts, service boars, brood sows and spring pigs.
C. W. Ellis, Jr., Maple Lawn Farm, Cortland, N. Y.

REGISTERED DUROCS for sale. All ages. Bred to please. Best blood lines. NORTHUMBERLAND COUNTY DUROC-JERSEY BREEDERS ASSN., J. M. FRY, Corresponding Secretary, SUNBURY, PA

Large Type Reg. Berkshires of all ages for sale. Select a breeder from a thirteen pig litter. Pay when you see stock. No cash in advance.
DAVID WIANT, HUNTINGTON MILLS, PA.

Reg. Berkshire Swine Bred gilts $80. Open gilts $60. Sow pigs $20 and up. Immediate delivery.
C. NORMAN ACKER, West Chester, Pa. R. 2

REG. DUROCS Large size, heavy bone, best blood lines, prices reasonable, satisfaction guaranteed.
JOHN W. COX & SON, New Wilmington, Pa.

BERKSHIRES—Longfellow and Masterhood breeding [illegible] Superior length, depth and extra thick hams. [illegible] Book orders for spring shipment. Marian [illegible] Farms. A. I. Hostetter, Manheim, Pa. R. 1.

Large Type Duroc Service Boars and Gilts. Aug. and Sept. pigs. Orion Cherry King Breeding. B. R. Sager, Basil, Ohio.

Chester Whites Pigs for sale. Special price on boar pigs. All stock [illegible] ALLAN R. MORTON, ASHVILLE, N. Y.

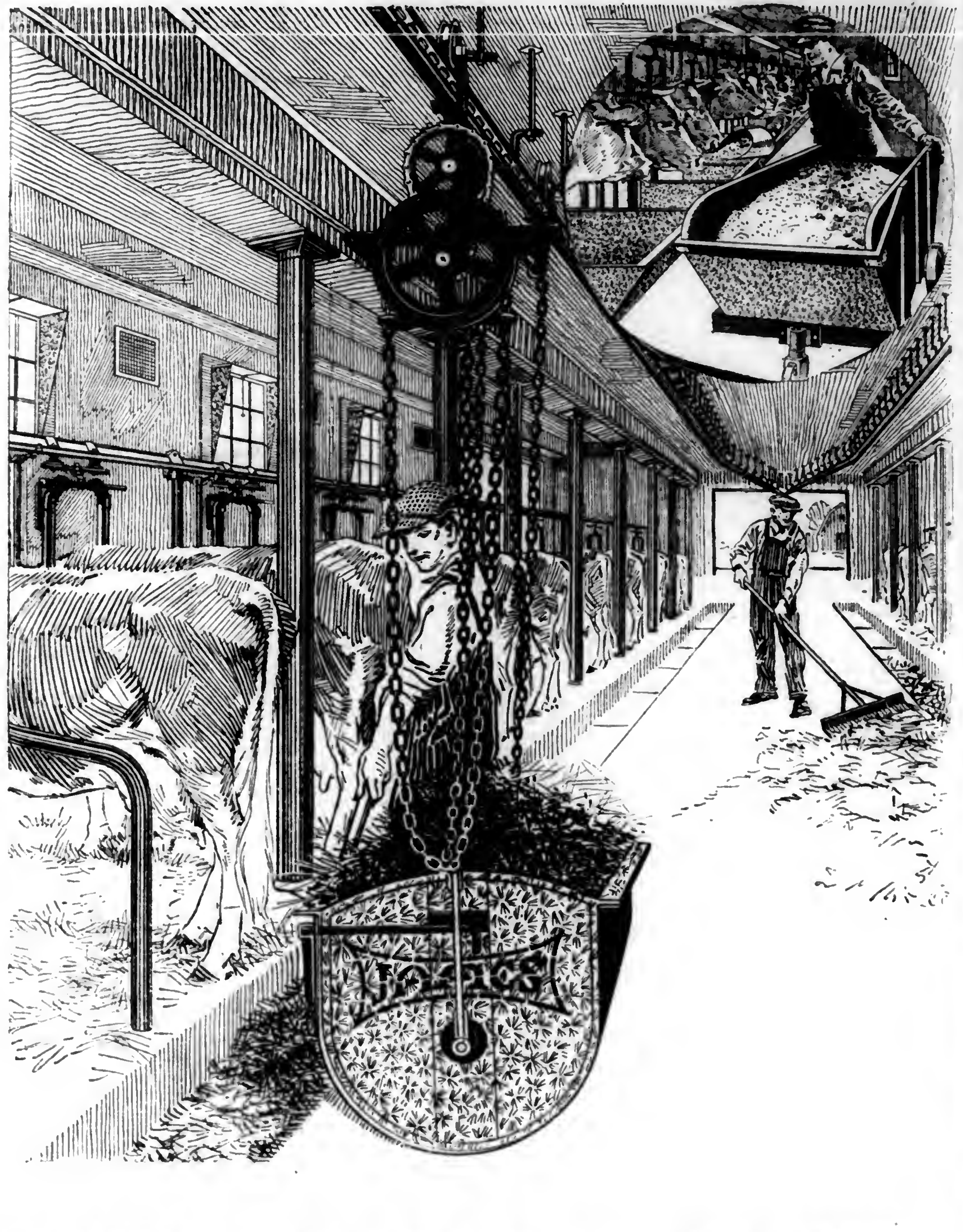
Reg. O. I. C.'s Booking orders for Spring pigs [illegible] Coudersport, Pa

50 Registered Durocs at Public Sale
March 6, 1920, at Palmyra, Pa.

This offering will consist of 2 herd boars, 5 herd sows, all bred for April farrow, 3 yearling boars, and the balance are Fall gilts and boars.

Some of America's best blood is diffused in the Slaty Ridge Farm Herd. The offering is all home raised and all registered. A complete catalog of this offering mailed on request. I want to see you at this sale. "Pigs is pigs, but it takes a Duroc to make a hog."

SLATY RIDGE FARM, J. ELMER LONG, Prop.
PALMYRA, PA., R. F. D. No. 1



Make It Easy for The Boys

In barns that are James equipped, the work is not too great even for children's strength. JAMES Equipment makes barn work easy.

Cleaning The Barn

The easy running James Carriers turn the disagreeable, dirty task of cleaning out the barn into a near-pleasure. They make a boy's job of what used to be shirked by all—and are an investment that pay profits of 25% or more a year in labor saved.

James Scrapers make quick work of cleaning cement floors; the James Stanchions, with the James Alignment Device, keep the stalls and cows clean, by aligning the cows at the rear, so that manure falls in the gutter and not on the platform.

Feeding The Cows

The easy way of feeding the cows is the Jamesway—the James Feed Truck or Feed Carrier, and James Feed Mangers. Rolling easily along the track or on the cement floor, the James Carrier or Truck make unnecessary the lifting of heavy baskets filled with feed. With their big, roomy tubs they save much walking to and from the feed rooms, and in a short time pay for themselves in labor saved.

Watering The Cows

What a job this used to be in winter time—keeping a fire going in the old time tank heater, or breaking the ice in the tank so that the cows could drink.

And how they hated to drink—with the north wind howling, the snow or sleet driving, and the drinking water icy cold.

No wonder the milk yield dropped in winter time—for feed that should have gone to make the milk was used to warm the cow, and the water needed to make milk was never drunk.

James Drinking Cups have changed all that. A sanitary cup for each cow provides fresh water day and night. It flows in automatically as fast as the cows drink.

Water—the simplest means of increasing milk yields—is often disregarded by dairymen. Those who realize how greatly milk flow is increased by James Cups are reaping huge profits on their investment.

Reports based on milk records of 28 herds (739 cows) for instance, show an average increase per cow per day of 2.45 lbs. This is 490 lbs. in 200 days, which at $3.50 per cwt. totals $17.15; with a saving of $2.50 per cow in labor and 55c in fuel. That's a profit of 400% the first year.

Other reports and other investigations confirm these figures. Ask us for the proof. Then get James Cups busy right away making these big profits for YOU.

"Airing" The Cows

Pure air is just as necessary to life and production of milk as feed and water.

And a cow needs TWICE the weight of AIR per day that she does of *feed* and *water combined*.

Do your cows get enough pure, fresh air?

Food, water and air. The feed costs money—lots of it. But water and air are free—the only expense is getting them to the cow, and that amounts to very little.

The James Ventilators help get the foul air out of the barn, help bring the fresh air in to the cows. Ask for full information regarding these wonderful ventilators and about the James Ventilating System.

Other Work-Saving James Devices

There are many other James devices that save labor, increase milk yields, help sanitation and improve cow health, such as Cow, Calf and Bull Pens, Feed Mangers, Calf Pail Holders, Sure-Stop Swinging Post, Swinging Cranes, "Safety First" Bull Staff, Handy Milk Stools, etc.

Also equipment for the hog barn, horse barn and beef barn:

The James Way Sunny Hog Barn provides sunshine and sun warmth on the floor of every pen two-thirds of the sunlit hours. The James Hog Barn Book, sent on request, tells all about it.

Free Dairy Barn Book

The 336 page book—"The Jamesway"—tells all about the James inventions that save so much of labor, prevent spread of disease, promote better cow health, protect against dangerous bulls, make simpler the care of calves and sick cows, and increase milk yields.

Easy Installation

It explains the easy way of putting up carriers, setting up stalls and pens and attaching drinking cups.

Skilled help is not required, because of the ingenious James Anchors and because the equipment is assembled at the factory.

Barn Plan Service

It tells about James Barn Plan Service, the many James barn experts who are at your service—men who know what has been successful and what has not, what not to do as well as what to do in planning convenient, money-saving barns.

Their advice on barn planning, ventilation and other barn problems is free, with no charge for floor plans. Send for the book—a postal card request will bring it—get the full details of how to build a barn, how to ventilate a barn, how to cut the barn work in half, how to make more milk—and more money.

James Mfg. Co. Ft. Atkinson, Wis. Elmira, N.Y. Minneapolis, Minn.

The James way

Labor Saving Equipment for the Dairy Barn

N. J. Expt. Sta. Library.

PENNSYLVANIA FARMER

AGRICULTURE THE KEYSTONE OF NATIONAL PROSPERITY

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The Outlook For American Farmers

A Review of Facts and What They Indicate for the Future

By Dr. J. G. LIPMAN

DIRECTOR N. J. EXPERIMENT STATION

The census of 1920 will show a decided shifting of our rural population toward the cities. When the census returns become available, it will be found that during the period of the war there has been a striking concentration of the population on the Atlantic Seaboard and, to some extent, also on the Pacific Coast. The migration of large numbers of persons to certain centers should be attributed, in the first place, to the growth of our war industries, and, likewise, of industries less directly affected by our military activities. The establishment of ship building plants, munitions plants and others needed for the manufacture of miscellaneous equipment and supplies required by our army and navy hastened the transfer of many thousands of men and women from the rural districts to the already crowded towns and cities. The growth of the war industries created problems in housing which, in their turn, called for the employment of large numbers of skilled or unskilled labor and the consequent transfer of many persons to the new centers of industrial activity.

The shift toward our cities did not end with the signing of the armistice. Many of the returned soldiers and sailors who originally came from rural districts have been attracted by the glamor of city life. Because of their army experience these men will be disinclined to return to their former occupations on the farm. The remarkable growth of our export trade is serving as still another important factor in stimulating the growth of our city populations. As a result of the war, Europe has become impoverished in equipment and in men. The restoration of her industries will call for large quantities of machinery and supplies of all sorts. These must be made available quickly and the United States of America is the country which is expected to provide the necessary physical equipment for the restoring and the rebuilding of European industries. Until the work of restoration is well advanced the demand for raw materials and manufactured products will continue. The existing industries will be maintained in a state of prosperity and the competition of these industries with the agricultural industry for labor will continue to react unfavorably on the supply of farm labor. It may also be noted in passing that the concentration of the populations in our cities will be furthered by the addition of a very considerable number of men and women who had acquired a competence during the war.

Will the Drift to the Cities Continue?

In so far as employment in the cities may be easy to find, in so far as the wages paid are at all satisfactory and in so far as the supply of food is adequate, both as to quantity and quality, our city populations will continue to grow much faster than those in the rural districts. Industrial prosperity, lessened immigration and more attractive conditions attached to city employment make it very advantageous for the city employer to compete with the farmer for hired labor. Under such conditions the demand will continue for large quantities of food stuffs and of other farm products at prices acceptable to the producer. All careful observers, agree, however, that the existing abnormal export trade will be directly influenced and modified by the readjustments which are certain to occur in the economic life of Europe. When the factories in Northern France and Belgium are rebuilt when the manufacturing establishments of England, France, Germany and Austria resume their pre-war activities, when the men and women employed in the industries are again organized for efficient production, there will be a rapid decline in the volume of certain materials and supplies exported to Europe. The effect of this readjustment will then be felt by the industries of the United States. Our agriculture will also begin to feel the changes in our industries.

An Interesting and Educational Pastime

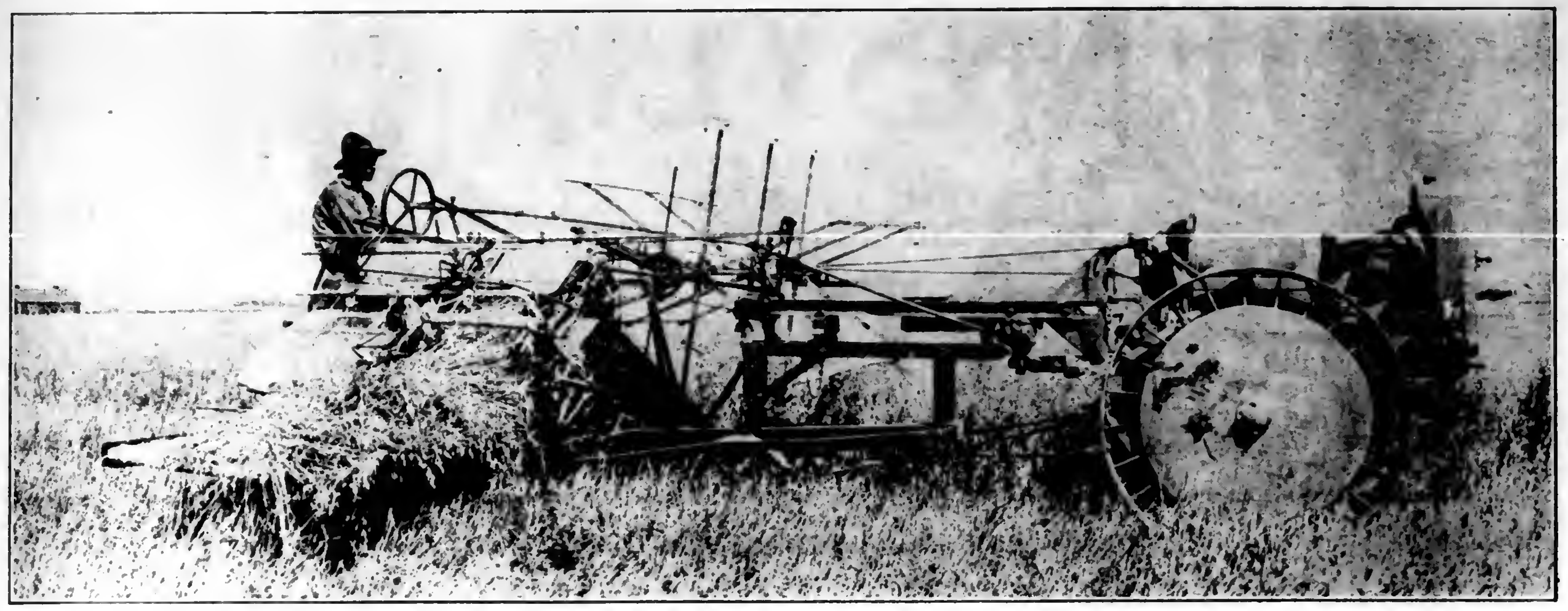
The Effect on Agricultural Production

While the purchasing power of the urban element in our population remains at a high level and while the demand for food from abroad readily absorbs all of our surplus production, the price of farm products cannot very well decrease. On the other hand, the farmer will have to resign himself to high labor costs as well as to the high cost of the raw materials that directly or indirectly go into the making of crops. The farmers of Europe will compete with the farmers of the United States in the purchase of feeding stuffs, fertilizers, agricultural implements, seeds and live stock. The high cost of these will, of necessity, enhance the cost of production. The labor income of the farmer will remain relatively high, if for no other reason than that the farmer will receive higher wages for the services rendered by himself and the members of his family.

Elements of Danger

Obviously, this situation can be but a temporary one at best. The purchasing power of Europe is being rapidly exhausted as is evidenced by the falling of exchange rates. The nations of Europe are confronted by the urgent need of increasing the supply of home grown food and an effort will surely be made to meet the situation by materially increasing the harvests of 1920. He who reads the agricultural and trade journals published in the old world cannot but be impressed by the insistent plea for an increased acreage under cultivated crops and for an increased production per acre of tilled land thru the use of manures and fertilizers. The European governments are now making provision for strengthening the organization of the agricultural schools, colleges and Experiment Stations. They are making provision for extending suitable credit facilities to farmers as well as further stimulating such cooperation among the producers as will enhance production. These efforts will be reflected in the rapid expansion of the volume of food produced in Western Europe. The call will thus grow less insistent for American bread stuffs, for American meat and for American dairy products.

(Continued on Page 16)



What We Added to Farm and Home

More of the Articles Telling of Economical and Satisfactory Improvements

Neighborhood Lighting

By W. F. HILL, Huntingdon Co., Pa.

We farmers in Huntingdon County, Pa., enjoy the advantages of Rural Delivery, telephones, macadamized roads, tractors, automobile touring cars, trucks, etc. Fiftv years ago our lot would have been envied. But the scarcity of help indoors and out, the social demands of the times, the insistent call for greater comfort and more conveniences in house, barn and outbuildings, all were increasing the demand for the installation of one more servant of mankind—electricity. Electricity we wanted both for light, and for helping to do things.

The agents for individual home lighting plants of many kinds called and presented the advantages of their respective systems. These plants are a splendid development and have a place to fill in many rural sections. However, we here did not care to assume the additional responsibility of caring for this kind of machinery, and we wanted more power than the home generating plant would furnish.

So we waited in the hope that one or the other of the two large central stations at Huntingdon which develop electricity from the water of the Juniata River, would build a line along our state road and furnish power and light for the farms. But they claimed that rural lines would not pay and so they catered to the development of industries in shop and factory, and we farmers were no better off than when the waters of this river ran their course, unharnessed to the sea.

This suggested the idea to the writer that, maybe, if a party of us farmers were to club together we could buy current in quantity or bulk from one of these companies, pay them for it and distribute it among ourselves. The secretary of the first company approached said they would be very glad to sell us "juice" that way, and that should we decide to build a line, he would lend us every assistance, etc.

Some data as to prospective expense was procured from the secretary and a meeting was called of the farmers living alone this state road out from Huntingdon toward McConnellstown. All present were enthusiastic for it but some were tenant farmers and did not feel warranted in assuming the expense. However, an even half dozen farm owners determined to put the project thru, each sharing equally in the expenses. For various reasons we decided not to incorporate, and we decided to locate the line on private property entirely. Copying a "Right of Way" form the central company was using, we first got rights of way signed up by the property owner as the one party, and by our Treasurer as trustee for ourselves.

The substantially built line carries twenty-three hundred volts, has three number eight copper wires, and is practically three miles in length. Between each group of two or three houses we have a tansformer that steps the current down to 110 volts. The expense is decidedly less than individual plants would have been and we have power galore, while the central plant has the machinery to look after. We, in the community, own it absolutely and get current from the central plant at half what it costs the people in town.

This is a dairy district and we purpose buying a power transformer and motor on a truck and take it from farm to farm for filling silos, threshing, grinding, etc. One farmer will likely use it occasionally at his saw mill for custom sawing. We pay the central station for current in bulk, metered where our line joins theirs.

A son of one of our subscribers reads our meters once a month and collects from each family the proportion that they used during the month.

The above has all been community work for bringing to the farmer at his own home the benefits of electric power and light. Individually speaking, each home is well and brilliantly lighted. A push turns it on while another push at the switch turns it off. These lights alone work a great transformation in a country home. Then there is the vacuum cleaner with its thoro, quick, easy, power for getting the dirt out of rugs, carpets, mattresses and heavy furnishings that have been the bugbear of housecleaning during all time. I believe that now every subscriber has running water in the home. Household conveniences and labor saving appliances that may be electrically operated are being installed rapidly. Aside from the gratification of long felt wants on the part of our families, we now awaken to the fact that we could have made no better investment for the enhancement of the value of our farms—which by the way are not for sale now. This line was just built this year and marks an innovation in the extension of electricity into farming districts. The writer was the secretary, and, if desired, I will give the detailed cost of the line per mile to us.

Residence of W. F. Hill, Past Master Pa. State Grange, Two Miles From Huntingdon, Pa.

In the course of the World War, and until February 1, 1920, the Government purchased a total of 308,918 horses and mules at an approximate cost of $191 a head.

Practical Improvements

By CLARA V. DIEHL, Northumberland Co., Pa.

When I read Pennsylvania Farmer of November 22, under the head of "Special Articles Wanted," I said: "I could very nicely use $10 for further comfort in our farm home."

When we bought our farm some years ago, this remark was made: "The place is too poor to raise mice hair; the house is too cold to live in."

First, we had to improve the land by using several car loads of tile for underdraining purposes. The fields were very wet, besides being partly covered with brush and sumac, which had been let grow for years. So, the first thing to do was to remove the undesirable growth and place the tile where it was needed.

Stumps were removed with dynamite, and low places were filled in; high places plowed and ground drawn with scrapers to level the fields.

The fertilizers needed were used on fields which were surprised to feel they were catered to. Now, our fields are large where once small fields were seen, made so by removing middle fences, thus making the fields more easily cultivated.

The improvement of the soil is not alone for profit but looking from the window it is a beautiful scene and makes the now improved house seem more comfortable.

The house was made warm by removing the outside boards and adding a lining of boards and building paper, and then putting on new siding.

The water question was at first serious, as we had to carry it quite a distance. We were most anxious to have it more convenient. We saw an advertisement in one of the farm papers. So we purchased a ram and constructed a dam. The ram forces the water up a hill back of the house, to a reservoir. By this means we have a bath room supplied with hot and cold water. We also have hot and cold water in the dining room and kitchen and a spigot with cold water on the porch.

At the barn there are three spigots, one in the feed entry, one outside of horse stable, and another in the barn yard. We have had good success with our water plant, and would advise any one who has water to pump or carry, to stop at once and put in a water system. I feel sure they will not regret the money spent in that way.

Another convenience and an improvement to our home is the telephone, we know how great a need it is for rural use, as well as city convenience. Our house is on an elevated place about ten feet above the public road so that dust does not annoy us as it would if it were low and not protected by a stone wall.

We are now considering the light question, and I think before a very long time we will have electric lights. I have given some of the points of beauty, comfort and convenience that we have added to our farm and home.

Milking Machine a Friend

By WALTER JACK, Ohio.

We have found the milking machine one of the most satisfactory and helpful installations of farm equipment we have purchased. We have used the machine for four lactation periods, and during that time it has more than paid for itself in saving hired help which would have been necessary had we milked by hand. The first year we installed the machine we were milking 24 cows; subsequently, our average has been 16 or 17 cows from which we received greater financial return, with less labor per cow. Our installation, including engine, cost $455, and the actual upkeep up the machine has been less than $20 during that time. As rubber parts are now becoming older the coming year it will be necessary to replace them.

This past summer we milked 17 cows. The average length of time it required, including putting the machine away, was about 50 minutes. Our actual expense for hired help the past year was less than $25. Had we not had the mechanical milker our necessary hired help expense would have been greater, and we possibly would have felt that we needed a hired man during the season, and the help problem would have been hard to meet. We use two double units, and one person operates the machine and my father, aged 70 years, follows, stripping the cows. During the haying season my two boys, one then seven and the younger boy has oiled the engine and vacuum pump, while the older boy puts the machine together, and starts the engine. The boys have had comparatively little trouble, and they seem to enjoy operating the machine. On the other hand, if they had a half dozen cows to milk by hand there would be much more fuss than with the machine. It has in this way enabled us to keep busy in the hay or grain field. The working day for the team has been extended well to a ten hour day or longer. The machine milks nearly all cows much cleaner than the average hired man we have employed. When the cows are in full flow of milk it makes less difference whether or not they are stripped.

Our success has been gratifying. However, all purchasers of milking machines have not had as good success as we have. I know that the same machine which we are using has been discarded in dairies. I know of other machines which are making good in some dairies, while in others they are unused. In one particular instance, a machine has been discarded because the farmer has had poor success with the engine. Continuous engine trouble during the milking period will disgust the dairyman with mechanical milking, providing he is just becoming accustomed to the machine. One cannot be continually hurrying to the engine to make adjustments, or having it stop when the teat cups are nicely placed on the cows, and everything seems to be working well. One should have sufficient number of extra teat cup clusters so that all cows may be properly fitted, and without delay. Too large teat cups, or cups with the caps expanded because of wear, will cause that trouble which will try the disposition of the most pious dairyman.

The average dairyman should not figure on extra field and farm work that he will do just as soon as he installs a mechanical milker. It takes time to become accustomed to one. The cows must become accustomed to mechanical milking. Some of our cows did not respond to the machine at their best until after it had been used fully a month. It will take a month or more for the dairyman to handle the teat cup clusters well, and to systematicly follow the machine massaging the udders in order to get the greatest amount of milk so that there will be less need to strip.

Properly cleaning the milking machine is not a serious task. We thoroly flush the machine before and after milking with washing powder followed by clear water. In the summer season we thoroly wash the machine every alternate day, and later in the year, twice a week. We use hot water from the engine hopper, washing powder with brushes, and at all times keep the sterile solution in which the rubber parts are immersed, fresh and free from unwholesome odor. We can thoroly wash the machine in about 20 minutes.

Furthermore, one striking observation in our work with the mechanical milker appeals to us. We have not had a cow lose a quarter since we have used the milker, and previous to that time we frequently had losses of this kind. We have absolutely had no udder trouble which we could trace to mechanical milking. Others may have had opposite results. Our success has been largely due to careful manipulation of the machine, massaging the udders, working down the quarters when nearly thru milking, and removing the teat cups when the machine is practically thru. Furthermore, our policy of stripping, altho many times we have not secured enough milk to pay for the effort, is a sort of check on the machine's work. Our twelve-year-old boy is as adept at massaging the cows' udders as the writer, and the younger boy is very handy manipulating the teat cups.

In the writer's opinion, the mechanical milker in the hands of the farmer who is fairly successful with average farm machinery, and who realizes that the operator must work right with the machine, as much so as a typewriter operator must use the typewriter to get results, that man will be successful with a mechanical milker. It will probably prove itself in competent hands the most valuable machine the dairyman possesses, and in fact I have heard many dairymen emphatically make this statement.

All That is Lacking in this Manure Shed is a Concrete Bottom

Implements That Pay

By NEAL DEMAREST, New Jersey

It is rather hard to say which part of our farm equipment is the best, but I think it is the manure spreader. This enables us to put the manure on the ground more evenly and shreds it up so finely, that it is available much quicker than when it is coarser.

The disc harrow is a great machine to get the ground in good condition. We would not part with it for a great deal more than we paid for it if it were impossible to get another.

One of the greatest labor savers is the two-way sulky plow. With it you can plow more and plow better than with a walking plow and it leaves no dead furrows. In plowing under rye or other green crop, the wheel in the furrow acts as a chain and draws the rye under. We have plowed up old strawberry beds when it would have been too dry to keep another plow in the ground and by plowing it when we did, we were able to get a crop planted which more than paid for the plow

One must not forget the gas engine as a satisfactory and economical farm implement for without it, no farm is complete. Ours saws all of our wood which is quite a job in itself as there are two open fireplaces and two kitchen stoves to be kept going. It also pumps water for one house and the greenhouse. If any one has had to pump water by hand for a greenhouse in the spring, when the plants are growing, they know how much water it takes.

I made a saw table, and on it we use a nine-inch rip saw, or cross cut saw. When we wanted to build a new greenhouse we sawed out the rafters on it which alone was saving enough to pay for the saw table and a good part on the engine.

The automobile comes in for its share as a time saver. We have a 1½ ton truck with which we go to market. It used to take two and one-half hours or more to go to market with the horses and nearly as long to come home. But now we go down in about forty-five minutes which allows us that much more time to work in the fields.

Then we also have a run about with a business body on the back. To save time or get any place in a hurry it is a great machine. We use it to go to market when we first start with asparagus. It will carry a load of from ten to fifteen hundred pounds in good shape. If any of your farm machinery breaks and you want a new part it does not take long to run to town to get it.

All of these things cost money, but when you consider the price of labor and the time the different machines will save you, I think you will come to the conclusion that each one pays good interest on the money invested.

A Comfortable Veranda

Mrs. E. M. ANDERSON,
Chautauqua Co., N. Y.

The handiest things I have added to my home since I have owned it is two verandas built last year. One is 8x16 feet, in the center of the front side but not extending the entire length. The carpenter suggested that we put the veranda floor on a level with the house floor so that we walk directly out onto the veranda with no step at the door and I find this far more convenient than the old one that had a step. This puts the veranda so high from the ground that three steps are required to reach the lawn but this is infinitely preferable—we don't go down them as often as we go out on the veranda. The space below the floor is filled by a pretty lattice and if I ever succeed in getting some good heavy vines around it I expect it to be "a thing of beauty and a joy forever." My time to fuss with plants is strictly limited and I don't think nature intended me for a landscape gardener anyway but if none of the ornamental vines will condescend to climb over my veranda, I shall plant grape vines pretty soon. I can make them grow and I have a friend whose veranda is very comfortably and artistically screened with them. My house is on the wrong side of the road so that the front must be exposed to the afternoon sun or closed to the view of the road but I hope to remedy this to some extent by the judicious use of vines tho none I have planted thus far have lived except my Dorothy Perkins roses and they are not dense enough to make good shade tho they do grow luxuriantly for roses.

My other new veranda is about 4x12 feet, on the north end of the house, and close beside the driveway. It gets used more than the larger one because it is where everyone drives up to the house and it is thru the door opening onto this veranda that we most often and most naturally meet company. This arrangement enabled visitors to go direct to the living room. I have always felt sorry for the inhabitants of a verandaless house and since I have my own to enjoy I feel sorrier than ever for those who haven't. Surely every one needs some.

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HORTICULTURE

MORE ABOUT ALFALFA IN ORCHARDS

It is interesting to note the gradual extension in the use of alfalfa in apple orchards. When the writer first looked into this subject about thirteen years ago, the only definite statement he could find on it was in an article referred to by the Experiment Station Record in which it was stated that "alfalfa kills trees." After reading that article, we naturally decided to see whether we could kill some in that way too, so we laid out a plot along with about a dozen others for the purpose of testing out the relative merits of alfalfa, used as a permanent cover and mulch producer, and some dozen annual cover-crops which were naturally accompanied by tillage. Most of our readers probably already know that instead of killing any of the trees, the alfalfa treatment gave us the best growth of tree at the end of the first ten years of any treatment in the experiment.

A Good Strong Hand Sprayer is Indispensible About Home Grounds

We now know of many places here in the east where alfalfa is being successfully used in orchards, in one way or another, and we also note with interest the report that many of the leading growers on the Pacific Coast have already abandoned their intensive clean cultivation, which was rapidly burning out the last vestiges of organic matter in their soils and thus ruining their orchards, and that a large proportion of these growers have now become adherents of the alfalfa mulch system. In the State of Washington, for example, which incidentally is now the leading apple-producing state in the Union, it seems that over seventy-five per cent of the orchards in one of its principal valleys—Wenatchee—are now in alfalfa, and over fifty per cent of those in the other principal orchard area—the Yakima Valley—are also either in alfalfa or under some similar cover.

This wholesale shift in orchard practice has not come about without good and substantial reasons. From about 1905 to 1912 in the whole State of Washington, clean cultivation with the maintenance of a three-inch dust mulch thruout the growing season was almost the universal practice. This was based on the idea that water was the limiting factor, and that the above method was the best way to conserve it. As time went on, however, they found that all their organic material was disappearing, their soil nitrogen was playing out, their soils were becoming hard and difficult to cultivate or irrigate, and their trees were becoming sick and dying by thousands.

The first attempts at correction were thru the introduction of suitable annual cover-crops, of which the best were finally decided to be rye and hairy vetch. These crops did a lot of good, and are apparently still preferred where the moisture supply, either natural or by means of irrigation, is not abundant. Where the moisture supply is sufficient, however, the present general preference seems to be for the permanent alfalfa mulch.

Just who first had nerve enough among the actual orchardists to plant alfalfa in his orchard and leave it there is apparently unknown. It seems however, that there are several orchards of apple or pear out there now in which alfalfa has been growing steadily for about twenty years. It also appears that these are generally the best orchards in their sections. In one case, for example, it seems that an apple orchard which has been in alfalfa over twenty years has given nearly double the yield per tree that a very similar adjoining orchard has yielded during the same time, under clean cultivation. And the present condition of the trees in alfalfa, moreover, is much the better of the two. This and similar examples scattered over the whole orchard region is undoubtedly what has led to the wide adoption of the alfalfa mulch treatment on the Coast at the present time.

Their methods of handling the alfalfa differ considerably from those that have been followed here in the East. One of the principal differences appears to be in the fact that they usually give the alfalfa a thoro disking and cross-disking in early spring after it becomes well established. This is supposed to increase the density of stand of alfalfa thru the mutilation of the crowns, and it enables the irrigation ditches to be opened up more readily. It also works the undecayed mulch into the soil, and aids in the conservation and absorption of the winter and early spring rains, thus delaying the irrigation period. They usually cut the alfalfa three or four times, removing one or two of the cuttings for hay, and leaving the others just where they fall in the swath. In some cases cutting may be omitted entirely, and the cover-crop be allowed to go down naturally, but this is not considered as good practice as to mow at least three times per season.

No provision seems to be made for returning anything such as manure, in place of the hay crops removed, as is commonly done here in the East when such a removal is made. They also do not seem to make any attempt to accumulate a denser mulch immediately around the trees, as was done in my own experiments on this subject. This is probably connected with the fact that their trees are generally planted much closer than the average eastern trees during the early life of the orchard at least. So far as moisture conservation is concerned, a real mulch of vegetative materials has proved much more efficient than any amount of cultivation of the soil, in our own work at least, and I am not sure that the mutilation of the crowns by disking early in the season would prove beneficial here after the more severe eastern winters. It is quite possible, however, that the early disking will get more of the plant nitrogen into the soil, which is probably as important as any other phase of the problem, when it would not be a bad idea to make a little trial of this method at least, in some of the eastern orchards where this plant is now being used.

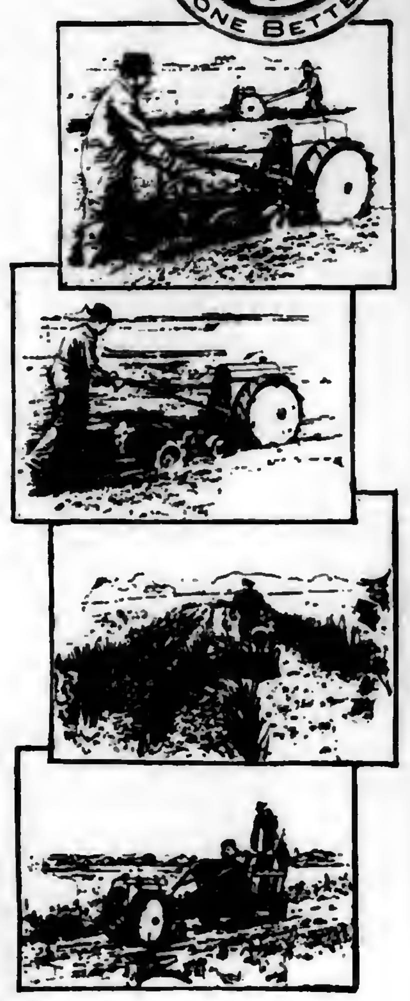
We are also not entirely certain what alfalfa will do in mature bearing orchards, here in the East, where no accumulation of a mulch is practicable. We suspect that it will prove very satisfactory, but until this is definitely proved by some one, it will always pay to be cautious. There is no longer any doubt, however, as to the very great success of the alfalfa mulch treatment in either eastern or western orchards up to twelve or fifteen years of age, and this treatment has also definitely shown itself to be about the best available in orchards of considerably greater age in the West. In these days of scarce and high-priced labor, moreover, the advantages offered by such a treatment, if only utilized to reduce the frequency of tillage in a rotation of three years or more, are undoubtedly too great to be overlooked.

It should be remembered, however, that the mere growth of the alfalfa in the orchard does not insure any addition of nitrogen to the trees—which is doubtless one of its most important features—unless some provision is made for the active decomposition of tops. This may be done either by a definite mulch, by returning manure for the hay, or by the disking mentioned above.—J. P. S.

A PAINTER'S TRICK

Many farmers do a good deal of their own painting, interior and exterior. It is difficult to avoid getting some paint on the hardware, such as locks, hinges, handles, pulls, etc. This gives the finished job a botched appearance and partly spoils the effect of the new coat of paint.

Here is a little trick of the painter's trade that will serve the amateur painter well. Before beginning to paint the woodwork apply a coating of vaseline to the hardware; let the paint dry thoroly; then wipe the vaseline off the metal parts and the paint will come off with it. This insures a neat, clean job of which the painter may be proud.



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Our Job is to serve our readers. Whenever and wherever we can help you, write us.—The Editors.

Preserve the Farm Loan System

ATTACKS are being made in Congress which are evidently intended to cripple the Farm Loan System. Special privilege Senators and Representatives have raised the cry of class legislation because the law provides that Farm Loan Bank bonds are exempted from tax. The real reason for the assault is that money lending individuals and banks are covetous of the farm loan business and dislike to see farmers having an opportunity to borrow upon terms suited to the peculiar needs of their business. A suit was brought at Kansas City attacking the constitutionality of the Farm Loan Act. The suit was decided favorably to the Act but was appealed to the U. S. Supreme Court where it still pends. Even if it is upheld the danger will still exist that Congress may change the law unless farmers watch it carefully and protest against changing the only banking law that really gives them borrowing opportunity that is smpathetic with their business.

The Place of the Horse

IN spite of the development of the automobile, the truck and the tractor the horse will always be necessary. We do not believe that even the total, or the proportionate number of horses will be reduced seriously. Horse owners, breeders and lovers have recently become somewhat alarmed and over-awed by the amount of motor vehicle advertising and are beginning a counter move "to save the horse." While propaganda in his behalf is not out of place we would rely most for his perpetuation upon two factors: First, the reason of utility which makes him an economic necessity; second, what might be called sentimental reasons. The horse has been closely associated with man in the history of the human race. In battle, in pleasure, and in the drudgery of life the horse has been the constant and dependable companion of man, and while the machine may and should relieve the faithful horse from much work and speed that is often inhuman in its strenuousness the horse will continue to have a valued place in the life of man.

Public Highways

FIFTY years ago began the development of the greatest transportation system any country ever had—the railroads. We are just now entering upon the development of another and supplimentary system—the public highways. The question of ownership, operation and maintenance of the former is still a bone of contention, with the majority seemingly in favor of the continuance of private ownership under government regulation. But with the highways the case is reversed. Many of the main thorofares were originally built and operated by private individuals, but there has been a steady development of opinion in favor of public ownership, so much so that there are now comparatively few public roads upon which the public is "held up" in its travels.

Why this change of sentiment in both cases? Cost and efficiency to the public. It is these two factors that decides the question for the majority. The average individual is not primarily interested in maintaining "vested interests," nor in the question of the "rights" of ownership, but he is intensely interested in getting the best possible service at the least possible cost, and his experience has been that private ownership in the one case and public ownership in the other gives him this—inconsistent as it may seem at first sight.

But it yet remains to be seen whether the public can build its highways honestly, economically and with a permanency that will justify the expense. As to the first question, no one claims that the railroad system was developed without great injustice and more or less fraud upon the public, and the public has its eyes on highway departments. We are more or less in the experimental stage as to materials and methods for building highways No so-called permanent roads ever had to stand the kind of traffic required of twentieth century highways. No expense should be spared in this initial stage of road building to get the kind of skill, brains and material that will insure the greatest possible degree of permanency so that the expenditure of the hundreds of millions of dollars now appropriated to that use will not have been wasted. Added to this precaution must be the determination to be as dilligent in repair and upkeep as are the railroads.

Honest Farmer Creasy

WITH the passing of William T. Creasy, farmers and the interests of agriculture lose their foremost champion. This is recognized not only by farmers but by other men as well and his death caused more genuine regret than the death of any other public man in years. The high regard which the public had for him was based primarily upon one quality—one that is so too often lacking in public men—absolute HONESTY. This trait was so patent that his opponents respected him as much as his friends admired him.

It was this quality, coupled with dogged persistency that won him what success he attained. He made no claims to brilliancy.

Mr. Creasy's reputation as a public man was earned during his 16 years' service in the Pennsylvania legislature, to which he was elected first in 1895. He was a life-long and ardent Democrat and labored under the handicap of belonging to a minority party; but in spite of this he was instrumental in placing more legislation helpful to farmers, and defeatng more vicious legislation than any other legislator in half a century. He accomplished this by appealing to the innate sense of justice in humanity and by his fearless denunciation of sham and crookedness. He was as vigilant as St. Patrick in hunting and eliminating "snakes" from proposed legislation. Altho a strong partisan, Mr Creasy was as bitter in denunciation of trickery and dishonesty in his own party as he was with the opposition.

As Master of Pennsylvania State Grange he had the unqualified support of a larger proportion of the membership than is usually the case. No serious charge that he used his position as Master to promote partisan interests was ever made, and the few such insinuations as were made fell harmless because of their origin. He was known as a fighter and much of the time he championed unpopular causes, but he frequently made them popular and finally successful. He was not disheartened by opposition of consistent opponents, but when friends failed him or proved traitorous it cut him to the quick.

William T. Creasy was first, last and all the time a farmer. His heart was in his farm home and the work of the farm. He made no money in politics—in fact, by his own words, strict attention to his farm would have returned him more money and greater enjoyment, but he devoted years of his life that he might leave the lot of all farmers better than he found it. Farmers everywhere will bless the memory of HONEST FARMER CREASY.

Our Washington Letter

In the discussion on the agricultural appropriation bill, a few days ago, Congressman Thomas L. Blanton, of Texas, severely criticised that part of the measure which provides for the payment of 754 messengers in the Department of Agriculture. "If this is economy," he said, "we are never going to convince the folks back home of the fact. Half the number would be enough, and three hundred would be two hundred too many." Then he went on to say that the passage ways of the Department of Agriculture building were so blocked up with useless messengers that there was hardly room for a congressman to pass thru.

Of course, this bright, little witticism was the only part of the debate that attracted the city reporters, and the impression went out that the department was a haven of refuge for men and boys seeking soft jobs.

Following Representative Blanton's charges a statement from Secretary of Agriculture Meredith was read, which presented an entirely different view of the matter. According to Secretary Meredith, 255 of the so-called messengers are employed in the field and 499 in Washington. Of these many are employed as laborers, only 300 being used as messengers in Washington, and some of them are utilized in unloading trucks, doing janitor work and similar duties. It was also shown that there are 42 buildings or parts of buildings in Washington occupied by the Department of Agriculture, and these buildings are widely scattered, necessitating the employment of a considerably number of employees listed as messengers.

* * *

Whenever any legislation is proposed that effects the interests of the meat packing industry there will be on hand at the hearings and talking enthusiastically in favor of the packers, Western men who claim to be stock raisers and that they represent the producers; but once in a while a real Western cattleman, who has all the identification marks of his occupation, comes to Washington and tells a different story. John Bullock, president of the Little Missouri River Live Stock Growers' Association is one of them. He says that cattle, sheep and hogs on the farm and range have dropped heavily in price since last August, but consumers have nothing to look forward to but higher prices than are now prevailing. "Young men by the thousands," he says, "out on the Western farms and ranges are refusing to raise feed while the packers take the profits."

* * *

The labor leaders, having succeeded in getting the "anti-strike" clause out of the Cummins Railroad Bill, decided not to force a general railroad strike just now to compel the railroad administration to grant them another increase in wages before the roads are turned back to their owners.

* * *

According to the committee having the Gronna bill in charge, it will not make the government repudiate its guarantee, but it does abolish Mr. Barnes' office, and provides other means for carrying out the provisions of the guarantee.

During the hearings now being held, the Senate Committee on Agriculture's room is crowded with grain buyers and flour dealers, men who opposed government price fixing and the establishing of the United States Grain Corporation, when the government first undertook to stabilize wheat prices, but who are now vigorously protesting against any interference by the Senate with the activities of Mr. Barnes.

* * *

The Senate Committee on Agriculture is composed of men thoroly in sympathy with the farmers, and who are evidently actuated in this grain corporation hearing by a desire to help the farmers in the marketing of their products. It is probable that Mr. Barnes and his assistants may have to go, and that the grain corporation will be restored with more rigid safeguards for the producers' interests, to remain in control until the expiration of the government's guarantee.

If the farmers generally demand the continuance of the guarantee, it is also likely that the time limit may be extended another year. This is an important matter that has come to light during the hearings. It is comparatively much more important than the Gronna bill itself, and it deserves the thoughtful attention of farmers everywhere.—Elmer E. Reynolds.

HARRISBURG LETTER

Influenza State Wide.—While the epidemic of influenza that swept over Pennsylvania this winter has not been as serious in its results as that which prevailed in the fall of 1918 and the early winter of 1919 the number of cases reported has been large and disorganization of schools and many agencies has caused apprehensions. In a number of the northern rural counties doctors have reported whole families prostrated by the ailment and in some instances there was a tendency to turn into pneumonia In the cities the disease seemed to be of a rather severe type, but in the country doctors reported that it was generally unlike that of the last outbreak. The worst of the epidemic seems to be passing and there has not been a county or town of any size that has not reported cases, which will furnish an absorbing study in view of the health education steps to be taken in all counties under direction of physicians, teachers, editors, business men and others interested in folks keeping fit and working for disease prevention. The number of new cases reported daily has been declining the last week, but medical authorities say that the aggregate loss of earnings will run very large, especially in the small communities, where industries were hard hit.

Health Insurance.—In this connection it is interesting to note that the State Commission to make a study of sickness insurance has been named again and called upon to make a report to the next legislature and that it will make investigations according to districts and typical industries. Other states are taking up the same line of study, just as they are doing with the old age pension problem. It is the intention to have studies made in manufacturing centers like Philadelphia and Pittsburgh, mining, railroad and other communities and in agricultural districts like Lancaster and Berks Counties so that the percentage of time lost thru sickness by workers can be ascertained. At the same time there will be an inquiry as to how health insurance is carried. It is notable that there is a disposition in various state activities to learn the extent of illness in rural districts as well as in towns and the relation of health insurance to the farm will come into consideration for the first time.

In Rehabilitation Too.—In the last week a decision of unusual interest was rendered by the attorney general's department to the commissioner of labor and industry, it being held that an accident occurring in agricultural pursuits was to be considered an industrial accident and that the state should aid a person handicapped by such a mishap to secure suitable employment. The compensation code exempts agricultural accidents from the operation of the employers liability or compensation law but it is held that this is no reason to bar the victim of a farming accident from the rehabilitation system of the commonwealth. It is a significant finding.

Closing Institutes.—The final institutes of this winter's series will be held the first ten days of March. Taken all in all the State authorities profess to be well satisfied with the attendance at the meetings. They say that the severest weather came when the institutes were scheduled for the big eastern agricultural counties where people make a point of attending institutes even if they have to climb snow drifts. The attendance in Lancaster, York, Chester and other counties in that part of the state was reported as very good. The schedule for March includes McKean, Potter, Indiana, Wyoming, Lackawanna, Wayne and Pike counties.—Hamilton, Harrisburg, February 22nd, 1920.

NEW YORK LETTER

Weather and Market Conditions.—The worst blizzard of a very severe winter culminated after Farmers' Week, after raging more or less fiercely all that week and the next. Railway and other traffic is tied up all over the state. Markets are badly demoralized. Stock has accumulated at some points and is wasting, preventing unloading of fresh stocks. Some receivers are refusing consignments of produce as it will not sell for enough to cover freight charges. City tie ups mean a demand far less than the supply and great loss to producers of perishables. The butter market remains about the same, 67 to 68 cents in New York and as high as 80 cents in some municipal markets as few farmers can not get in to deliver. Eggs are 73 to 80 cents as compared to 55 cents of a year ago.

Shortage of Seed Feared.—Apprehension is felt by growers over the 1920 seed supply, particularly of certified seed potatoes. A recent survey shows little in storage and many orders refused. Cortland, Onondaga, and Cayuga Counties also some Northern counties have grown much fine seed but there is need of development of the work as Long Island and Southern growers must buy in the north and want the best seed. Kasoag growers have come into prominence in seed potato circles also. An early spring is predicted and where labor can be obtained a full crop is predicted. Nurseries report calls far in excess of stocks.

School and College Notes.—There are 993 resignations of New York City teachers who can earn more at other work, 50 to 200 percent increases in salaries being achieved by change There are 348 positions now vacant. This is typical of conditions all over the state, schools being supplied by teachers who are incompetent, untrained and immature. As an example of the hardships and handicaps imposed for lack of sufficient funds for state college work, 40 to 50 students will be sent to the far north and very cold county of St. Lawrence on March 1 to live in tents the remainder of the winter a necessary procedure in carrying out their ranger work for the year. This means they will have to endure some of the severest cold of the year. The State Ranger School at Wauakena, where the boys go has asked for $75,000 for a new building to house students. Even if granted the appropriation would not be available for another year.

Feed Men' Responsibilities.—The eastern feed dealers met in conference this week in Syracuse and S. F. Hogue, head of the state's dairy bureau told them the future of the dairy business rests with them. Many of the small dairy owners cannot mix their feeds, or buy in big lots, and if dealers are not fair with them they cannot operate or remain in the business. The feed men took the position that it was not fair to compel them to give high class formulas to trade competitors. Honest labelling of goods is demanded by dairymen and there is no good reason why it cannot be secured.

Horticulture Demands.—Despite a preponderance of cattle interests on the fair commission and their desire for a cattle amphitheatre the horticultural and floral interests are determined to go the limit in securing the next building to be erected on the state fair ground. A building was promised to them 6 years ago. At a bitter contest at Farmers' Week the Horticultural exhibit was placed as usual in Syracuse for 1920, tho Rochester wanted it.

College Buys Hogs.—During the worst of the recent blizzard Cayuga County hog breeders held a consignment sale which proves them worthy of a place in the front ranks of the Duroc-Jersey swine industry in this state. Tho some consignments could not be delivered at all and others were two days in the snow banks getting there. Fifty-two fine animals were sold. The state college bought the foundation for a splendid herd, including a prize sow sired by a $16,500 boar, a grand champion at the National Swine Show. One 11 months old boar weighing 352 pounds alive was dressed, showing a loss in dressing of only 27 pounds. Many of the purchases were at fancy figures.

Milking Machine School. — The dairymen of Homer, whose clean milk has state wide fame and whose methods have been adopted in the west, in England and other countries will hold a three day milking machine school beginning March 1, in the Town Hall. Two state college experts and others will give instruction in operating the machines to best advantage and in gas engine handling.—F.

NEW JERSEY NEWS

Agricultural Legislation.—Considerable legislation has been introduced in the New Jersey Senate and House so far in the 1920 session of interest to agriculturists thruout the state. The measures are Senate, daylight saving, authorizes freeholders to maintain highways; to appropriate not more than $5,000 for care and training of destitute children, regulates the weighing and testing of milk and cream, provides for submitting of road plans of freeholders to State Highway Commission so that more effective co-operation on road building may obtain between various counties, provides for appropriation of $10,000 from Motor Vehicle Fund for each county for work on unimproved roads, allows increase of salary of county school superintendent from $3,000 to $4,500, appropriates $10,000 for investigation of the biology of sewage disposal for its more effective purification by the Agricultural Experiment Station and the State Department of Health and is designed partly to reduce per capita consumption of water and the recovery of fertilizing compounds, includes township committee in board for jurisdiction over drainage of meadowland, prohibits in the manufacture of beer such substitutes as may be obtained for grain, hops and malt, increases the salaries of court attendants or constables in counties with a population between 175,000 and 250,00 inhabitants to a maximum of $1,500, prohibits removal of skin or feathers from birds or animals by hunters in woods or fields or meadows to disguise what variety of birds or animals are killed, allows extension of State Highway into municipalities of 20,000 instead of limiting act to municipalities of 12,000 and affects Millville and Bridgeton in South Jersey, allows counties to advertise escape of prisoners and offer $150 reward for apprehension, allows $500 for travelling expenses of helping teacher and also allows 30 percent of salary as bonus for year, amends small board freeholder acts of 1912 by increasing salary of freeholder to $3,000 in counties having less than 500,000 inhabitants and to $4,000 in counties having more than 500,000 inhabitants and give directors $500 additional in first class counties and the county supervisor an annual salary of $5,000, provides for appointment by Governor of commission to acquire toll bridges located within the state and appropriates $615,085.16 for the work. House Bills.—Establish payment for producers of milk based on percentage of butter fat in milk and cream sold to dealers, places fine of $25 on owner of bull at large, allows freeholders to pay for work which exceeded appropriation because of war conditions, leaves fruits and cereals and truck and vegetables free of taxes while growing and one year after harvesting, increases county tax boards to two members from each party, a daylight saving act similar to the repealed Federal law, gives teachers minimum salary of $100 instead of $70 per month, prohibits dismissal of secretary and assistants county tax boards for political reasons, prohibits use of wires or fastening tags to bags containing animal food, allows Highway Commission and counties to build roads over lands now or formerly under tidewater, allows pensioning of county employes who have served for 40 ears, amends freeholders act of 1916 by increasing salary of freeholdes from $300 to $500 and directors from $500 to $750, grants sheriff two and one-half percent for land sales not exceeding $5,000 and increases other fees, permits counties to fix salary of superintendent of soldiers' burials, gives township committeeman $500 salary and chairman $250.

Farmers Will Not "Lay Down."—So many reports have been in circulation to the effect that farmers in the state would raise only a sufficient amount of crops on their land for their own use has caused more or less belief that products of the farm will not be grown for use of the city consumer, but from the opinion of persons who are in close contact with the agricultural side of New Jersey, it can be accepted as a certainty that the farmers will till just as much of their land this spring as ever before, despite the discouraging prospects ahead for them in the way of scarcity of labor, excessive cost of labor and seeds, etc.—Kelly.

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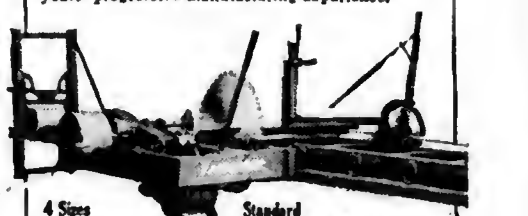

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Did Your Potatoes Blight and Rot?

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This is the work of potato blight which attacks the vines during cool, damp weather in late July or August. It kills them before the potatoes are able to size up. It causes the potatoes to rot—either in the ground before they are dug or after they are put in the cellar.

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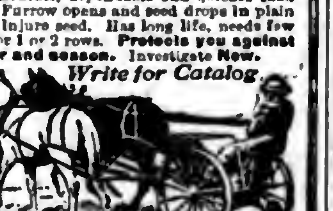

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Pecans at a dollar a pound mean big money to men who own nut orchards. It's almost all net profit, as nut trees require comparatively little care and attention.

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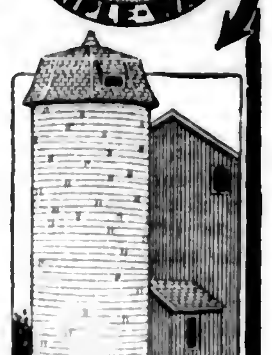


COMPOST AND MANURE FEED THE HOME GARDEN

"Feed the garden if you expect it to feed you." Rotted manure is probably the best material for this purpose. Manure is not a strictly balanced fertilizer, but by means of storing it in the open where rains and weather have full sweep, it loses a good part of its nitrogen and in lesser part some of its other constituents. This removes some of the danger of over-application of nitrogen and still supplies the other food elements in sufficient quantity and in an available form. Another way of feeding a garden is by applying compost. This is usually broken down sods mixed with some animal manure, sand and earth, though sometimes it is nothing but what is left of the pile of lawn clippings, vegetable garbage and shadetree leaves. Unfortunately this material is lacking in plant food, especially phosphorus, the element most needed.

Fresh manure in sufficient amounts to fill the phosphorus needs may result in over-feeding fruit and root vegetables with nitrogen. Well-rotted manure is an expensive form of plant food. The gardener may get out of his difficulties by applying a two-horse load of manure, fresh or rotted, to 1000 square feet of garden, and with it ten pounds of acid phosphate. If the manure is well rotted and he is interested in leaf crops he will do well to apply four pounds of nitrate of soda. Wait until growth has started to make this application to such crops as lettuce, cabbage, onions and celery. Compost should be reinforced by the addition of any of the nitrogen carriers named, one pound, and acid phosphate four pounds, to each 100 square feet of garden.

FERTILIZING THE ORCHARD

One of the most practical results secured from work at the Experiment Station is the fact that many of the old farm orchards may be brought into profitable bearing by careful fertilization. Too often the hogs or calves are given the run of the orchard, so that the trees are practically starved out, there being no fertility left to produce the fruit. However, if these conditions are remedied, old trees often from 30 to 40 years old, may be made to bear good crops of fruit if the trees are still in a fair physical condition.

It is necessary to prune rather heavily and to keep up the fertilizing work in order to secure good results. However, as near as can be recommended for practical purposes, 3 pounds of nitrate of soda, 5 pounds of acid phosphate should be used to the tree and then all livestock kept out of the orchard. The growth of grass will aid in making a mulch for the ground and also return the fertilizing elements to the soil. These elements as named are necessary for good growth and vigor of the trees as well as fruitfulness. Other fertilizers, such as manure, tankage and bonemeal, do not have such quick response as the ones mentioned.

This treatment costs about 35 cents per tree, but some of the recent results secured show an increase of about 3 barrels per tree.—C. M. B.

RASPBERRY RUST.

Blackberries and Black Cap Raspberries are often injured by Raspberry Rust, a disease which also goes by the name of Orange Rust, from its characteristic color. The Bureau of Plant Industry, Pennsylvania Department of Agriculture, says there are two stages of it, the first of which shows on the leaves and stems of individual plants as small rust spots dotted under the leaves. Such a plant has a sickly yellow color that can be recognized a hundred feet away. In the succeeding stage the brilliant orange rust develops in numerous furrows or ridges on the underside of the leaves and so plentifully are spores produced that the ground and the surrounding leaves may be tinged with the deposit of spores.

The only remedy for Raspberry Rust is to dig up and burn the whole plant as soon as the first sign of rust is seen on it. The rust fungus grows into every part of the root and shoots so that cutting off at the ground is of no use, as the new shoots will also be affected. The plant will always be worthless once it has rust, so it should be destroyed before the spores appear or they will carry the disease to other plants. If affected bushes are burned or completely buried as soon as dug there will be no danger of this sort.

CABBAGE STUDIES.

The county agents and the specialists of New Jersey, have taken up their cudgels against the foes of cabbage as shown in measures taken last year to control the "yellows," a disease which prevents the cabbage from reaching maturity, and the demonstrations conducted to hold the cabbage maggot in check. Varieties of seed from Wisconsin, where a fight is being waged on the yellows, were tried out last year in the hope of finding a good-yielding, disease-free variety. The plants were grown at the College Farm and then distributed to cooperators in Camden and Burlington counties, where this vegetable is most extensively grown.

But the most striking work done with cabbage last year was in the use of acid phosphate to produce larger heads and more abundant growth. Bergen County vegetable growers can get large quantities of manure very cheaply, apply it heavily and need no commercial fertilizer to supplement it. Demonstrations were therefore conducted in Bergen County last year to show the value of acid phosphate in combination with manure. The results showed not only a 23 per cent increase in the number of heads cut, but also a 20 per cent increase in the size of the heads in favor of the acid phosphate plots.

THE HOME BERRY PATCH

Few localities have an abundance of bush fruits and there is usually a market for all such fruit produced at a good price. Any way you look at it berry growing offers an opportunity to a larger number of people than any other branch of fruit growing. They offer a wide variety of flavors, a range of uses and may be grown on almost any sort of soil.

Naturally bush fruits have their soil preferences but heavy, acid clays and extremely sandy soils should be avoided for most berry bushes. The black cap rasberry does well on slightly acid soils while the red cap will not stand this sort of ground. Acid soil should be limed before red caps are set. Blackberries, currants and gooseberries will grow on soil that is slightly acid but the growth and production of each can be helped by an application of lime where acidity is very pronounced. Where a wide range of soils is at the disposal of the beginner with fruit it is well to use the proper soil for the proper berry. Where space is limited corrections can often be made at a slight cost that will make the ground produce good crops not only of berries but of any catch crop that may be used while the berries are coming into bearing. Strawberries prefer a well-drained friable clay loam, to either stiff clay or slight sand. Any soil that will produce a good crop of potatoes will produce either raspberries or strawberries as a rule.

The best strawberry patch we ever grew was on ground that had been in early potatoes. It was sown to rye as soon as the potatoes were harvested which was plowed under late in the fall and the ground dragged down. The next spring this ground was double disked before the berries were set. This not only put the soil in a good physical condition but destroyed many weed seeds. The berries were set in rows two and one-half feet apart and the plants one foot apart in the row. All runners were kept cut off. The varieties included Senator Dunlap, Warfield, and a few plants of an unnamed variety which we procured of a local grower. They were not of excellent quality but produced exceptionally well for two years.

A part of this plot was set in raspberries and beans planted between the rows the first season. The rows were set seven feet apart while the plants were set three feet apart in the row. We staked these bushes the second year and grew another crop between the rows. This kept the weeds down and paid something for the use of the land while the berries were coming into bearing.

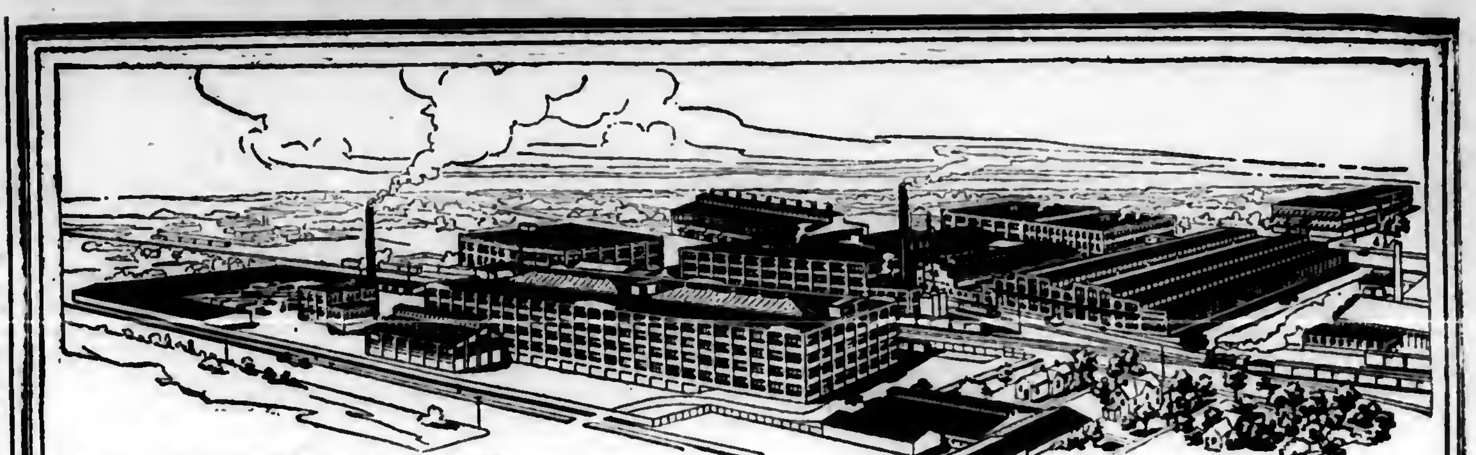
Absolutely clean cultivation is necessary for best results in strawberry culture but many people neglect this important item in other bush fruits. It is just as essential to keep the raspberry paths as clean of weeds and for this reason we like to grow some crop between the rows. Such a crop should be one that is not too difficult to tend and one that uses a minimum of plant food unless additional plant food is supplied. Bunch beans are good. Where manure can be added and worked into the soil we have had fine success with early potatoes. However the soil should be leveled down after the potatoes are dug.

It is not wise to go in very heavy on the less known, little grown bush fruits or to spend much time on novelties. Black caps, red raspberries, blackberries, strawberries, currants and gooseberries naturally offer the best opportunities for those who expect to grow berries for the local market and the home supply. Where room is limited and one does not have the time to give to bush friuts fewer varieties and better care pays well.

Both currants and gooseberries grow well without much attention but it is a good plan to spray the trunks and lower branches with arsenate of lead in order to destroy the worm which sometimes destroys the foliage of both plants. However this spray does not kill plant lice and a spray of nicotine sulphate or kerosene emulsion is the best remedy for this pest. A mild mixture of bordeaux has proven of worth for these as well as other bush fruits.

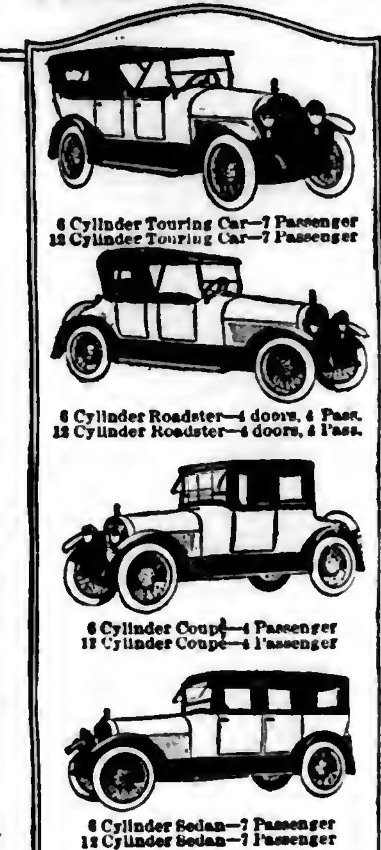
A study of any nursery's catalog will give practically all of the information necessary in regard to planting bush fruits. The best judge of what and how much to plant is the grower himself. He knows his local conditions and his likes and dislikes. He should plant to meet them. If you do not understand local conditions, that is, what berries are in most demand in your locality, you should make an effort to learn them before planting. Strawberries are always in demand in most communities. We have never had enough of any sort of fruit to meet local demands to say nothing of shipping. Currants and gooseberries are not generally grown as extensively as either raspberries or other ordinary bush fruits but they always sell well at a good price and take no more if as much care as the others. However home consumption is the first consideration but if too many plants are set the surplus can be sold. Both the commercial orchards and the home orchards suffered a slump during the war and as the fruit trees become fewer and fewer the demand for berries becomes greater.

Care should be exercised in the selection of plants. Personally we prefer to deal with the nurseryman who has a reputation and who stands back of his product. The extremely low priced article or the exceptionally high priced one are passed up for the medium priced plant. It is a good plan to buy of a home nurseryman if he cares for his stock in the proper manner both in growing and shipping it. The local agent for a company can usually offer some good suggestions. If his prices and his goods are right he is the man to buy from but if they are not he does not deserve your business. A good plant is valuable but a poor one is worthless. Often plants can be procured from a local grower but do not patronize the man who has a jambled up collection of berry bushes and can tell you the names of none of them. Tips from bushes that are strong, clean and vigorous and which the grower knows to be true to name are worth paying for but tips from canes that have been poorly cared for, where the varieties have lost their identity and where the fruit is of no value are expensive even as a gift. —W. C. Smith.



Haynes factories at Kokomo, Indiana, devoted exclusively to the manufacture of Haynes character cars. Haynes cars are ninety per cent Haynes made.

GREATEST YEAR IN HAYNES HISTORY PROVES WORTH OF CHARACTER CARS



6 Cylinder Touring Car—7 Passenger
12 Cylinder Touring Car—7 Passenger

6 Cylinder Roadster—4 doors, 4 Pass.
12 Cylinder Roadster—4 doors, 4 Pass.

6 Cylinder Coupe—4 Passenger
12 Cylinder Coupe—4 Passenger

6 Cylinder Sedan—7 Passenger
12 Cylinder Sedan—7 Passenger

Cord tires and wooden wheels standard equipment on all six cylinder cars. Cord tires and five wire wheels standard equipment on all twelve cylinder cars. Disc wheels optional equipment, at an extra charge, on all models.

HAYNES
America's First Car

WE wish to express our profound appreciation of the meaning of the public approval bestowed upon the Haynes.

The past year has been the crowning year in the history of America's first and oldest successful manufacturers of motor cars. We feel that the success of the Haynes has been more than popularity—it is acceptance by the car user of the value of the vital factors of character which are deftly combined in the Haynes.

Beauty, strength, power and comfort—these are the four essential factors of car character. For the Haynes they have crystallized the good repute of the past twenty-seven years into a solid foundation of good will which is worth vastly more to us than any other testimonial which could be given.

A Haynes user knows what a Haynes car means. There are thousands upon thousands in use to-day giving service and satisfaction. No safer guarantee is there than the tried and tested judgment of such a large number of astute investors. A growing clientele points the way to judge the worth of a company's product.

We hope to be able to keep pace with the demand, and to that end our producing facilities have been and are being enlarged. Again, however, we would state that no Haynes car can leave our factory until it has satisfied our engineers, designers, and inspectors that it is fully up to the rigid Haynes standard of beauty, strength, power and comfort.

A beautifully illustrated brochure, and prices, will be sent on request. Address Dept 238

The Haynes Automobile Company, Kokomo, Indiana, U. S. A.

The Haynes, AMERICA'S FIRST CAR now exhibited by the Government at the Smithsonian Institution, Washington, D. C., was invented, designed and built by Elwood Haynes, in 1893.

This advertisement copyrighted, 1920, by The Haynes Automobile Company

1893—THE HAYNES IS AMERICA'S FIRST CAR—1920

Once Grown Always Grown

176 pages of real garden facts

THE MAULE SEED BOOK FREE

Right methods and tested seeds mean productive gardens. Maule's Seed Book gives both. Benefit by our 43 years' experience as seedsmen, gardeners, and farmers. All the secrets of garden success and a lot of new, *unusual* features. Send for it today

WM. HENRY MAULE Inc.
2175 Arch St., Phila., Pa.

WITTE ENGINES Gasoline-Kerosene 2 to 30 H-P. Stationary and Portable, can now be ordered with STANDARD **BOSCH** H. T. IGNITION

Write for latest Direct Factory Prices on all styles WITTE—with Bosch Standard Magneto—High Tension—the only Ignition for Kerosene. SAVE $15 TO $500 BUYING DIRECT. Catalog FREE.

Witte Engine Works 2046 Oakland Ave., Kansas City, Mo.
2046 Empire Bldg., Pittsburgh, Pa.

Strawberry plants at $4.00 per thousand and up. Have the best kinds, also Raspberries. It will pay you to write for my list. W. M. JOY, Route 3, ALLEGAN, MICH.

100 Everbearing Strawberries Plants $2.00 Post Paid 200 for $3.85, 300 for $5.50. Americus, Progressive, Superb, Francis, Peerless—some of each while in supply. When sold out of one or more we will send the others. Catalog Free. C. N. FLANSBURGH & SON Jackson Mich.

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Sweet Clover Seed and honey direct from producer. Circular and prices free. JOHN A SHEEHAN, Route 4 FALMOUTH, KY.

A Worthy New Member of the Famous "Acme" Tillage Line

For more than 40 years "ACME" Tillage Tools have helped to make the American farmer the world's most efficient producer of food stuffs. The best features in standard disc harrow construction have now been combined with exclusive new features in the

"Acme" Disc Harrow

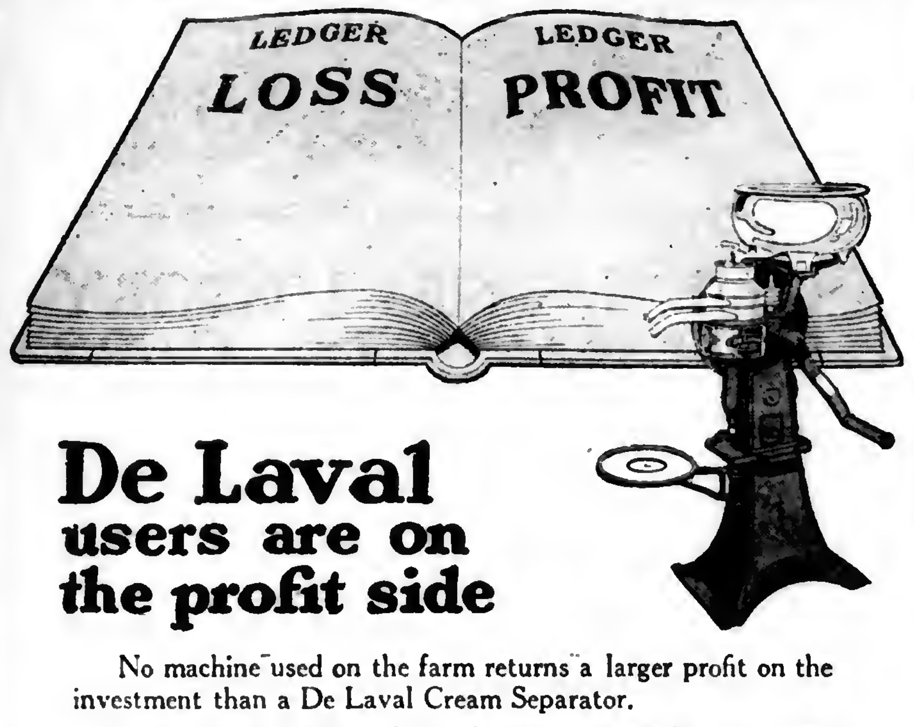
The discs are so shaped as to enter the ground with a clean cut. The direct thrust of the axles is taken up on dust guarded ball bearings instead of cast bumpers. These features make the draft light. Offset gangs do away with the middle ridge so objectionable to the careful farmer. The gangs can be set independently—the driver can hold the tool to its work on steep hillsides. Pressure springs make the discs "bite in" and prevent skipping of low spots.

Order early so as to secure a full season's use. Write today for circular and prices.

"Acme" Disc Harrow: Fore trucks, tongue or a combination of both as desired. 8 sizes, using two, three or four horses.

Duane H. Nash Inc., 137 Elm St., Millington, N.J.

DE LAVAL
Separator Savings



De Laval
users are on
the profit side

No machine used on the farm returns a larger profit on the investment than a De Laval Cream Separator.

It saves from 25% to 50% of cream twice a day every day in the year over crocks and pans; and from 10% to 25% of cream over an inferior or half-worn-out separator.

With butterfat at the present high prices these savings mount rapidly. Many thousands of users have found that their De Lavals paid for themselves in a few months. De Laval users are always on the profit side of the ledger at the end of the year.

More De Lavals are used than all other makes combined.

Your local De Laval agent will be glad to demonstrate what an Improved De Laval will save you. If you don't know the nearest agent, please simply write the nearest office below

THE DE LAVAL SEPARATOR CO.
165 Broadway NEW YORK
29 East Madison Street CHICAGO
61 Beale Street SAN FRANCISCO
50,000 Branches and Local Agencies the World Over

HAY
W. D. POWER & CO. 601 W. 33 St., New York, are the largest handlers of commission hay in greater New York; if you have hay to dispose of communicate with them.
HAY

SILO USER AGENTS WANTED
Men wanted in every locality to own, show and sell famous Cincinnati Silos. Liberal spare-time profits. Full details free with special introductory offer.
Hasser-Stander Tank Co. Dept. F Cincinnati, Ohio

HAY Ship To The Old Reliable House
Daniel McCaffrey's Sons
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MOLASSES Richest Feed Lowest Cost Write for Special Price
Philadelphia Molasses Company, 1055 Beach St., Philadelphia, Pa.

are you a real expert?

IT TAKES a real expert to mix result-producing dairy feed just as it takes real experts to design and build good separators and stanchions. Do you match your feed-mixing ability against that of men who have been producing feed for thousands of dairymen for 17 years?

If so, all right, but you will never be sure which feed gives the best results until you try our feed too. Why not feed Union Grains to half your herd and your own feed to the other half? There's the test. If you think prepared feed is *dearer* than your feed, here's an opportunity to learn the facts.

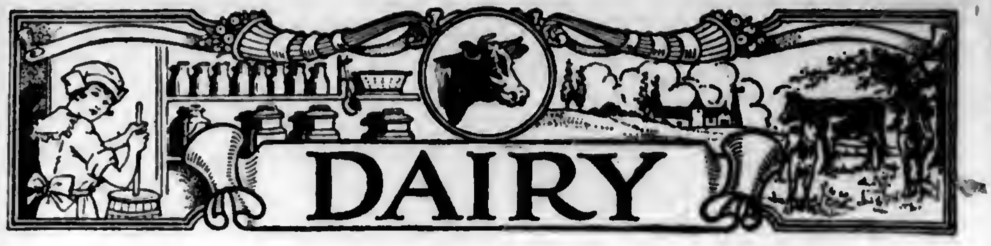
If it is, we'll congratulate you. If not, you can lay away a few extra dollars each month. It's a sporting proposition. Will you take it up?

We will send cost sheets so you can keep an accurate record?

We also produce Ubiko Stock Feed, Ubiko Pig Meal, Ubiko Buttermilk Egg Mash and Ubiko Buttermilk Growing Mash.

THE UBIKO MILLING CO. Dept. P CINCINNATI, OHIO
3

UBIKO
BALANCED RATIONS
For All Farm Stock
UNION GRAINS



Diseases of the Cow's Udder

Diseases of the udder may be classed as two kinds: Those resulting from external sources such as bruises, contusions, injuries by sharp pointed objects, and the like; and those that are due to internal conditions such as too rich feed and forced feeding in order to stimulate a heavy milk flow. These conditions may be infectious and non-infectious, such as infectious mammitis and simple mammitis.

Treatment of the diseases of the udder is so often unsatisfactory that it should be the aim of every dairyman to prevent them by proper care and attention rather than to wait until the disease is well developed and then expect successful treatment. It is an old saying, "an ounce of prevention is worth a pound of cure." We believe, tho, that the least prevention of a cow's udder from diseaes is worth more than all the cures that you can possibly employ.

Majesty's Isis 265701. Record, 17.469 lbs. Milk, 955.87 lbs. Fat

The cow's udder is a very highly developed gland, composed of very sensitive tissues and a network of blood vessels thru which blood and lymph are carried and from which the fluid portion of the milk is secreted. A good milking cow has a most highly developed udder which is more likely to become deranged either thru carelessness, or from injury. A cow of this kind will usually demand a great deal of attention just before calving time, as the udder may become swollen, red, tender and hot to the touch, which indicates inflammation. At this time milk will usually be found in the udder and should be milked out. The milking should be done as carefully as possible and should be repeated three or four times daily if necessary. The cow should have not more than half feed for about 10 days or two weeks before calving, and three or four days before this time she should receive a dose of some good laxative, also plenty of exercise in the open air.

Some cows have large, pendulous udders which are often injured when the cows get up or lie down, especially if the stall is too small. Injuries are sometimes sustained while the cows are in the pasture, or when they step over high sills and the like. Occasionally the udder is injured by coming in contact with a cement floor when no bedding is used. These wounds should receive attention as they become very serious if the injury becomes infected. The treatmnt which we recommend at the end of this article for simple mammities will do very well for this class of injuries.

Bloody Milk

Due to the enormous flow of blood thru the udder and the great number of blood vessels, we frequently have bloody milk in the heavy, rich milkers. Sometimes, the first thing that is noticed is a slight pink tinge to the milk when it is drawn and it will be somewhat frothy. Soon streaks of blood and small clots will be noticeable. As this is due to a congestion and a rupture of some of the small blood vessels of the udder it becomes necessary to draw the milk with as little manipulation of the udder as possible. This condition is usually brought about by feeding large quantities of rich and sometimes irritating feeds in an effort to stimulate a heavy milk flow; therefore, the feed should be reduced to about one-half and th cow should receive a laxative. If it is caused by an injury, the same procedure should be observed. If large quantities of blood are observed and the udder is tender, it is advisable to use a sterile milk tube for drawing the milk for a while. The teat and tube should be sterilized with a mild antiseptic before the tube is used, or infection will be introduced which is worse than the ruptured blood vessel which is rarly ever of any consequence if taken care of properly as soon as it is noticed.

Tuberculosis

This condition cannot be determined definitely by a physical diagnosis, but requires the tuberculin test to confirm the diagnosis. This disease is quite common in old dairy cows which have been heavy milkers. It manifests itself usually in hard tumorous masses of different sizes. Sometimes the udder will yield a thick heavy yellow substance resembling pus and which may in reality be a tubercular abscess; but more often it is a hard firm mass which can be very readily felt upon palpitation of the udder. When such a condition of the udder is found, the presence of tuberculosis should be suspected and the tuberculin test should be immediately applied to confirm or disprove the diagnosis.

Tumors of the Udder

If the tuberculin test fails to show tuberculosis in those cows whose udders contain hard indurated masses that are discernible by manipulation,

it is plain that we then have a tumor of the udder. These growths are usually benign in character in comparison to those of the human family which are usually maligant or of the cancer variety. Surgical interference is not practised for this trouble and it is not often that medicinal treatment is of much value.

Suppression of Milk

This condition will result from insufficient feed, debilitating disease, and ill health, but, occasionally, it will be seen in a cow which will apparently be in good health and will show no signs of any sickness or irregularity. This condition is caused by an affection or a temporary paralysis of the trophic nerves which stimulate the secretory action of the udder and it should be treated immediately. When this condition is first noticed, the cow gives only about half as much milk as she has been giving and in the very next milking she will give very little milk at all

In our practice we have gotten better results from the use of one-half ounce fluid extract of Nux Vomica and 1 ounce of fluid extract of Pilocarpus or Jaborandi, same to be divided into three doses and a dose to be given every three or four hours. Milking the teats the same as tho milk was being drawn will assist in stimulating the secretion of milk.

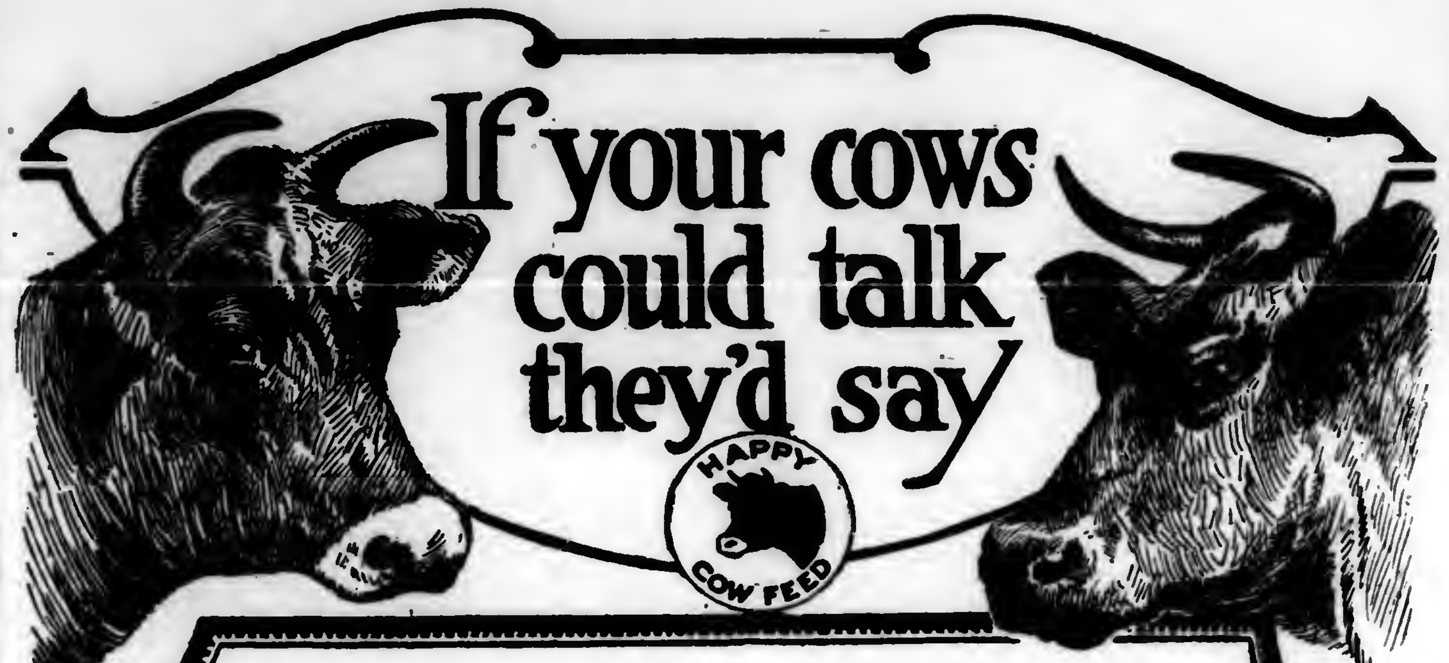
Simple Mammitis

Simple mammitis is a condition that is usually spoken of among cattlemen and dairymen as garget. It is a simple congestion of the udder. It attacks the cow in various ways. Its severity at timea puts the animal off feed and raises the temperature several degrees, and may almost completely stop the milk flow. At other times it will be so mild as to cause very little inconvenience. The frequent emptying and the kneading of the udder by a suckling calf's nose will sometimes be all the treatment necessary. The temperature in the simple congestion of which we are now speaking is rarely above two or three degrees. The milk flow is decreased to some extent and, as the disease progresses, the milk becomes watery and finally contains strings and clots. The udder is doughy to the touch. Reduce the feed and bathe the udder with hot water, after which it should have a thoro yet a gentle massage with one part of poke root, belladonna or spirits of camphor in seven or eight parts of lanolin vasoline. If the udder begins to soften after several hours of treatment, it is usually a good symptom that the case is terminating favorably and that the function of the gland will be restored.

Infectious Mammitis

The cow affected with infectious mammitis will usually refuse to eat. The hair stands on end and the nose is hot and dry. The temperature is very high, as much as 106 Fahrenheit, and the animal usually walks with a limp. The respiration and the heart beat are greatly increased. The animal usually stands around much of the time as it is painful for it to walk, and it refuses to chew its cud.

It is inadvisable for the owner to attempt to treat this class of ailments and the best thing to do is to get a veterinarian as soon as possible. The same treatment that we have outlined for simple mammitis should be used until the veterinarian can be had. The water that is given the cow if it be cold weather should have the chill taken off and the cow should be protected from the cold by blankets. The udder should be suspended with a large bandage. An animal so affected should be isolated from the other cows, and the caretaker should not attend to any of the other cows. It is very necessary in this condition that internal treatment be of the very best and this should always be prescribed by a competent veterinarian. The majority of these cases leave the cow without the use of that part of the udder that was affected. Many times it is necessary to amputate the quarter of the udder affected.—Dr. G. H. Conn, Iowa.


If your cows could talk they'd say
HAPPY
COW FEED

What Happy Cows Mean to You

The happier and more contented your cows are the more money they are going to make for you. This is a proven fact. The happiness and contentment of your herd depends upon the feed and care you give them. This is also a proven fact.

The dairy cow responds more quickly to a proper diet than any other animal. Give her the wrong kind of feed and the milk flow drops off. Give her the right feed and the milk flow is increased.

When you feed a ration that is improperly balanced, the cow eats more of it in order to get the elements of nutrition her system craves. This increases your feed costs. That's bad for you.

When you feed Happy Cow Feed you get a rightly balanced, high protein ration which gives you more milk than you have ever gotten from a ration composed of low-grade materials. You save on feed and make more on milk. That's good for you.

Happy Cow Feed is composed of wheat bran, cottonseed meal, cocoanut meal, velvet bean feed, unhulled peanut oil feed, rice bran and alfalfa meal. It is the best complete ration for your cows. It's 24% protein feed.

Every ingredient used in Happy Cow Feed is good for milk production, and when they are combined in the right proportions under scientific methods they make the happiest combination you ever have fed.

Your cows are intelligent animals. If they could talk—and if they had their own choice of feeds, they would say: "Give us Happy Cow Feed". Feed it straight or with any other materials.

Memphis is one of the greatest feed manufacturing cities in the world. The Happy line is the most popular and largest selling line produced in Memphis.

You can buy Happy Cow Feed and other Happy feeds from your dealer. If you can't get them from your dealer, write us for the name of a dealer who handles them.

Dept. 152

Edgar-Morgan Co. **Memphis, Tenn.**

Facts in BLACK & WHITE

Purebred Holstein Cows Averaged to Earn $100 per Cow

Herbert A. Hopper, Illinois College of Agriculture, reports this instance:

A few years ago the owner of a herd of grade Shorthorns decided he was losing money and began to grade up his herd with a purebred Holstein-Friesian bull.

With the third generation of cows, his most profitable one gave a return of $135.51 for the year. The others gave an average return of $119.39. From the whole herd the average return was $100 per cow. DOES IT PAY?

Send for Free Illustrated Booklets. They contain valuable information for any Dairyman. Holsteins are home builders.

THE HOLSTEIN-FRIESIAN ASSOCIATION
218 Hudson Street
Brattleboro, Vermont

BARN PAINT $1.22 PER GALLON
Get factory prices on all paints. We guarantee quality. We pay the freight.
Franklin Color Works. Dept. 16 Franklin, Ind.

150 POUNDS OF CALF MEAL OR GALLONS OF MILK?

THE fact that many thousands of America's farmers raise all their calves on Blatchford's Calf Meal—and have been raising them on it for years—PROVES CONCLUSIVELY that calves THRIVE on it.

Blatchford's Calf Meal

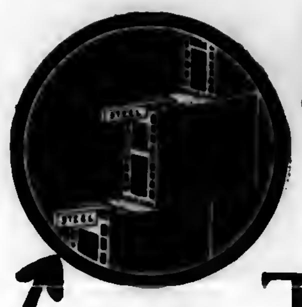
REG. TRADE-MARK
Blatchford's
Calf Meal
Good to the last drop

Every pound of Blatchford's Calf Meal makes *one gallon* of rich milk-substitute. With milk selling *per gallon* for about **four times** the cost of Blatchford's Calf Meal *per pound*, a wise and economical thing to do is to raise your calves on Blatchford's.

WHY NOT test the "Blatchford Way" this spring? Try it on one calf only, if you prefer—but at least MAKE THE TEST. You are certain to be entirely satisfied with the way your calf will *grow* and *develop*—and the *money* you will save will open your eyes to the fact that the "Blatchford Way" is the sensible way, the economical way, the right way.

Get it at your local dealer's. If he cannot supply you WRITE US. We will refer you to some one near-by who can. Illustrated literature free on request.

Blatchford Calf Meal Company Dept. 4832 **Waukegan, Illinois**
In business over 119 years



Section of Natco Silo wall showing still air spaces and steel reinforcing

Keeping Silage

THE perfect silo must be absolutely air-tight, since air causes silage to mold and rot. The glazed tile walls and tight-fitting cypress doors of Natco Silos seal the silage like fruit in glass jars. It comes out sweet and succulent to the last forkful.

Natco Silos

are strongly reinforced with high grade steel bands, doubled in the bottom courses where the pressure is greatest. The double-shell tile also increases the wall strength and provides for secure mortar joints. The still air spaces conserve the natural heat of the silage—resist frost. Heavy galvanizing protects all exposed ironwork.

Ask your building supply dealer for prices on Natco Silos. Write for FREE book, "Natco on the Farm."

National Fire Proofing Company
1352 Fulton Building Pittsburgh, Pa.

23 Factories assure a wide and economical distribution

Barn and Silo on Farm, Phoenix Bros., Bradford, Ill.

Sample FREE (4)

Our Good Seed Corn Grows Good Ensilage

Wisconsin, Michigan and N. Y. customers tell us Lucerne Lawna Farm Seed Corn makes big tonnage of best ensilage. You'll remember the quality after you've forgotten the cost—and you'll buy again. Write for Free Sample and prices.
PAUL D. COOPER, Box 62, HAMMOND, ILL.

STRAWBERRY PLANTS

A selected list, including Everbearers. We have a fine lot to offer at wholesale prices.

VEGETABLE PLANTS

All kinds grown from selected seed. Get our prices on plants sent by Parcels Post prepaid Catalog free. C. E. FIELD, SEWELL, N. J.

CYPRESS TANKS

10 100 bbl. (31 gal.) cap. hght. 6 ft. 11 in. dia. 8½ ft.
1 185 bbl. (31 gal.) cap. hght. 11 ft. 11 in. dia 9 ft.
8 150 bbl. (31 gal.) cap. hght. 11 ft. 11 in. dia. 9 ft.
3 60 bbl. (31 gal.) cap. hght 8 ft dia. 9 ft.
5 100 bbl. (31 gal.) cap. hght 9 ft. dia. 10 ft.
All equipped with flat lug hoops. 8 Steel glass lined tanks, ¼ in. steel, 185 bbl. cap. All tanks come with bottoms and some have tops.
THE ALLIANCE BEVERAGE CO., Alliance, O.

Good Nursery Stock is Scarce

but we offer early buyers a most attractive list of money-saving Group Offers. Write today for Free book.
ARTHUR J. COLLINS & SON, Box 55, Moorestown, N. J.

Cal-Sino

A High Grade Medicinal Powdered Tonic
Made Just FOR HOGS Only
ON MARKET 10 YEARS—A MEDICINE—NOT STOCK FOOD

If you have any backward, ailing or wormy pigs, send 60c. or $1.25 for trial package and name of nearest dealer, subject to refund if you are not more than satisfied.
THE CAL-SINO CO., Inc. Dept. H-6 BALTIMORE, MD.

$19.95 Upward Sent on Trial American Cream SEPARATOR

Thousands in Use giving splendid satisfaction justifies investigating our wonderful offer: a brand new, well made, easy running, easily cleaned, perfect skimming separator only $19.95. Skims warm or cold milk closely. Makes thick or thin cream. Different from picture, which illustrates our low priced, large capacity machines. Bowl is a sanitary marvel and embodies all our latest improvements. Our Absolute Guarantee Protects You. Besides wonderfully low prices and generous trial terms, our offer includes our—

Easy Monthly Payment Plan

Whether dairy is large or small, do not fail to get our great offer. Our richly illustrated catalog, sent free on request, is a most complete, elaborate and interesting book on cream separators. Western orders filled from Western points. Write today for catalog and see our big money saving proposition.
American Separator Co., Box 1062, Bainbridge, N. Y.

JUDGE THE COW BY THE MILK PAIL AND SCALE

All kinds of cows are to be found in New York State. Some are black and white, others white and red, others fawn and white, and still others solid color. Some are even colored. Some vary in size and shape. Some are horned and others are not, some unthrifty and gaunt, and others wellfed and contented, some are friendly and others suspicious.

Some of the owners of these cows will tell you their cows are the best on earth, while the owners of some altogether different will tell you the same of theirs. Some of the big and dignified associations for maintaining the purity of some of these breeds of cows have even boasted that they represent the best breed of cows for the farmer. What is the best kind of cow, anyhow?

What is the cow that has proven herself the most to the farmer of New York and other states where conditions are similar? Can you identity her by color, size, shape or other characteristics? The question of what is the best milk cow for this or an other state is a most important one. It seems to me the kind of cow is just as important a question as the kind of seed corn or seed wheat or variety of grass seed to grow, or the kind of fertilizer to use, or machine to buy.

The most ardent admirer of any particular breed of cows will, if fair-minded, agree that all the good cows are not of one color, size, type or breed. He will admit that it is impossible to identify a good cow by external characters like color or size. He may even admit that there are cows in some of the pure strains that are unprofitable. Unfortunately these cows sometimes fall into the hands of beginners who judge all of their kind by these poor and unprofitable sorts. Too many breeds offer cows commonly called tail-enders at public or private sale. It is of course a difficult matter in most cases for a breeder to make a public sale of only first-class animals, but it would be better to limit the number than to reduce the quality in order to make a large offering.

What, then, is the rule for knowing a good cow? The only correct method of learning the value of a cow for profitable milk production is the scale and Babcock tester. When you do not have the cows to do this with then you have to pay for having some other man do it. This is virtually what you do when you go to a good raiser of dairy cows and buy one of his herd. He offers cows that have been tested in this manner. He asks considerable more for these cows simply because he can sell them for more. A good dairyman will pay more for a cow of known ability than for one that is unknown. It is simply a question of supply and demand. The test may be semi-official, in which case its accuracy depends to a large extent on the integrity of the owner. Official tests are accurate and dependable

There seems to be a good deal of misunderstanding as to the manner in which milk and butter records of cows are made. Some people are of the opinion that they are "faked." This is wrong. Great care is exercised by the State College officials who supervise these tests and the owner of the cows knows full well that should he intentionally do anything to change the test his record will be thrown out and suspicion cast on his integrity—and this means failure. It is well to mention these facts because the purchase of tested milk cows is the shortest cut to profitable dairying.

If one already owns a herd of milk cows and desires to increase their production, he should start testing them. While laying so much emphasis on the value of testing to determine the true value of a cow I do not mean to belittle the importance of studying external features. A large, roomy middle, full heart girth, good length, width through the hind parts, generous development of mammary system, which includes udder, tests, milk veins and wells, are important. These with a long face, broad forehead and large bright eyes and a large strong mouth and jaw and nostrils are the principal external features to be noted.

While recently going through a leading pure-bred dairy herd in my county with the owner, he pointed out a cow and said: "She is much too beefy and of course off type, but she is a regular milking scamp. Milks right along and gives about as much as any in the herd." In this instance nothing but the scales and Babcock test would tell the truth.
—Sylvanus Van Aken.

"AND THE FODDER'S IN THE SHOCK."

The poet Reilly lived in a progressive farming community where they put their fodder in the shock. This was twenty-five or thirty years ago. Now these same farmers put it in the silo, at least all the silos will hold, and they have prospered by so doing.

Present day conditions demand a better method than fodder in the shock. The requirement for economic production of stock and stock products, the need for lowering the cost of labor, and the necessity of a greater production from our acres, demand the silo. These hard winters come every once in a while; and even if they do not, we should have our feed at hand and in the best possible form.

The fearful waste of the corn plant cannot be endured by a progressive people. The best methods are none too good; and the advance in our farm lands will require economic and modern methods. We have witnessed wonderful prices for milk and butterfat, and there is a splendid opportunity for the dairy farmer, especially if he use the best and most economic feeding methods, for the question of cheap and good forage is one of the important problems of the dairy. Cow keepers have a wonderful opportunity, providing they solve this feeding problem. Even with the fodder in the shock the stock keeper is much better off than he would be with the fodder in the field, for corn in shock is like the hay in the stack, it has been cut and cured and preserved for feed. But let us go one step further and put the corn in the silo, thus obtaining all its nutriment, its succulency put in the most digestible form, and close at hand where storm and snow cannot destroy. It will be fresh and palatable at each feeding time, winter or summer, good season or bad; and it is here put to its greatest value.—H. L. A.

HIGH RECORD MADE BY MAJESTY'S IRIS

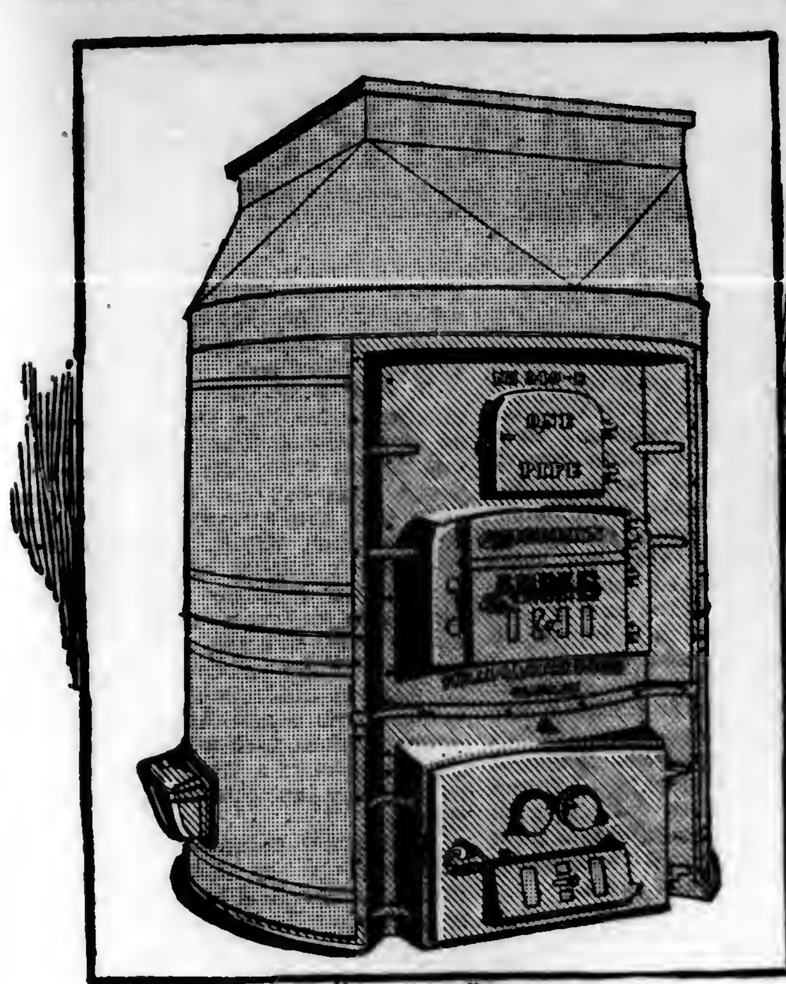
Majesty's Iris 263701, a Jersey, completed her third official year's test with a remarkable record of 955.87 pounds butter-fat from 17,469 pounds milk. This record places her as the ninth highest fat producer of the Jersey breed and tenth in the production of milk. She was started on test at the age of seven years and four months. The test was supervised by the Michigan Agriculture College, fourteen different supervisors making a total of eighteen supervisions during the year.

As a junior four-year-old, Majesty's Iris made a record which has never been reached by a Michigan Jersey of that age and her last record is the second highest ever made by a Jersey in the State of Michigan. Her three official ear's records are:

Milk—Lbs.	Fat—Lbs	Yrs.	Mos.
11,250.8	589.2	3	1
12,905.0	678.9	4	5
17,469.7	955.8	7	4

Majesty's Iris produced as high as 64.3 pounds milk and 3.92 pounds fat in one day during her test. Her highest monthly production was made the first month when she produced 1813.9 pounds milk and 110.65 pounds fat. Only one Jersey on official year's test has ever exceeded this butter-fat production in one month and that was only by eleven hundredths of a pound.

Pruning may be done now on warm days.



"Before we got our Andes, we couldn't sit in this corner of the room, winter nights."

GENTLEMEN:—F. Rosenkranz installed one of your Andes One Pipe Furnaces No. 210 in my house of six rooms and bath. It has done the work of two stoves and we are well pleased with it. Yours truly, FRANK FRALEIGH, Rhinebeck, N. Y.

GENTLEMEN:—Last Fall we installed your No. 240 One Pipe Furnace and have had no trouble in keeping nine rooms heated to 70 degrees or over all Winter on six tons of coal, which is less than it took to heat six rooms with stoves.—E. F. MOODY, Lebanon, N. H., April 11, 1919.

PHILLIPS & CLARK STOVE COMPANY, INC.,
DEPT. P, GENEVA, N. Y.

Gentlemen:—
I am interested in saving fuel money. Please send me your free, illustrated booklet called, "Better Heating for Less Money."

Name ....

Address ....

State ....

Gives perfect heat comfort

WHEN cold days come, then's the time a man blesses his good fortune in having an Andes One Pipe Furnace. Its cheerful, steady, comfortable heat fills the house night and day with warmth like summer sunshine.

No matter how cold and gray the November day may be or how stormy the winter day, or how chilly and blustering the March wind—the house that has an Andes knows no discomforts of cold weather.

The Andes uses the simplest and most modern system of heating and can be installed in one day at practically no expense. The Andes requires none of the expense or confusion of tearing open walls and floors to put in pipes. Only one register is necessary, and that is located in the lower floor. An Andes can be set up and put in working order in just one day.

With the Andes, healthful, moist, warm air fills the house (except the cellar) with comfort. The system used and the design of the furnace assure comfort, and also the saving of from one-third to one-half the amount of fuel.

We give the Andes our absolute guarantee. If you are not perfectly satisfied with it, it will be taken out and the full purchase price returned to you.

If you want to enjoy the comfort of better heating and the saving of fuel money, write for a copy of our free book. Use the coupon today.

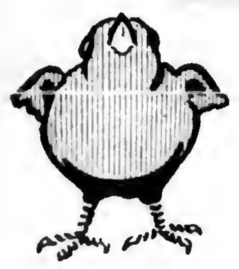
PHILLIPS & CLARK STOVE CO., Inc.
DEPT. P GENEVA, NEW YORK

Manufacturers of the Famous Andes Stoves and Ranges

ANDES SYSTEM
ONE PIPE FURNACE
"Better Heating for Less Money"

2

Stop Losing Little Chicks



Gapes and diarrhoea destroy millions of dollars' worth of poultry profits. Protect your chicks against it. As soon as they are hatched, start feeding **RUST'S CLIMAX CONDITION POWDER.** It helps to keep the chicks free from disease—develops their plumage and vigor. It acts on the blood, liver, kidneys and urinary organs—improves the appetite—helps digestion.

RUST'S CLIMAX CONDITION POWDER

develops the Spring hatched chickens so that they will be profitable laying pullets by Fall. Its use means od fertile eggs for hatching. It means good fat broilers early in the season.

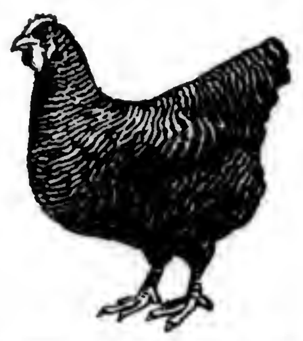
Ask your dealer for **RUST'S CLIMAX CONDITION POWDER.** It contains no antimony, arsenic or injurious ingredients. If your dealer cannot supply you, order direct. We will ship by express at the following prices: 13-oz pkg., **30c.**; 2-lb. pkg., **60c.**; 5-lb. pkg., **$1.20**; 20-lb. pkg., **$3.75.**

T. W. WOOD & SONS
RICHMOND, VA.
Successors to Wm. Rust & Son.

Hens Need Conditioning in the Spring

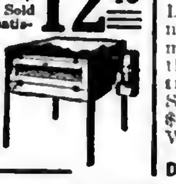
Spring comes with warm days and green fields. Laying time is here. A tax is being put upon the egg producing organs. Hens need a tonic to put them in good condition—to make them healthy and happy, so that they scratch and cackle and lay.

Right now is the time to start feeding them **RUST'S CLIMAX CONDITION POWDER.** Use it at least three or four times a week and have healthy, happy, industrious hens.



The 1920 Sensation at $12.45

Machine has double walls; copper tank. Sold direct from factory. Guaranteed to give satisfaction or money back.



DETROIT INCUBATORS
140 Egg, $12.45. Detroit Brooders, 140 Chick, $7.10. Both for Special Combination Price, $17.50, complete. Freight prepaid to your station. Order from this advertisement or write for full description.
DETROIT INCUBATOR COMPANY
Dept. 13, Merritt St., Detroit, Mich.

Itch and Mange

Long, heavy coats of hair on horses are a nesting place for parasites, causing itch and mange, which irritate the horses and keep them from doing best work. Prevent these troubles by spring and fall clipping with a Stewart No. 1 Ball Bearing Machine. Only $12.75. Send $2—pay balance on arrival. Write for catalog.
CHICAGO FLEXIBLE SHAFT COMPANY
Dept. A 149, 12th St. and Central Ave., Chicago, Ill.

A "365" Day Liniment

YOU ARE SAYING TO YOURSELF—"If I only knew of something to stop that Backache—help my Rheumatism—cure my Neuralgia, I would send and get it at once."

Get It. Relief. Gombault's Caustic Balsam will give you immediate A Marvelous Human Flesh Healer and a never failing remedy for every known pain that can be relieved or cured by external applications. Thousands testify to the wonderful healing and curing powers of this great French Remedy. A Liniment that will soothe, heal and cure your every day pains, wounds and bruises.

Gombault's Caustic Balsam
The Great French Remedy
Will Do It

It Helps Nature to Heal and Cure. Penetrates, acts quickly, yet is perfectly harmless. Kills all Germs and prevents Blood Poison. Nothing so good known as an application for Sores, Wounds, Felons, Exterior Cancers, Burns, Carbuncles and Swellings.

"I had a bad hand with four running sores on it. The more I doctored the worse it got. I used Caustic Balsam and never needed a doctor after that."—Ed. Rosenburg, St. Ansgat, Ia.

Mrs. James McKenzie, Edina, Mo., says: "Just ten applications of Caustic Balsam relieved me of goitre. My husband also cured eczema with it, and we use it for corns, bunions, colds, sore throat and pain in the chest."

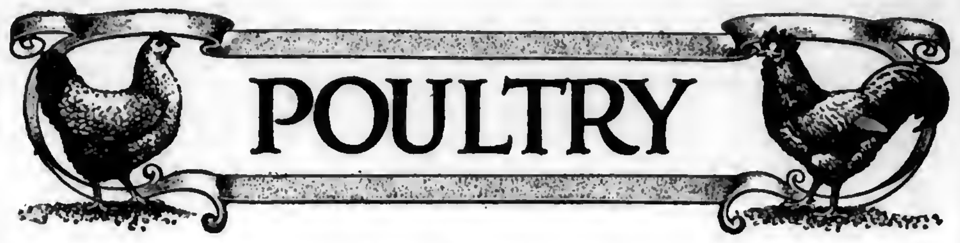
A Safe, Reliable Remedy for Sore Throat, Chest Cold, Backache, Neuralgia, Sprains, Rheumatism and Stiff Joints. Whenever and wherever a Liniment is needed Caustic Balsam has no Equal.

Dr. Higley, Whitewater, Wis., writes: "I have been using Caustic Balsam for ten years for different ailments. It has never failed me yet."

A liniment that not only heals and cures Human Flesh, but for years the accepted Standard veterinary remedy of the world.

Price, $1.75 per bottle at all Druggists or sent by us express prepaid. Write for Free Booklet and read what others say.

THE LAWRENCE WILLIAMS CO., Cleveland, Ohio



POULTRY

EXPERIENCES WITH GREEN FEEDS

"Now is the time to plan for a supply of green and succulent feed for next winter's poultry rations. Hens relish most of the vegetable growth usually found on the farm. They are fond of the grasses, clovers, alfalfa, young wheat and rye, cabbage and lettuce. For winter use some thing should be planted that may be kept in the green state and fed as needed. What to use will depend on local conditions and convenience.

Some persons advocate sprouted oats and claim there is nothing else half as good "to make hens lay." I have never had the patience to sprout any great quantity of oats. I found I could not afford to bother with them. One or two small trials gave me all the data I needed to convince me that I did not want them.

When fall comes and vegetation grows old and hard, fowls relish something fresh from the garden. Throughout the growing season my poultry receives many an armful of discarded lettuce and other "sass," especially the growing chicks. We have found nothing better for fall feeding than Swiss Chard. It makes an unusual amount of fodder of the most succulent sort, and is greedily eaten by the hens. It is as easy to grow as beets and those who profess to know say it may be stripped of its leaves, like rhubarb, and will continue to send forth other stalks through the season. I do not know how that may be for we simply pull up the whole plant and hang it up so the fowls can get it. It speedily disappears, being eaten up cleaner than most other stuff we give them.

Throughout the summer we give the hens and chicks many bushels of lawn clippings but much of this is wasted. It seems necessary to feed something the birds can pull off as they do growing plants. I may say that our Leghorns completely ruined a piece of alfalfa as far as they pastured it. They seemed to destroy it while clover survived.

In the same group with Swiss Chard are the Mangels or cattle beets. These, however, run to root more than to tops and it is the root that is of value for hen feed. We have raised many bushels of them and fed them throughout the winter. When once the birds are accustomed to beets they take them readily and will clean up a large quantity daily. We have tried all sorts of ways for feeding them but have found the simplest the best. We cut them in half, lengthwise and lay them flesh side up in feeding troughs. They are thus held in position for the fowls to get at the meat. The tough rind is not eaten. Beets three or four inches in diameter, and smaller, are more suitable for this purpose than large ones, so we do not thin the plants very much and thus get a large quantity of medium sized roots rather than an equal or superior weight of monsters. The yellow fleshed or red fleshed beets are preferred. They are eaten up clean while the white fleshed peels remain untouched. I mean yellow fleshed, not only yellow skinned, as some beets have a yellow skin but white flesh. They are not very hard to keep for the winter, but must be kept from freezing. We usually put them on a heap in the barn and cover them thickly with hay chaff and with many layers of old bags. They can be easily kept by burying but then they are too often not available when needed, which is every day throughout the winter.

Small potatoes furnish another supply of feed for the winter, tho not especially grown for hen feed. To make them suitable for feed they are boiled and mashed and mixed hot with the usual mash, bran, middlings, etc. Thus prepared hens consider them a tidbit to be struggled for. This is considerable work, but it pays where the potatoes are at hand and cannot be disposed of to greater advantage elsewhere.

In the same way we have boiled alfalfa. The hay was cut as short as possible—a half inch, or less—and boiled with plenty of water for about two hours. It thus became very soft and suitable for hen feed. Where much alfalfa is fed to cattle the leaves falling off, when boiled make ideal feed for poultry exceedingly rich and much liked. This, too, means work and the use of fuel, but alfalfa fed in any other way is largely wasted, not much of it is really eaten, as an examination of the floor under the hopper will show. The alfalfa absorbs a great deal of water in boiling and this is worth something.

Taking all things into consideration, perhaps the best and most convenient green feed for hens in winter is cabbage. It is easily grown and handled, keeps well and is not much injured by freezing. The crop may be grown for market and only the culls put away for feed. In fact, loose heads, usually unsalable are the best for the hens. They do not freeze as readily as the solid ones and when frozen will thaw without injury. If they are brought into a warmer place a few days before feeding they become just right and will be taken greedily by many hungry beaks.

For feeding them we have found nothing better than our water pans. These are made of galvanized iron and are 4 feet long, 8 inches wide, and 4 inches deep. For watering purposes they are set on stands and covered to keep the water clean but for feeding green stuff they may rest on the floor. Wooden boxes of the same dimensions may be used interchangeably with them. The cabbage is cut in half and laid in the pans. The sides afford a sort of purchase for the hens in their efforts to get the feed, thus avoiding the dragging of the heads over the floor and among the litter where much of it would be wasted.

For young chicks we have found onions very good. The onions are chopped fine and fed several times a day as soon as the chicks will take any sort of green feed. Nothing we have tried, except meat, will cause that gleeful, excited, chirping to the same degree as chopped onions. Chicks thrive on this feed, as do other bipeds, and will need no other tonics, or "spring medecines," or blood purifiers.—Howard Mitman.

WATERING HENS IN WINTER

The habit of emptying the water pails and drinking fountains each night saves work for the poultryman. There is no ice to drum out in the morning. The receptacles often spring leaks from the expansion during freezing and poultry hardware needs protection if it is to last long.

Placing the water pails on low tables prevents the litter from being scratched into them. To keep the cockerels from wetting their heads while drinking some poultrymen place a wooden float in the pail. The birds drink through a small hole in the float.

Sanitary fountains are on the market which are equipped with an oil lamp to prevent freezing of the water. They are along the same line as the tank heaters used for water troughs and some poultrymen use them with good results. Others give their birds fresh cool water from the well and change the supply often enough to prevent freezing.

Hens must have water to keep them in health and produce eggs and they will not drink much water if it is partially turned to slush. The use of clean water is even more necessary in the winter than in the

summer when the birds are on the range. There is always more danger of digestive troubles when the birds are confined in the poultry house and eating heavy egg producing rations. Therefore it pays to scald the drinking dishes frequently.

Permanganate of potash placed in the water is fine to keep colds from spreading during the winter. But we do not believe it is necessary if the birds are healthy as the permanganate is not relished by the hens and they will drink less water when it is present. When hens are eating plenty of dry mash they need fresh water near the hopper to help rinse it down. This soon makes the water very dirty but if deep galvanized pails are used the mash from their bills will sink to the bottom and in can be rinsed out thoroughly each time that the pails are filled with fresh water.

When using sanitary water fountains it pays to remember that they also become dirty. Take them apart often and scald them. The larger the flock of hens the greater the importance of a good water supply and clean fountains. The birds must never be without it and it pays to keep the water supply in the same place in the house throughout the winter so they will know where to find it. Some pullets are shy about drinking from the pails on the raised platform but if they always find the supply in the same place they soon become bolder and drink all they need.—R. G. Kirby.

FOOD ECONOMY NOT ALWAYS PROFITABLE

The farmer who has a flock of hens that are capable of laying surely is not awake to his material interests if he allows them to remain idle all winter for a lack of the proper kinds and quantities of foods that induce laying when eggs are high. It is the winter returns from a flock of layers that largely determines whether they are kept at a profit or loss, for hens are sure to pay in summer, even if attended to indifferently. It is believed by many that each hen can produce only a certain number of eggs. If such is the case it surely is advantageous to obtain a portion of them in winter, when eggs are generally scarce and consequently high in price, instead of having the whole number produced in summer, when usually more are produced than are in demand for immediate use, with the result that the price goes down.

The cost of poultry foods is not in the kind, but in the results If one kind of food will make a hen lay two eggs in winter then it is cheap even though it is higher than other foods. Therefore, we may safely conclude that, as a general rule, no food is costly in the long run if it accomplishes the object sought, but any kind is expensive if it does not induce the hens to lay the number of eggs which they are capable of laying.

MORE POULTRY FIGURES

I would like to enlighten the readers who alludes to my article of January 17th issue, and say, that I didn't speak of any losses and that my cockerels should have been worth from 50 to 60 cents each, or $75.00. I want to state that out of the 277 chicks I sold 138 lbs. of cockerels at 20 cents a pound which brought me the swell sum of $27.60. Where does he figure $75.00? The rest died from one cause or another or were killed by hawks, crows, etc., as I gave them a free range. To be fair to the pullets I want to state that they are doing wonderfully well. I am getting 5 to 6 doz. eggs a day and up to January 31st they layed 1396 eggs and I received from 72 cents down to 60 cents a dozen for them so I think they are profitable, and they will pay me for my trouble.—A. P. Vogt, Stockton, N. J.

Don't leave rubbish heaps about the garden or orchard. They only harbor all sorts of insects or disease and will in time cause you much labor if not loss.

Most Miles per Dollar

The Firestone Cord, showing heavy non-skid tread

The Firestone Park School is one of the most complete in Ohio

Firestone Park—and Most Miles per Dollar

All ideals that aim toward the general good, all practical efforts at community betterment, have a wide and far-reaching effect.

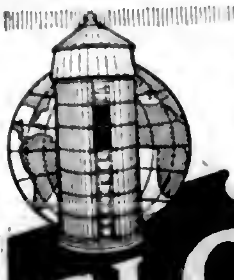
Firestone Park, a community of homes, churches, schools and all incentives to loyal citizenship—is an example of the way in which the Firestone organization shows itself mindful of the importance of the home in any great working group.

In Firestone Park are gathered together Firestone workers who are also owners of their homes and stockholders in the business.

They are united by every motive of personal pride to make tires of best possible quality at lowest possible cost. Firestone's resources in capital and workers such as these, create economies that are passed on to the car owner in more tire for the money—most miles per dollar.

FIRESTONE TIRE & RUBBER COMPANY, Firestone Park, Akron, Ohio

Firestone



Before you buy a silo send for the Globe Catalog

GLOBE SILOS

The Globe Silo with its extension roof, insures a full silo. Five or six ft. more of silage means using the full capacity of the silo, using every foot of silo you pay for.

The Globe Silo Company was first to introduce the extension roof idea. Today it is the only silo extension roof with side walls so nearly straight that silage will settle level—no heaped up silage exposed to the air to spoil. *WRITE TODAY*

GLOBE SILO COMPANY
3-13 Willow Street, Sidney, N. Y.

TWO SINGLE MEN Wanted as teamsters and for general farm work. Those who are willing to sign contract for the season. If they prove good men, will be given work the year round. Write for particulars. Will pay good wages.
PINEY CREEK FARM. NORTH EAST, MD

Farms

Strout's Spring Catalog Farms! Just Out!!
More than 1,000,000 people will read this new 100-page illustrated catalog packed with money-making farm bargains in 33 States. You'll want to read on page 11 details of 100 acres, 10-room house, barns, silo, with pair horses, 7 cows, hogs, poultry, wagons, implements, to close estate for $2500, only $1000 down. See 80 acres, page 3, 8-room house, barns, &c., for $600, half cash. Beautiful "Overlook Farm," page 8, borders river, 65 acres, large orchards, 6-room house, practically new barns, pair horses, other stock, machinery, furniture, crops, everything included by woman owner for $1650, part cash. Details page 22, great stock and dairy, 360 acres, new 12-room house, modern conveniences, 3 immense barns, 2 silos, 2 horses, colt, 26 cows, bull, other stock, complete high-grade implements, ready for business at $7200, easy terms. This book goes to every corner of America; write today for your free copy. STROUT FARM AGENCY, 1422 B E. Land Title Bldg., Philadelphia, Pa.

224-ACRE FARM FOR SALE
In N. J. 32 miles from N. Y., 3 miles from express stop stations of two railroads. One hour from N. Y. to farm. House of 14 large rooms, electric light, hot-air heat, two baths, hot and cold water. Farm equipped with all implements including Mogul tractor. Running stream. Orchard of 100 young selected fruit trees. 12 acres woodland, balance under cultivation. Price $10,000, terms. Box 28, care PENNSYLVANIA FARMER, Phila., Pa.

NORTHERN OHIO FARMS
We have over 300 fine farm homes close to the great markets of Cleveland and Akron. Very reasonably priced. Write for our Spring Catalogue. Address all communications to our Medina Office.
THE CODDING BAGLEY-CASE COMPANY Medina, Ohio. Akron, Ohio.

FARMS AND HOMES Where life is worth living. Moderate prices—genial climate—productive lands. For information write STATE BOARD OF AGRICULTURE, DOVER, DEL.

The Best Farms for the money all sizes $50 to $100 per acre, good buildings. Cent. Schools good soil. List free.
F. H. STEWART. ESSYVILLE, PA.

Will Sell Cheap [illegible]

Five Bushels of Apples

was the crop a single six-year-old tree gave its owner. Of course, the tree was cultivated, sprayed, and given good care—but you can get a good crop from trees that have only ordinary care, provided you get the right kinds.

Plan to set some trees this spring; grow your own fruit—don't depend on the marketman or huckster. Write today for our list of fruits for Pennsylvania and adjacent states—sent free on request.

Hoopes, Bro. & Thomas Co.
41 Maple Avenue
West Chester, Penna.

MAN AND WIFE Wanted to board [illegible]
WINTERTHUR FARMS WINTERTHUR [illegible]

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PEENED
PISTON
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Each charge of gasoline has a given amount of power

And unless every ounce of power is exerted on the piston head, your engine will not develop its rated horse power. Splitdorf Peened Piston Rings positively prevent leakage between the piston and cylinder walls. They *seal* the firing chamber. They give you *all* the power you pay for when you buy your fuel.
Learn the true value of the piston ring to all farm equipment operated by the internal combustion engine. Send for booklet, "The Story of the Piston Ring." It's yours for the asking.

Write for this Booklet

SPLITDORF ELECTRICAL COMPANY
92 WARREN STREET, NEWARK, N. J.

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Special Book of Plants that Grow
WRITE NOW!
Order your 1920 ornamental fruits and trees and plants now.
Your order reserved at present prices, and shipped in time for spring planting.
For 75 years we have been known for "Plants That Grow," and fair dealing.
Express or freight paid anywhere east of Miss. River on order of $3 or more.
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Contractors to the Government
TAPES
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Seed Oats Choice Swedish Select and Big Four Seed Oats testing 40 to 43 pounds. Price $1.50 per bu., bags extra at 20c each.
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STRAWBERRY PLANTS
At wholesale prices including the Everbearing. The best old and new varieties. Price list free.
M. S. PRYOR, Route 4, SALISBURY, MD.

Grow More Bushels
With
Less Man Power

Lower the cost of labor by increasing the yield per acre. Now is the time to use GRO-ALL.

Fertilizers of Character

Farm labor is high; getting higher, more scarce. But the farmer's problems are daily being solved with GRO-ALL Fertilizers. They save labor, enrich the soil, increase yields, increase profits. Fertilize for larger yields if you desire prosperity.

The GRO-ALL Fertilizers are unsurpassed. They have all that can be desired in both chemical and physical properties. High standard characteristics distinguish them as Fertilizers of Character.

Write for particulars and request a copy of our booklet.

CENTRAL CHEMICAL CO.
Fertilizers of Character
GRO-ALL
ESTABLISHED 1883
HAGERSTOWN, MD.

THE CENTRAL CHEMICAL COMPANY
HAGERSTOWN, MARYLAND
Gettysburg, Pa. Baltimore, Md. Harrisonburg, Va.

Agents of Character Wanted in all unoccupied territory.

THE OUTLOOK FOR AMERICAN FARMERS

(Continued from Page One.)

The Effect of the Readjustments in Europe

The increased industrial output of Europe will cause a shrinkage in our exports of manufactured articles. Increased agricultural production will, in a similar manner, cause a shrinkage in our agricultural exports. But the shrinkage in our agricultural exports will not come as soon as the decrease in the demand for manufactured articles from the United States. Our city industries will be the first to feel the revival of German commerce. The belligerent as well as the neutral nations of Europe will be attracted to German markets and will be tempted to make purchasers there lagely because of the more favorable conditions as to rates of exchange. When that time comes our city populations will begin to feel the pinch of unemployment.

The readjustment in European agricultural production will make itself felt more slowly in the agriculture of the United States. It should be remembered that large areas of Western Europe had practically reached a maximum of production before the outbreak of the war. In spite of intensive methods and the generous use of manures and fertilizers, Belgium, and, to a lesser extent, other countries, was compelled to import a large part of its food from Eastern Europe, from America and Austria. The present disturbed conditions of Eastern Europe do not offer any promise of a return to prewar production for some years to come. Hence, the steps to be taken by the European neutrals and belligerents for increasing domestic food production will not be adequate for relieving them of the necessity of importing a large volume of food from North and South America. It may be assumed, therefore, that within two or three years we shall be confronted by a condition of more or less serious unemployment in the cities while the prices of agricultural commodities continue to be high. For a time the producers of staple foods in the United States will have the advantage of a lower cost of labor and a relatively high value of agricultural products. This condition will not continue for a long time and sooner or later the depression will make itself felt also in the agricultural industry.

Antidote for Agricultural Depression

The interdependence of American agriculture and the American industries is patent to every careful observer. In so far as any of the industies of America are efficient, they should be in a position to compete with the corresponding industries of the old world. They should be free from the danger of competition in the home markets and should keep a commanding position in the world's markets. Unfortunately, however, the industrial supremacy of North America is now being seriously threatened by social unrest, by the constant demand for higher wages, by the prevailing lack of thrift and by the frequent disregard on the part of the employes of the needs and interests of the industries of which they are a part. The clamor for shorter hours and diminished output per hour of labor constitute a serious threat to our economic prosperity. The thrift and the industry of impoverished Europe, the longer hours of employment, the keener sense of responsibility of industrial workers and the more thoughtful appreciation of their relation to sound economic progress will make serious inroads into our dividends and will soon force us to draw upon our capital. Our industrial sins will be paid for, in the first place, by the men and women engaged in the industries themselves and, ultimately, by the men and women on our farms. Any far-reaching injury to our industrial fabric will mean a rapid and serious decline in the value of farm products and in the value of the farms themselves. The farmers of the United States owe it to themselves and to the nation to lend their aid in steadying our national policies. They should lend the weight of their influence toward assuring fair play to both employe and employer in our non-agricultural industries. On them rests the responsibility of helping to establish just relations with the nation against economic and industrial inefficiency and against social and economic injustice. As a steadying force they may not be able to protect us against an industrial crisis; they surely can help to lessen its destructive effects. In the long run, our home markets must be the important markets. Industrial prosperity in the United States will mean agricultural prosperity. But there can be no industrial prosperity without industrial efficiency. In so far as industrial efficiency is threatened by social and economic injustice, the agricultural population of the United States must remove the causes of such injustice, for the sake of the non-agricultural industries as well as of agriculture itself. The outlook for the American farmer will not be a rosy one if we do not find effective means for safeguarding our industrial supremacy and the prosperity of our cities. Without these our home and foreign markets will not offer remunerative employment to our farmers.

HOME ECONOMICS CREED

That right living should be the fourth "R" in education.

That home-making should be regarded as a profession.

That health is the duty and business of the individual; illness of the physician.

That most illness results from carelessness, ignorance or intemperance, of some kind.

That as many lives are cut short by unhealthful food and diet as through strong drink.

That on the home foundation is built all that is good in state or individual.

That the up-bringing of children demands more study than the raising of chickens.

That the spending of money is as important as the earning of money.

That economy does not mean spending a small amount but in getting the largest return for the money expended.

That the home maker should be as alert to make progress in her life work as the business or professional man.

That the most profitable, the most interesting study for women is the home, for in it center all the issues of life.

That the study of home problems may be made of no less cultural value than the study of art or literature and of much more immediate value.
—American School of Home Economics.

FIVE PURE-BRED BULLS TO SIX SCRUBS

At a recent meeting of farmers in a New York State county, it was learned that in the school district where the meeting was held there were only five pure-bred bulls to six scrub bulls. The county agent said, "I met the group of farmers and presented the proposition of eliminating the scrub bulls in that school district. I found that there were five pure-bred bulls and six scrubs owned and used in the district. It would seem as though this nearly checks with the rest of the state."

The need for this work and the opportunity for directing immediate attention to it on the part of those concerned is evident from the above quotation. Six of the leading counties in the state have already adopted "The Better Livestock Campaign."

Three additional counties have sent for and are using enumeration blanks for the purpose of taking a local survey to determine the proportion of grade and pure-bred sires in use together with the preference of breed of sire on the part of those who desire to exchange.

More vegetables will be needed in 1920 than in 1919. People generally are eating more fruits and vegetables and there are more people to eat them.

Semi-Solid Buttermilk
'Make 'Em Grow Fast'

THE thinnest hogs grow fat fast when fed with this pure, rich buttermilk. The high prices of corn and other grains have taken the profits away from the farmer who depends entirely on these old-time fatteners. Semi-Solid Buttermilk, rich in every element the feeding experts say necessary to proper feeding, is the most nourishing as well as the cheapest feed for hogs. Every farmer knows the fattening value of the buttermilk from the home churn. Our feed is the same fat-producing kind.

Semi-Solid Buttermilk

Fresh and pure, direct from the creameries. The essential rich feed elements---protein, carbohydrates, lactic acid, butter fat and mineral salts---are condensed and the water removed. This makes Semi-Solid Buttermilk a concentrated feed and saves our customers high freight rates. You add water yourself. Its own lactic acid keeps it fresh---no sulphuric acid or other injurious preservatives.

Healthy hogs are those fed on Semi-Solid Buttermilk. They do not go "off feed." It keeps them in keen appetite and sound health the year around ---winter as well as summer. Thousands of our customers wouldn't be without it.

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Semi-Solid Buttermilk is sold in barrels, average weight 500 pounds. One barrel makes approximately 1,000 gallons of pure, rich buttermilk feed. Factories located in nine different states. Use Semi-Solid Buttermilk and get the results others have received. Write today for our Free Book on Feeding for Bigger Profits. Order Semi-Solid Buttermilk today---*and save money.*

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PROMINENT HOG RAISERS INDORSE SEMI-SOLID BUTTERMILK

"NEVER HAD A GRAIN OF CORN"
"I wish you would ship me another barrel of your buttermilk at once. I am fitting some show stuff for the shows at this time and have had several prominent breeders remark that they never saw hogs show more growth for their age with less fat than these. I have fall gilts weighing over 300 pounds at 7 months of age. These gilts, by the way, have never had a grain of corn, which I think makes this weight all the more remarkable. These are Poland Chinas."
FRED H. LIKINS, Ash Grove, Mo.

"NOTHING LIKE SEMI-SOLID BUTTERMILK"
"Kindly rush us another barrel of Semi-Solid Buttermilk. We think there is nothing like it for little pigs and brood sows."
C. A. DAVIS & SONS, Galva, Iowa.

"GAINED 2¼ POUNDS A DAY"
"My pigs gained two and one-fourth pounds a day and were ready for market in ninety days. This I ascribed to the use of Semi-Solid Buttermilk. There was never anything better."
R. M. PARKS, Fairview, Kansas.

"BRINGS PIGS RIGHT ALONG"
"We used about five barrels of your Semi-Solid Buttermilk last year. It seemed to bring our pigs right along, and it surely will be no experiment to us this year. I wish you would ship us four barrels by freight immediately, if possible."
BONITO LYDEN, Manning, Iowa.

"BEST FEED FOR SHOATS"
"Please ship at once one barrel Semi-Solid Buttermilk. Was well pleased with the trial order. It is the best thing for shoats I have found yet, and have tried a good many."
E. VAN HORN, Burr, Nebr.

"JUST WHAT I'VE BEEN LOOKING FOR"
"I am feeding your Buttermilk and will say it is as good feed as I ever got for my money. Some gluten feed that my hogs wouldn't eat at all, I mixed it with your Buttermilk, and say, I can't mix it fast enough. It sure is just what I have been looking for. Send me another barrel at once."
J. E. WELTON, Oskaloosa, Iowa.

SEMI-SOLID
CONDENSED
BUTTERMILK

Cornmeal for Winter Days

A GOOD LOT OF GOOD EATING

Our family is particularly fond of cornmeal foods, so I have accumulated a lot of interesting recipes, and I am going to pass them on to Pennsylvania Farmer housewives.

Mush

This is the way I cook mush: I cup meal, 3½ cups water, ¾ teaspoon salt. I add the salt to the water, and when the water boils I sprinkle in the meal slowly, stirring all the while. I boil it rapidly for 10 minutes, then put the kettle over a slow fire to cook for three or four hours or over night.

Why Not Cook It in Fireless Cooker?—Editor's Note: This is the way that we like best at our house to make mush, because it does away entirely with any bother of the meal lumping, and is so much less bother in the cooking. We use 1 cup of meal per 2½ cups of cold water, and season with ¾ teaspoon salt. We prefer to stir up the meal in cold water because there is thus never any trouble with lumping. When the meal is thoroly wet with the water, we set the dish on the stove to heat thru, letting it boil up a minute or so, of course stirring it a few times to prevent the meal from sticking to the bottom of the dish before it comes to the boil. Then we set the dish in a boiling water bath in one of our fireless cooker kettles, which, with one of the cooker stones, we have had heating meanwhile. Then the stone and the kettle are shut up in the fireless, which finishes the cooking in prime satisfaction. And all you have to do in the morning is to set the kettle over the fire to heat up its contents. So much nicer than switching a kettle of mush cooking on the stove to keep it from burning and lumping. If you want the mush for frying do not put quite so much water in it as for serving with cream and sugar, then you can slip it out of the dish when it is cold, and slice it for frying just as well as when you cook it in a kettle on top of the stove.)

Fried Mush

When cold cut in slices, dust with flour and fry to crisp brown on both sides. I like beef suet best for frying mush.

Corn Meal Molded With Fruit

Stir a few scalded dates, figs or prunes into left-over cornmeal mush, and turn into a dish to mold into shape. Serve cold as a dessert, dressed with sugar and cream.

Corn Bread

Ingredients: 1 cup cornmeal, 1 cup flour, 1 egg well beaten, 1½ cups milk, 1 tablespoon sugar, 1 teaspoon salt, 4 teaspoons baking powder and 2 tablespoons melted shortening.

Methed: Mix the dry ingredients, add the beaten egg, milk and melted shortening. Beat well and pour into a well greased pan, and bake in a hot over 25 minutes.

Southern Spoon Bread

Ingredients: 2 cups cornmeal, 2½ cups boiling water, 1½ tablespoons bacon fat, 1½ teaspoons salt, yolks and whites of 2 eggs, 1½ cups sour milk, I teaspoon soda.

Method: Scald the cornmeal with the boiling water and let stand until cool. Add the egg yolks, sour milk, soda and salt mixed together. Beat thoroly, then fold in the stiffly beaten egg whites. Put the bacon fat in a pan, let melt, then turn in the batter, and bake in a hot over 45 minutes.

Spider Corn Cake

Ingredients: ¾ cup cornmeal, ¼ cup flour, 2 tablespoons sugar, ½ teaspoon salt, ½ teaspoon soda, ¾ tablespoon baking powder, 1 egg, ½ cup sour milk, 1 cup sweet milk, and 2 tablespoons fat.

Method: Mix the dry ingredients in a bowl, add the egg well beaten and half of the sweet milk. Put the fat in the spider, and when it is hot, pour in the batter, and add the other half cup of milk without stirring it into the batter. Then put the mixture in a moderate oven and bake 45 minutes.

Golden Corn Tea Rolls

Ingredients: 1 cup cornmeal, 1 cup flour, 4 teaspoons baking powder, 1 teaspoon salt, 3 tablespoons fat and enough milk and water in equal parts to make a biscuit dough.

Method: Sift together the cornmeal, flour, baking powder and the salt, work in the fat, and add the necessary milk and water. Turn out onto a floured board and make into braided rolls, lay on greased tins and let stand in a cool place for 15 minutes. Then brush over with milk and melted butter, and bake in a hot over 20 minutes.

Pop Corn Whip

Cornmeal and Rye Gems . .

Ingredients: 1 cup cornmeal, ½ cup boiling water, ½ teaspoon soda, ½ cup molasses, 1 cup each of whole wheat and rye flour, 2 teaspoons baking powder, 1 teaspoon salt, 1 cup milk, ½ cup raisins and two tablespoons melted shortening.

Method: Scald the cornmeal with the boiling water, and let stand 10 minutes. Sift the soda into the molasses, and stir until it foams, add to the cornmeal, and stir in the whole wheat and rye flour, into which the baking powder and the salt have been sifted, alternating with the 1 cup of milk. Add the raisins rolled in a little flour, and the melted shortening. Mix well and bake in greased muffin tins ½ hour in a moderate oven. (Editor's Remark: Since the foaming that results from stirring the soda into the molasses signifies that a goodly part of the leavening gas is being released and lost into the air, why stir soda into a liquid before you put in the flour. The best way to get the full use of the leavening powder is to get the batter into the oven as soon as possible after the powder has come in contact with the liquid, because it is this contact which releases the gas. Consequently the rule is to put soda as well as baking powder into the flour, so that it may be stirred in at the last.)

Molasses Corn Cake

Ingredients: 1 cup cornmeal, ¾ cup flour, 3½ teaspoons baking powder, 1 teaspoon molasses, ¾ cup milk, 1 egg, 1 tablespoon melted fat.

Method: Mix and sift the dry ingredients; add the milk and the egg well beaten and the melted fat, then the molasses, and mix the batter thoroly. Turn into a shallow well greased cake tin and bake 20 minutes in a hot oven.

Corn Pone

Into 1 quart of boiling salted water stir enough meal to make a stiff dough. Then shape the dough into small cakes and bake half an hour in a hot oven, browning on all sides. Serve for breakfast with fresh pork sausage.

Cornmeal Griddle Cakes

Ingredients: One and one-third cups corn meal, two-third cup flour, ¾ cup milk, 1½ cups boiling water, 1 teaspoon salt, 1 tablespoon shortening, 1 tablespoon molasses, and 4 teaspoons baking powder.

Method: Pour the boiling water over the cornmeal, add the milk, melted shortening and the molasses, then the rest of the dry ingredients sifted together. Mix well and bake on a greased griddle until brown.

Polenta

This is a favorite dish of the Italians, and it makes a savory change in American cornmeal cookery.

Ingredients: I cup cornmeal, 1 teaspoon salt, 1 cup grated cheese, 3½ cups boiling water, and ½ teaspoon mustard.

Method: Make a mush of the cornmeal and boiling water. (Here again one can make the mush by the cold water method described earlier in the article. And if you make the mush the old-fashioned way, you must cook it 3 hours on top of the stove. When the mush is cooked enough, add the mustard, pepper and ¾ cup of the cheese, cook a minute or so, then turn into a shallow greased tin, and let cool. Cut into squares, sprinkle with the rest of the grated cheese, and bake in the oven for 15 minutes. Serve a tomato sauce around it. You will find this very good for supper on a cold winter night.

Old-Fashioned Cornmeal Pudding

Scald I quart of milk in a double boiler, add one-third cup cornmeal and cook 20 minutes; then add ½ cup molasses, 1 tablespoon chopped suet or butter, 1 teaspoon cinnamon or ginger, ½ cup seeded raisins and 1 pint of cold milk in which you have beaten the yolks of 2 eggs. Pour into a well-greased pudding dish and bake slowly for 2 hours. It should have considerable whey when done, and this whey is used as a sauce when serving the pudding.

Cornmeal Pudding With Dates

Scald 1 pint milk, add ½ cup cornmeal and cook 20 minutes in a double boiler. Add a little salt, 1 tablespoon of butter and ½ cup sugar. Pour into a greased pudding dish, add 1 teaspoon cinnamon, 2 well beaten eggs, ¾ cup dates cut into small pieces and 1 pint of cold milk. Bake as for an ordinary custard, and serve with sugar and cream or with syrup.

Steamed Cornmeal Apple Pudding

Stir 3 teaspoons baking powder into 1 cup of sugar and pour into 1 quart of freshly made mush, then stir in 1½ cups of pared and sliced apples, 2 tablespoons melted butter and 2 well beaten eggs. Turn into a greased mold and steam 2 hours. Serve hot with cream or a lemon sauce.

Indian Pudding

Pour 5 cups of scalded milk slowly on 1-3 cup cornmeal and cook in a double boiler for 20 minutes. Add ½ cup molasses, 1 teaspoon salt, and 1 teaspoon ginger. Pour into a greased pudding dish and bake in a slow oven 2 hours. When about half done stir in ½ cup of seedless raisins. Serve with cream.

Cornmeal Gingerbread

Mix 2 cups cornmeal, ½ cup molasses, 1 cup sugar, 2 tablespoons shortening, 1 teaspoon salt, 1 cup of sour and 1 cup of sweet milk, and cook over hot water for about 10 minutes after the mixture has become hot. Let cool and add 1 cup flour, 1½ teaspoons soda, 1 teaspoon cinnamon and ½ teaspoon each of ginger and ground cloves, all well sifted together; also add 1 egg well beaten. Pour into a greased tin and bake in a moderate oven.—Mrs. F. Wm. Stillman, Union Co., N. J.

POP CORN WHIP

Free freshly popped, crisp and tender pop corn from unpopped, tough and otherwise objectionable kernels. Grind in a food chopper as much as you will need for the serving. Moisten well with fresh sweet cream adding sugar to suit taste. Top all with chilled whipped cream, sweetened, and dot with nut meats.

This is a dainty appetizing dessert, wholesome and inexpensive, and original for parties, etc. Put a covered jelly glassful of it occasionally in the children's school lunch boxes. —Gertrude Shockey.

MAKESHIFT DISHES

With the price of food stuffs soaring to the skies it is well to grasp every practical idea for economizing and pass it along to our neighbor. One of these happy thoughts is the use of string beans for mock meat loaf. Grind the beans, which may be either fresh or canned, through the meat cutter and use in the place of meat. Of course any meat loaf requires the use of plenty of fat of some sort, and eggs and salt, pepper and onions to taste. You will be surprised when you make this loaf—it is so delicious.

Another new idea (which is original, by the way) is the use of the much despised carrot, to eke out a supply of sauce in the scarcity of fruit. Boil until tender, put through food chopper, mix 2 parts apple sauce with 1 part ground carrot. Sweeten and flavor with pulp and rind of oranges, also ground. This sauce can be varied by the addition of ripe tomatoes boiled down to a thick pulp.

As apples were almost unobtainable in our locality at times this plan worked to a charm, as the blending of other flavors completely camouflaged the carrot, which while giving body and bulk to the sauce, is very nutritious. This sauce has this advantage: it can be made in winter of the apples which start to rot, as nearly everybody has plenty of carrots.

CARE OF HANDS

In Raw Weather and Rough Work

Small cracks are painful hand afflictions of raw weather; they appear in corners of nails, across knuckles and sometimes on the tip of the thumb. Fill with collodion frequently when they first appear. This will usually stop them, but if they are obstinate render some mutton tallow and fill the cracks with it at bedtime, pulling on some loose gloves. Repeat the tallowing in the morning, substituting a finger "cot" for the glove. Hot tar was an effective old-fashioned remedy.

A great help to me in keeping my hands comfortable in raw weather is a jar of yellow cornmeal kept handy so I can rub on a little in connection with a bland soap when I wash my hands. This combination is very good for removing grime. The oil of the meal seems to soften the skin. It is especially good for the children's and the men's hands which get so grimy. A convenient way of using it is to shave some of the soap into the jar of meal, mixing it in well; keep the jar covered.

The virtues of a cut lemon need to be retold Keep one in a cup over the kitchen sink. A half cup of cornmeal with a cut lemon on top will be found very comforting.

(Editor's Note.—We find that a lotion made of about two tablespoons glycerine to 10 tablespoons of vinegar is very soothing and effectual in counteracting the alkali of the soap when the hands have been much in suds. The vinegar acid neutralizes the alkali, and the glycerine softens the skin).

Glycerine combinations are healing to some and irritating to others, in which class my hands happen to be. This prescription for the best lotion that I have ever used was given me by a physician, and I pass it on to you. It includes: 1 ounce ether, 1 ounce alcohol, 2 ounces glycerine and 11 ounces water. Mix and rub on the hands after each washing until the hands are thoroly dry. It helps to slip on at night a pair of loose gloves.

If the white tips of your nails get grimy, wash and soak the hands, then fill the nails with soap and let remain several minutes. Then use an orange stick or a toothpick to clean it out, and brush with a nail brush and suds. When you black the stove and when gardening this spring remember that filling your nails thus with soap before you begin to work in the dirt will make them easier to clean afterward.—Florence Spring.

CARE OF THE ASH GRATE

In burning coal, care should be taken to keep the ash pan emptied, so that the ashes do not hold the heat and so melt out the grate.

We have had the most trouble at the school house. One teacher melted out three grates in one winter. Another teacher told me, after she had left water in the water pail and it had burst the bottom out and had omitted to do several other little things that resulted disastrously, that her mother once told her that she would find that there were many things for her to learn, which were not found in books. She said, she was finding them fast enough.

We have a good heater that we have used continuously for 27 years, and the fire pot is often red with heat, but I never have had to have a new grate. I never had used coal previously but I heeded what others told me regarding every detail, and have had good fires, and saved myself trouble and expense.—M. I. C. A.

COOKING A HAM WHOLE

For a ham weighing from 20 to 30 pounds, soak in cold water to cover well, about three days, changing the water morning and night. A metal, half-bushel measure is an ideal vessel in which to soak and also to cook the whole ham in.

When soaked ready to cook, drain off all the water, cover with boiling water to which add one level teaspoon baking soda. Place it on the hottest part of stove so as to get to boiling quickly. Then set the receptacle on back part of the stove where it will just simmer. Keep closely covered, and cook from 6 to 8 hours. Leave the ham in the liquid until very cold, then remove to a pan. This is excellent to slice off cold, or it can be heated if so desired. Let the liquid stand until cold, removed the grease, which can be used for any sort of baking but if kept long, should be cooked until the water is out.. The liquid is fine for gravies, etc.—M. I. C. A.

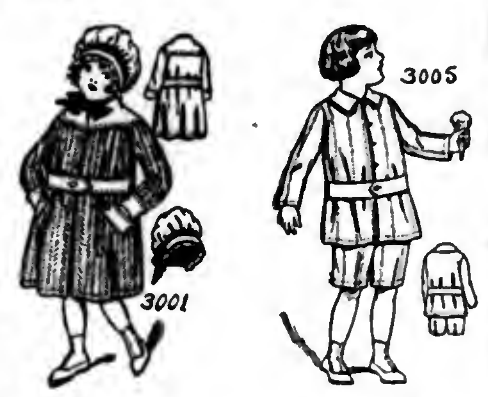
The American women were the first to demand political freedom they have seen those of 21 nations enfranchised before them. Suffrage was granted to women in the

Isle of Man in	1881
New Zealand in	1893
Australia in	1902
Finland in	1906
Norway in	1907
Iceland in	1913
Denmark in	1915
Russia in	1917
Canada in	1918
Austria in	1918
Czecho-Slovakia in	1918
England in	1918
Germany in	1918
Hungary in	1918
Ireland in	1918
Poland in	1918
Scotland in	1918
Wales in	1918
Holland in	1919
Sweden in	1919
Italy in	1919

PENNSYLVANIA FARMER PATTERNS

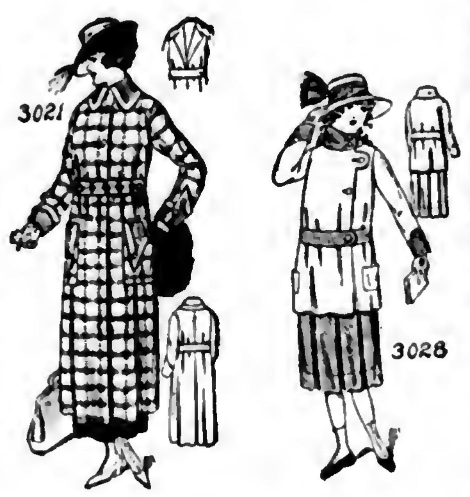
Give figures and letters of each pattern exactly as printed at beginning of each description or we will not be responsible for correct filling of orders. Give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261 S. Third Street, Philadelphia, Pa.

3001.—Coat For the Little One.—You will find this coat very comfortable and pleasing in velvet, in silk, bedford cord, serge and other coatings. The cap could be of material contrasting to that of the coat. The pattern is cut in 4 sizes: 2, 3, 4 and 5 years. Size 2 requires 1½ yard of 54-inch material for the coat and ½ yard of 32-inch material for the cap, with ⅝ yad of lining.—Pattern, 10 cents.



3005.—Comfortable Suit for Small Boy.—This is a good style for corduroy, velvet, serge, as well as wash fabrics. The blouse closes in coat style. The trousers are made with a side closing. This pattern is cut in 4 sizes: 3, 4, 5 and 6 years. Size 4 will require 3½ yards of 27-inch material. Pattern, 10 cents.

3021.—Smart Utility Coat.—This style is good for two-toned combinations, double faced cheviots, corduroy, polo cloth and tweeds. The pattern is cut in 6 sizes: 34, 36, 38, 40, 42 and 44 inches bust measure. Size 38 will require 6½ yards of 52-inch material. Pattern, 10 cents.



3028.—A Stylish Coat for Growing Girls.—This model could be developed in cheviot, broadcloth, serge, two-toned woolen or mixtures. The collar's in muffler style. The pattern is cut in 3 sizes: 10, 12 and 14 years. Size 14 requires 3½ yards of 44-inch material. Pattern, 10 cents.

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at the 1918 Price

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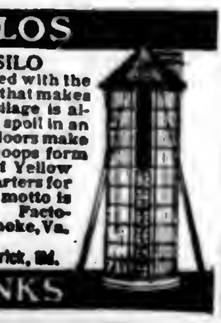

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FARM BUREAU NEWS

1920 PROGRAM OF N. Y. FEDERATION OF FARM BUREAU ASSOCIATIONS

1. Every county a Federation member.
2. Cooperate with College in operating a joint office.
3. Follow a definite program.
4. Operate under a budget system.
5. Join American Farm Bureau Federation.

Educational Projects

1. Operate a Speakers' Bureau.
2. Advise on administration of College Extension work.
3. Study rural school problems and present a farmers' program.
4. Develop agricultural publicity.
5. Study drainage needs of farmers and recommended appropriate legislature action.
6. Take action looking toward the re-establishment of pre-war Rural Delivery service and its future improvement.

Legislative Demands.

1. A more flexible budget system for the Agricultural College and Experiment Stations.
2. Feed legislation compelling the marking of packages with both contents and analyses, and more severe penalties for adulteration.
3. Repeal of the State Daylight Saving Law.
4. No compulsory health insurance.
5. Enactment by Congress of the Capper-Hersman Bill.
6. Better seed laws.
7. More stringest laws for trespassing.
8. Legislation tending to encourage the construction of a system of highways known as County and Township Highways, and to secure proper and adequate appropriation of state funds for the expansion of highways under such system.

MARYLAND STATE GRANGE EXECUTIVE COMMITTEE OUTLINES 1920 PROGRAM

At the recent annual meeting of the State Grange in Chestertown, the executive committee presented a comprehensive program of work for 1920.

Following is a digest of the program of work offered by the executive committee:

Organization—The Grange should extend its organization into new territory as rapidly as conditions will permit and cooperate with other organizations in promoting projects of mutual and community interest.

Education.—Money spent for education is a good investment. Good schools are dependent upon well-trained, well-paid teachers. The school house and grounds should be the Community Center, and the schools should develop patriotism and Americanism. The Grange should urge better support of educational institutions.

Roads.—The Grange should promote a policy for the development of our county and lateral roads so as to make every road passable 365 days in a year. Road building should be supervised by a competent engineer.

Railroads. — Private ownership, with careful conservative and strict government regulation and supervision will give the most economical administation of the railroads and supply the best service to the public. Consolidation of the railroads into a number of competing systems would seem to be in the interest of the public. Granges should study the railroad problem and support sound measures relating to it.

Distribution of Farm Products—The distribution of farm products after they leave the hand of the farmer is the consumers' problem; but the farmers should cooperate in making the solution determined upon operative. Granges should aid in this work.

County Charles Government or Home Rule.—County Home Rule will be of advantage to the county by promoting prompt and efficient handling of local county matters and to the State in preventing the clogging of legislative machinery with local bills. Granges should aid in securing Home Rule.

Primary Elections.—The law providing for primary elections of candidates for office should be modified so as to be less expensive and more effective. Granges should study the law in order to aid in the amendment.

The Torren's System.—The establishment of the Torren's System of Land Title Registration for the State should be a special part of the Grange legislative program for 1920.

Farm Rentals.—Contracts and leases for the rental of farm lands should change with changing conditions. This subject requires especial study and consideration at the next State Grange meeting.

Land for Soldiers.—The policy of the Maryland Grange at its Forty-sixth Session covering this point has proven safe and sane and has met with public approval. The policy should be continued.

Farm Machinery Repair Week.—We endorse the plan of having farm machinery repair week on every farm and urge each Grange to push the matter.

Certification of Seed.—We recomment that each Grange further the project of having farmers produce seed which shall be certified by the Experiment Station and the Crop Improvement Association.

Soil Testing Week.—The Experiment Station has designated the week beginning February 20th as a special time for testing the acidity of soils to determine lime requirement. The Grange should promote this project to its fullest extent.

Other sections related to the more economic and judicious expenditure of public funds, the breaking down of sectionalism, the development and conservation of man power, land honds, and ratification of the Treaty of Peace.

WHY I BELIEVE IN THE HOME BUREAU

1. Because I feel a real personal need of the help and co-operation of the Home Bureau.

2. Because I believe that there is a great number of women and homes who need the help of the Home Bureau in some way, but who do not realize that they have any part in it.

3. Because the scope of the Home Bureau is so broad that it takes the self out of selfish if we follow the plans laid before us.

4. Because the aims of the Home Bureau are so high that our lives, our homes, our communities and our country will be raised to a higher level by our hearty support.

5. Because Uncle Sam, through the School of Home Economics, through the Home Bureau agent, through its local leaders, is standing for better homes, better schools, better boys and girls, and better enjoyment of life.

6. Because the Home Bureau is a balance wheel in the county. Connect yourself with this great force and see how much more smoothly the business of life will run.

I believe that every woman in this county who has any appreciation of these matters should support this work, for the benefit of the women who have no thought concerning these things.—Mrs. W. B. Wright.

CROP DEMONSTRATIONS IN N. Y.

In 1919 the county agents in New York conducted over 200 clover hay rotation demonstrations; over 400 with alfalfa; nearly 400 with silage corn varieties and nearly 200 with soy beans for silage.

Five years ago but a few potato growers knew anything about Stewarts classification of potatoes by types of the value of disease-free seed. Last year over 70,000 bushels of certified potatoes were produced for seed.

If the bones of lamb you see at the butcher's are white, it is a good indication that the lamb is mutton. Bones in lamb are reddish.

PASSING EVENTS IN PICTURES

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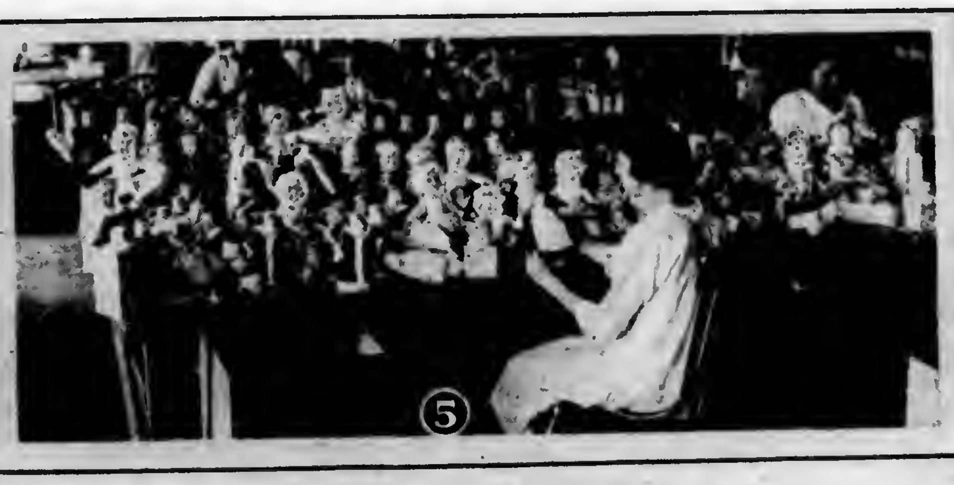
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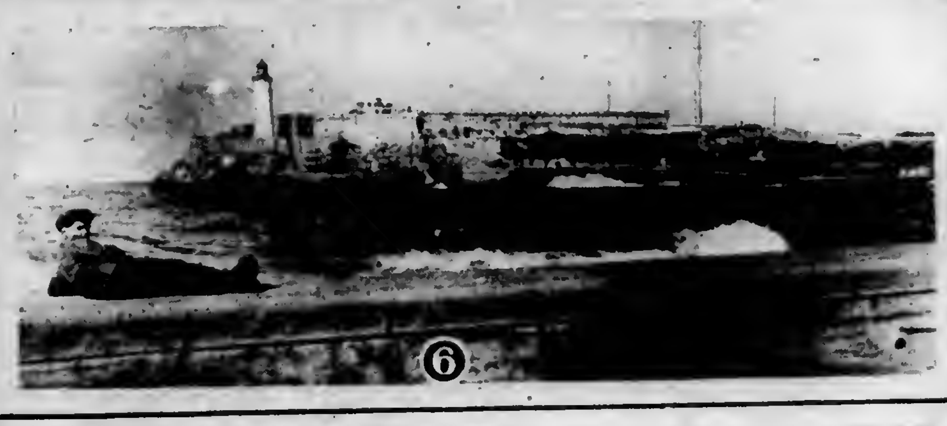
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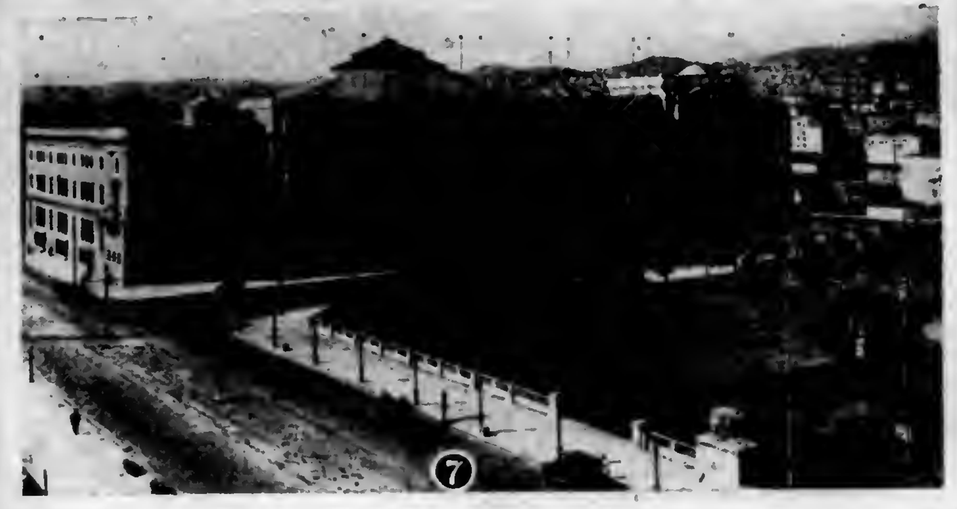
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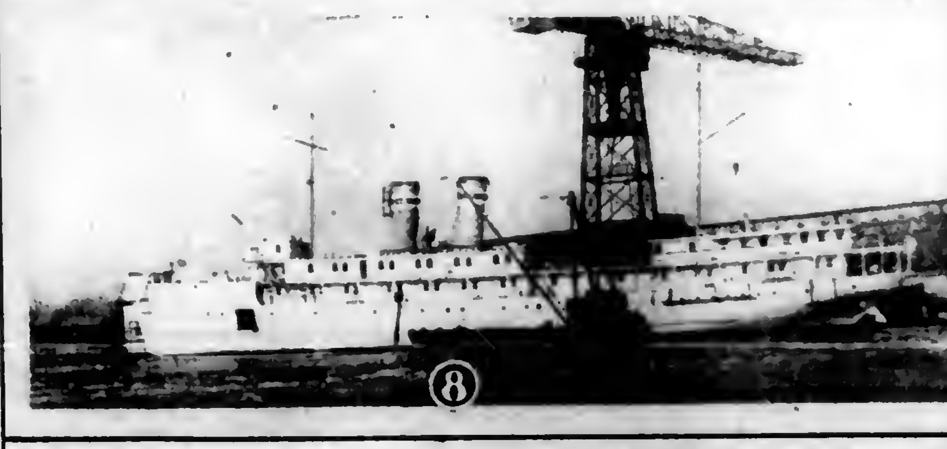
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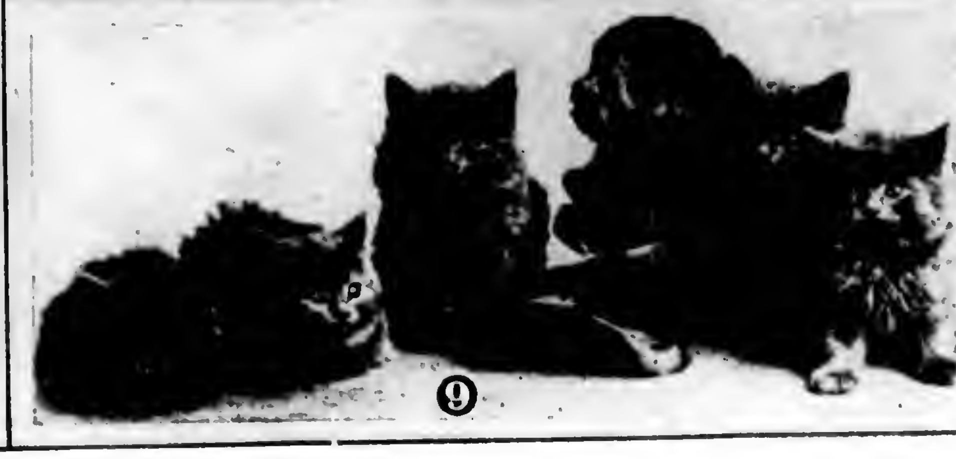
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(Photo. Copyright by Underwood & Underwood)

1 & 2.—Thomas P. Gore, Blind Senator from Oklahoma, and his Wife and Chief Helper.

3.—Prof. George S. Meylan, Physical Director, says: "Don't Worry, Be Moderate, Eat Slowly, Sleep Long and Live to be 152."

4.—Edmond Harris of High Wycomb, England, A Teetotler and Non-Smoker, 100 yrs. old.

5.—Putting the Finishing Touches on Dolls in a Boston Doll Factory.

6.—Moro Castle at Havana, Cuba, a Notable Fort in the Spanish American War.

7.—Auditorium in San Francisco Where Democratic National Convention will be Held.

8.—Steam Ship to be a Floating Bar, to run between Miama, Florida and Cuba.

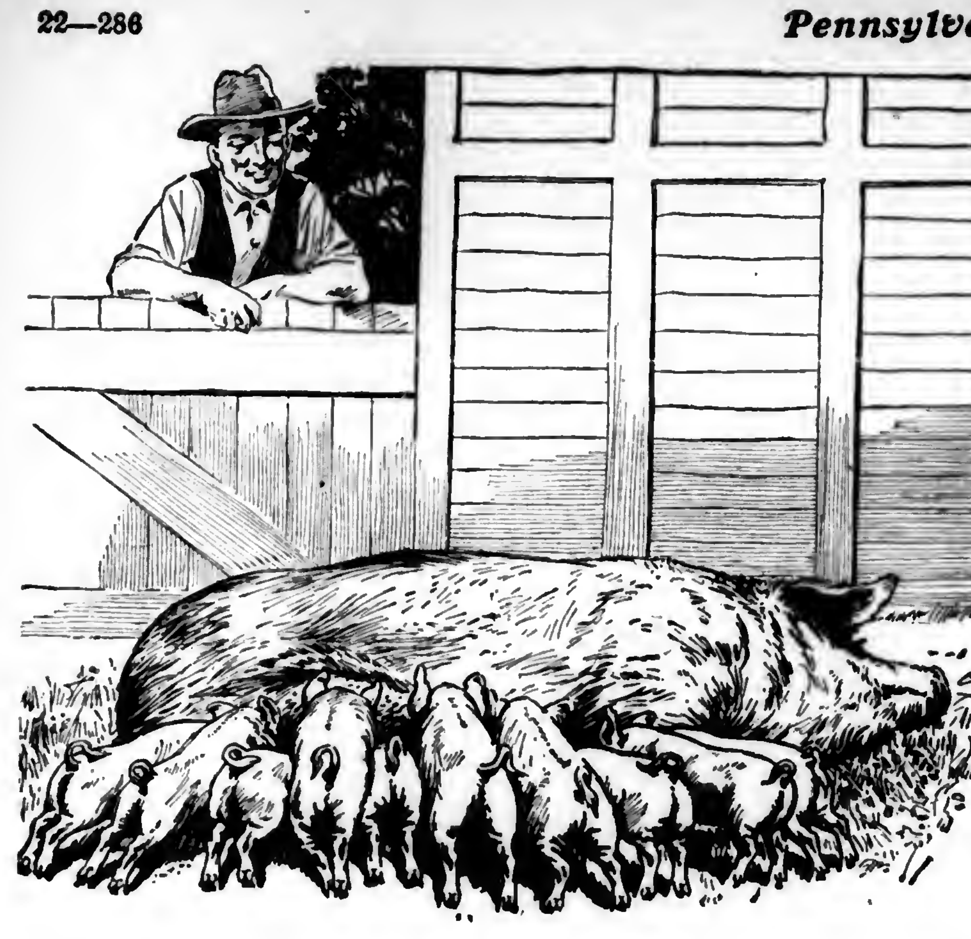
9.—A Monkey Mothers a Quintette of Orphaned Kittens since they were 2 weeks old.

10.—Paul Deschanel, the Newly Elected President of France.

11.—Francis Fisher Kane, the U. S. District Attorney who recently Resigned his Office.

12.—D. F. Houston, Former Sec'y of Agriculture, Since made Secretary of Treasury.

13.—An Arabian Prince Emir Feisal, Prominent in the World's Peace Conference.



"Well Born—Half Raised"

Half the success in swine raising lies in producing big litters of strong, healthy pigs; the other half in raising the pigs to marketable condition. The success of both depends more on proper feeding than on anything else.

For the production of profitable litters a sow must have protein, carbohydrates and other nutrients, including the **right kind of mineral matter properly proportioned,** to develop the litter and maintain her physical condition. If supplied with the right feed, sows will have more and stronger pigs, will not eat them at farrow and will be in condition to furnish milk to give them a good start.

Growing shoats require protein, carbohydrates, proper mineral matter and other elements in easily digestible form to insure healthy growth and strong body development. The feed must furnish these without being too fattening, for pigs will not grow best when too fat.

Hogs to be fattened require a supply of fat-forming nutrients in easily digestible form to quickly fit them for market.

It is impossible for **one** feed to meet these different requirements. **A different feed must be supplied for each.**

Meeting the need of each particular food requirement is the basic principle of **TI-O-GA Feed Service.**

Under the supervision of the best feed expert obtainable, a feed is prepared to fit each particular case:

TI-O-GA Brood Sow and Pig Feed to be fed to brood sows at all times and to pigs until 12 weeks old.

TI-O-GA Growing Shoat Feed to be fed to shoats from 12 weeks old until 8 weeks before marketing.

TI-O-GA Fattening Hog Feed to be fed to hogs for 8 weeks prior to marketing.

With each bag of **TI-O-GA Swine Feed** are feeding instructions, and each bag is guaranteed satisfactory if used as intended.

Your dealer can furnish **TI-O-GA Swine Feeds.** Book on **TI-O-GA** Feed Service containing valuable information on feeding all kinds of stock free on request.

The same careful service is furnished in the preparation of:

- **Red Brand TI-O-GA Dairy Feed** (to be fed with ensilage, pasturage, green fodder or low protein roughage).
- **White Brand TI-O-GA Dairy Feed** (to be fed with medium protein dry roughage)
- **Blue Brand TI-O-GA Dairy Feed** (to be fed with high protein dry roughage).
- **TI-O-GA Calf Food.**
- **TI-O-GA Chick Feed.**
- **TI-O-GA Growing Mash.**
- **TI-O-GA Growing Grains.**
- **TI-O-GA Laying Food.**
- **TI-O-GA Poultry Grains.**
- **TI-O-GA Horse Feed.**
- **Colonel's Ration (Full Feed for Horses.)**

Tioga Mill & Elevator Co.
WAVERLY, N. Y.

TI-O-GA FEED SERVICE

LIVE STOCK

VIGILANCE AT LAMBING SEASON PAYS

The year we did the best with our lambs, they were dropped about the first of April. That was middling late to give us the very earliest high prices. But we were new at the business, comparatively speaking, and did not know the value of late winter-dropped lambs. But we made up our minds we would see what we could do in the way of fitting the lambs up quickly and getting them away to market in time to catch the early summer trade.

Our ewes were good, young, thrifty Shropshires. We had kept them in the best shape we could through the winter, neither aiming to have them too fat, nor yet, too thin in flesh. The best ewe is the average ewe, so far as weight is concerned. The ewes did well in bearing their lambs. We made it a point to get them in every night when the weather was likely to turn cold before morning. I got up in the middle of the night many times, when I heard the wind "come round" into the cold quarter, and went down to let the sheep into the barn, so that no lamb might be chilled before morning. For a chilled lamb is almost always a dead lamb.

To boost our lambs we boosted the ewes in the fore part of the race. That is the only way you can do it. We fed the sheep for milk-giving. You cannot get heavy milkers by feeding dry hay and little or no grain. As soon as we could after the lambs were dropped, we got the mother sheep up on succulent feed, some timothy, some clover hay, some roots, and some grain. There is nothing better than oats for sheep feeding. I like barley, too. It makes fine meat; and yet, for a steady, all round diet I think oats are better.

Then, too, we kept the sheep well supplied with water. Just at this point many fail. They do not estimate water at its right value. Far too many farmers say if sheep can get snow to eat, and the dew from grass, that is all the water they need. Never was there a greater mistake. Water your sheep often. It will pay the biggest kind of returns. And have the water pure and of the right temperature. You can chill the stomach of a sheep by giving too cold water just as you can your own. We must watch all the little things. To sharpen up the appetites of the ewes we fed now and then a few small apples, or some that had been sorted out of the crates in the cellar, and the sheep ate them greedily.

As soon as the lambs were old enough to chew, they had their share of the good things their mothers had. That is, we picked out nice bright hay, especially clover hay and let them nibble at the leaves and blossoms. It is certainly surprising how early the little chaps will begin to enjoy this kind of food. It is just as astonishing to find that when they are little bits of things they will begin to eat grain.

Just here the value of a separate feeding trough for the lambs is apparent. Lambs do not stand a very good show in with a lot of old sheep, pushing, crowding, reaching for the first bit and the last bit. So we made a place on purpose for the lambs just outside the yard where the old sheep were fed. A little gate for the lambs to go through to their own inclosure will not permit the larger sheep to creep through. It is a good plan to feed the old sheep their grain first and then the lambs. Both will soon come to understand their part.

At birth our Shropshire lambs probably weighed in the neighborhood of eight pounds. Sometimes they go better than that. Anywhere from six to ten is the usual range. And although we did not weigh the lambs along through feeding time, I have no doubt whatever that they made half a pound of flesh a day from the time they were six weeks old. During that time they had from one-third to one-half a pound of grain, besides what hay they were fed and the milk they got from their mothers. For feeding at this time the following are good; wheat feed for muscles, a bit of corn, some whole oats, some cracked peas. More corn meal would be indicated for lambs that are to go to the market than if they are to be saved for the home herd.

We have found that when a lamb gets to be eighty or one hundred pounds in weight it is most acceptable to the butcher, and of such lambs there is never an oversupply. To wind up with, let me say that it pays to feed on the tick of the clock, to be patient, kind and attentive to every want.—E. L. Vincent, Broome Co., N. Y.

HOW COOPERATION HAS HELPED CANADIAN WOOL GROWERS

The Canadian Co-operative Wool Growers' Limited, is the largest wool sales organization of farmers in the world. It has members in every province of Canada. Sales started in 1914 with 206,129 pounds of graded wool, advanced to 420,000 pounds in 1915; 1,712,598 pounds in 1916; 2,097,909 pounds in 1917; rose to the 4,000,000-pound mark in 1918, and will come close to 6,000,000 pounds for 1919.

Before this organization was formed, wool growers were fleeced on every side. There was no incentive to grade wool when sold individually because buyers made the men who graded pay for the sins of those who did not. Now, under universal team work buyers pay the grade price, and sheep husbandry is promising and profitable.

Nine years ago after thoroughly investigating the sheep industry of Canada, the Sheep Commissioners reported that "from shearing to marketing no country in the world handles its wool in a worse manner than Canada. As far as the wool of mutton and course breeds go, we do not know of any country where it is handled in such an unsatisfactory manner and delivered in such bad condition." But since then, co-operation in the form of local, county and provincial associations, all pooled in the greater Canadian Co-Operative Wool rowers' Limited has put Canada at the head of the list. From Atlantic to Pacific wool production, grading, and marketing has been revolutionized.

The central organizations has its warehouses at Toronto, and is capitalized at $200,000, divided into 20,000 shares of $10 each. These shares are held by growers in each province, which is entitled to one representative at the annual meeting. Either there is a local county association, or a provincial organization which acts as local or provincial representative of the larger organization in the community. Thus, like a fine-tooth comb, co-operation effort sweeps through each community of Canada where there are sheep breeders.

The Pontiac County Wool Growers' Association, of Quebec, is one of the most successful local organizations. This farmers' organization has planted profitable sheep husbandr in a county a few years ago almost abandoned. Farmers are going into sheep more and more, because there is real profit where the wool is graded and where the farmers determine the price.

W. R. Beach is active leader of the Bedford organization. "That the farmers have been benefitted is noticeable at grading stations," advised Mr. Beach. "Wool from one particular flock three years ago had to be put among rejections on account of the seed and straw in it, but the wool from the same flock has

season graded uniform. This meant a difference in price of about 40c a pound due to a little extra care."

The official grading and co-operative marketing of wool in Ontario, which was instituted in 1917 has developed rapidly. The work is carried on by the Ontario Sheep Breeders' Association, who, through their secretary, R. W. Wade, have had the sheep breeders of every county canvassed and signed up.

Blank forms are supplied the farmers, which are properly filled out and mailed in at the same time shipment is forwarded to headquarters. Each member is supplied with sacks, twine and tags, purchased at wholesale and deducted with the expense of handling. All wool is handled at the fair buildings of the province. Each farmer's wool being weighed, and graded. It is there baled uniformly and held in readiness for sale through the Co-Operative Wool Growers' Limited. Nearly 1,000,000 pounds of wool is thus handled for the Ontario farmers, and a great sheep industry has been built up where hopelessness prevailed a few years ago.

The Western Canadian provinces each have their wool growers' or sheep breeders' associations. Each handles the wool of the province and ships it to the central Toronto warehouse in carlots. From here it is shipped in various grades and quantities to American and British textile mills. It has been the aim to make quick settlement with the farmers for their wool. The organization handling the wool is a part of the Dominion Department of Agriculture, whose agents act as managers of most of the associations. Thus the expense incurred in handling the wool is very little.

This is the difference between selling wool in bulk for what the buyer will give and by sorting and inspecting whereby grade values become apparent, and sheep raisers are remunerated more equally.—Earle W. Gage.

Purebred Ayreshire Bull, Owned by H. C. McCormick, Chautanqua Co., New York

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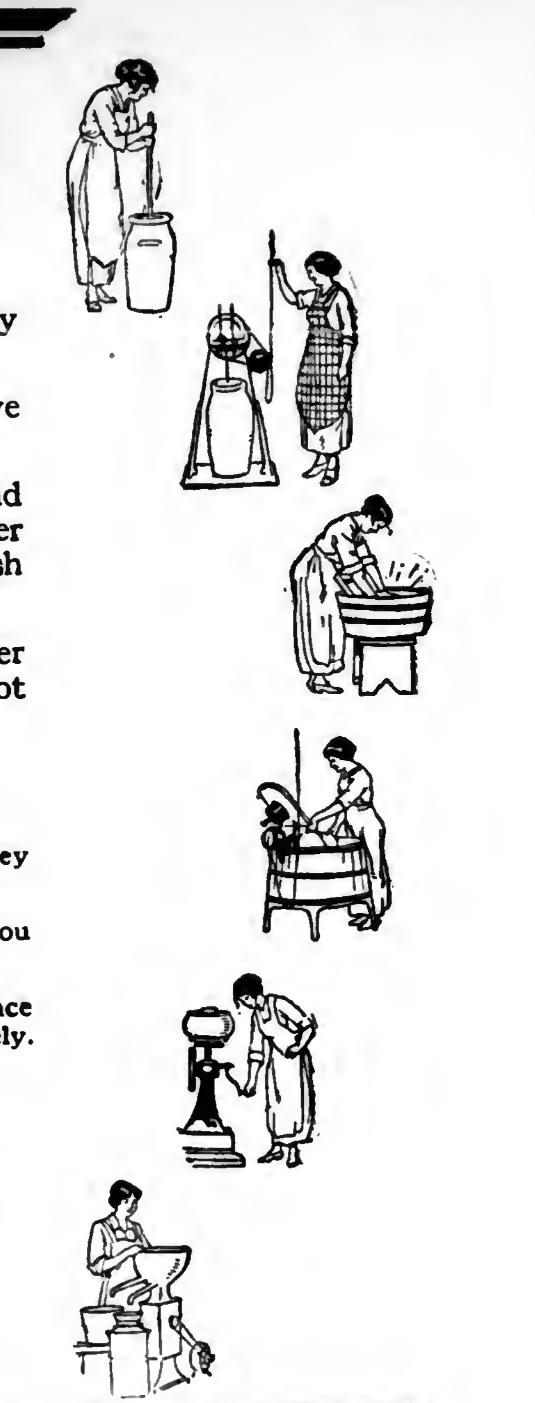
The sale of a carload of Poland China hogs in Dover, Del., recently under the auspices of the Kent County Farm Bureau, brought to Dover one of the largest crowds of farmers interested in hog breeding ever known. Prominent farmers from Maryland, Pennsylvania and Virginia were among those who attended the sale and made purchases of the breeding stock. The sale totalled fully $5000. Prices ranged from $75.00 to $150 a piece for the hogs.—Mrs. H. C. Taylor.

COOPERATIVE BREEDING

Community breeding has been steadily growing in Pennsylvania for three years. This plan of improving live stock has worked satisfactorily where it has been tried. It gives the individual farmer an opportunity of using better sires than he could afford if he were working alone. Each man has the results of his neighbor's experience to guide him. It develops interest in purebred stock, gives the community a reputation which is of great advertising value and makes money for the farmers by furnishing him with animals which give the greatest possible return for the food they eat.



Install Lalley Light Now

Farmers are installing Lalley Light *now* in greatly increased numbers.

They realize more than ever that *right now* they have plenty of time to install this essential equipment.

They realize that they can have Lalley benefits and comforts *immediately* and be ready for the greater benefits that Lalley Light will give them when the rush of farm work comes.

They realize that Lalley Light, with its ten-year owner experience, is so valuable an investment that they cannot afford to be without it one day longer.

Delay May be Costly

Right now **is the best time for you to begin enjoying Lalley electricity.**

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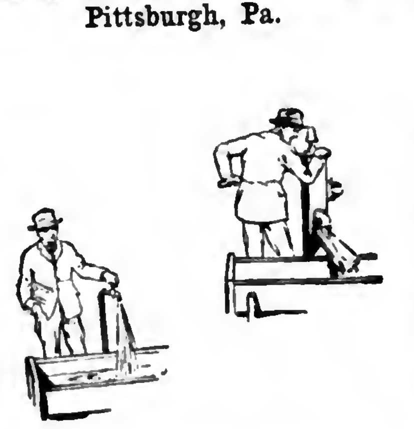

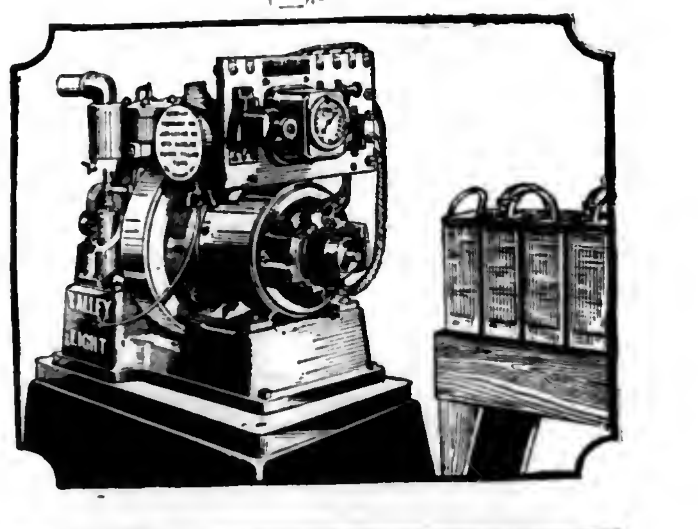

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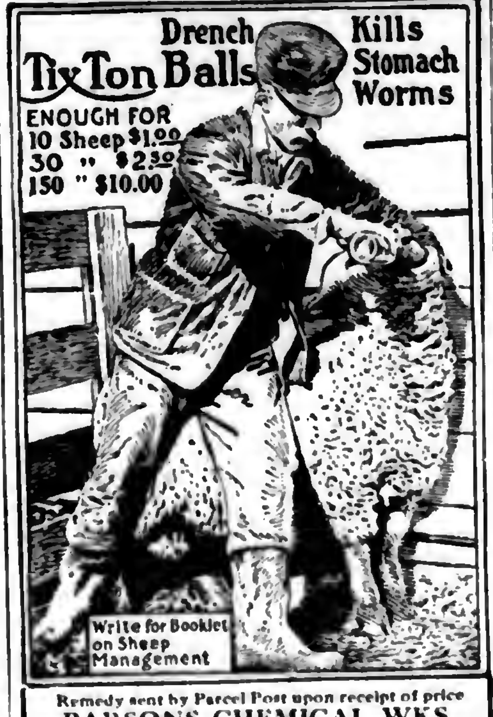
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DIGESTER TANKAGE FOR HOGS

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ABSORBINE, JR., for mankind—an antiseptic liniment for bruises, cuts, wounds, strains, painful, swollen veins or glands. It heals and soothes. $1.25 a bottle at druggists or postpaid. Will tell you more if you write. Made in the U. S. A. by
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$2.06 a bottle (war tax paid)—special remedy for all soft blemishes—Bog Spavin, Thoroughpin, Splint, Curb, Capped Hock, etc. Easy to use, only a little required and money back if it fails. Write for FLEMING'S FREE VEST-POCKET VETERINARY ADVISER.

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253 Union Stock Yards, Chicago, Illinois

KEZIAH COFFIN

By JOSEPH C. LINCOLN

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(Continued From Last Week.)

"Why, Laviny! you never woke up yourself."

"That's right, lay it onto me. I expected you would; it's just like you. But why in time did you think Grace met the minister way down to Peters's grove? That's the most loony notion ever I heard, even from you. What made you think of it?"

"Nothin', nothin'. I guess I was loony, maybe. Dear! dear! dear! Have you heard how's he's gettin' on? Is he took bad?"

"I ain't heard nothin' yet, nobody has. But see here, 'Bish Pepper, you act funny to me. I want to know more about that Peters's grove notion. Why did you say it?"

Kyan wriggled upon the rack and dodged and squirmed for the next twenty minutes. He tried his best to keep the fateful secret, but he admitted too much, or not enough, and his sister kept up the crossexamination. At the end of the session she was still unsatisfied, but she was on the scent and her brother knew it. He fled to the woodshed and there punctuated his morning task of kindling chopping with groans and awful forebodings.

One of the very first to hear of the minister's illness was Keziah Coffin. Mrs. Parker told her and Keziah started for the beach before the tale of Grace's part in the night's happenings reached the village. She did not wait for a conveyance, hardly waited to throw a shawl over her shoulders, but began to cover the three miles on foot. She had walked nearly two-thirds of the distance when Captain Zeb Mayo overtook her and gave her a seat in his chaise.

They said little during the drive, the shock and anxiety forbidding conversation. At the ropes was the same group, larger now, and Dr. Parker's horse was hitched to one of the posts.

"You can't go in, Mrs. Coffin," said Thoph Black. "The doctor give us his orders not to let nobody get in. I guess nobody wants to, but all the same——"

Keziah paid not the slightest attention to Mr. Black. She stooped beneath his arm, under the rope and was on her way to the shanty before they realized her intention. Captain Zeb roared a command for her to return, but she kept on. No one followed, not even the captain. Mrs. Mayo had strictly forbidden his passing the dead line.

Keziah opened the door and entered the little building. The living room was empty, but at the sound of her step some one came from the room adjoining. That some one was Grace.

"Aunt Keziah!" she cried. "What did you come here for? Why did you?"

"Gracie!" exclaimed the housekeeper. "You?—you?"

Dr. Parker appeared, holding up a hand for silence.

"Hush!" he cried. "He's quiet now and I think he will sleep. Don't talk here. Go outside, if you must talk—and I suppose you must."

Grace led the way. Fortunately, the door was on the side not visible from the spot where Captain Zeb and the rest were standing. Keziah, bewildered and amazed at the girl's presence, followed dumbly.

"Now, auntie," whispered Grace, turning to her, "you want to know how he is, of course. Well, I think he is better. The doctor thinks so, too. But why did you come here?"

"Why did I come? I? Why, because my place was here. I belonged here. For the love of mercy's sakes what are you doin' here? With him? And the smallpox!"

"Hush. I can't help it. I don't care. I don't care for anything any more. I'm glad I came. I'm glad I was the one to find him and help him. No matter what happens—to me—I'm glad. I never was so glad before. I love him, Aunt Keziah. I can say it to you, for you know it—you must know it. I love him and he needed me and I came. He was calling my name when I found him. He might have died there, alone in the wet and cold, and I saved him. Think what that means to me."

. The girl was in a sort of frenzy of excitement and hysterical exaltation. All the night she had been calm and quiet, repressing her feelings, and tending the man she loved. Now, with some one to whom she could confide, she was calm no longer. Keziah answered her soothingly, questioning her from time to time, until, at last, she learned the whole story.

The door opened softly and Dr. Parker came out.

"He's asleep," he said. "And he's better, much better. And I'll tell you something else, if you won't make too much noise about it—he hasn't got the smallpox."

The two women looked at him.

"Fact," he said, with an emphatic nod. "Not a symptom of it. I'd have bet my best hat that he wasn't going to have it and I won't have to go bareheaded yet awhile. He is pretty close to brain fever, though, but I guess he'll dodge that this time, with care. On the whole, Keziah, I'm glad you came. This young lady," with a movement of the head toward Grace, "has done her part. She really saved his life, if I'm not mistaken. Now, I think she can go away and leave him to you and me. I'll pretty nearly guarantee to have him up and out of this—this pesthole in a fortnight."

Here was joyful tidings, the better for being so unexepected. Keziah leaned against the boards and drew a long breath. Grace said nothing, but, after a moment, she went into the house.

"That's a good thing, too," commented Parker, watching her as she went. "I wanted to talk with you, Keziah Coffin, and right away. Now, then, there's something up, something that I don't know about, and I rather guess you do. Young women—as there is—don't risk smallpox for any young man they pick up casually. The don't carry—I guess it was pretty nearly carrying—him home and put him to bed and care for him and cry over him and call him 'dear.' And he doesn't beg them to run away and let him die rather than to stay there and risk dying, too. No, not to any great extent. Now, Keziah, you and I are fairly good friends and we ought to know each other by this time. I see a light—a little one. Now, then, if you turn up the lamp, so that I can see the whole blaze, maybe I can help those two in yonder."

Keziah considered. "All right, doctor," she said, when she reached a decision, "all right; I'll tell you the whole thing, and you can see one of the reasons why my hair is gettin' grayer. This thing has reached the point now where there's no keepin' it quiet. Folk'll know—I s'pose they know already—that she's been here with him. They'll suspect a lot more and the truth is better than suspicion—that is, it can't be worse than the suspicions that come natural to a good many minds in this town. I am glad I can tell you, for I guess the time's come to step out in broad daylight and h'ist our colors. Now, you listen. Here 'tis, from beginnin' to end."

She went on to tell all she knew of her parson's love story.

Dr. Parker listened.

"Hum!" he said thoughtfully, "I see. What made her change her mind so suddenly? You say, or you gather from what Mr. Ellery told you, that she had all but agreed to marry him. She cares for him, that's sure. Then, all at once, she throws him over and accepts Nat. Of course her uncle's sudden seizure was a shock and he wanted Nat to have her, but she isn't the kind of girl to be easily swayed. Why did she do it?"

"Well, doctor, that's kind of a puzzle to me. All I can think is that she come to realize what it might mean to him, the minister, if he married a Come-Outer. I think she done it for his sake, to save him, though what made her realize it all at once I don't know. There's the part we ain't heard."

"I guess you're right. Something happened between the time she left Ellery and when you and I reached the tavern. But never mind that, that doesn't count now. Let's look at things as they are this minute. She's here and folks know it. As they do know it they'll begin to talk, and the more they talk the farther from the truth they'll get—most of 'em. Nat, poor chap, is dead, so her promise to him is canceled. Ellery will get well if he isn't troubled, and her being with him will help more than anything else. I can understand now why he broke down."

"Yes, he ain't been himself since it happened."

"Of course, and the last few weeks of worry and night work have helped to wreck his nerves. Well, as I see it, there's only one thing to do. If she leaves him he'll go to pieces again, so she mustn't leave. And she can't stay without an explanation. I say let's give the explanation; let's come right out with the announcement that they're engaged."

"Whew! that'll stir things up."

"You bet! But let it stir. I like that parson of yours; he's a trump. And I always liked her, although, generally speaking, I don't love Come-Outers. And I like her more than ever now, when she risked what she thought was smallpox to care for him. As I said, she saved his life, and she ought to have him. She shall have him."

"But she's a Come-Outer and—there's the church."

"Well, I know it. But he never was so popular as he is now. And she isn't by any means a steady going Come-Outer. Why, Zeke Bassett and the rest have been finding fault with her and calling her a backslider. That'll help. Then you trust me to whoop up her heroism and the fact that without her he would have died. We can do it, Keziah. Come on! I've tackled a good many jobs, but matchmaking isn't one of 'em. Here goes to tackle that."

Keziah was delighted; here was work after her own heart. But she still hesitated.

"Doctor," she said, "you've forgot one thing, that's Gracie herself. Would she marry him now, knowing it may mean the loss of his ministry and all, any more than she would at first? I don't believe it."

"That's our part, Keziah. You've got to show her she must marry him or he'll die; see? Call on me to back you up in any fairy yarn you spin. You prove to her it's her duty to marry him. You'll have to stay here and help nurse, of course, and that's easy because his disease isn't contagious. You convince her and I'll take care of the congregation. He'll live to be minister here for the rest of his life, if he wants to, and she'll be a minister's wife and sit in the front pew. I'll guarantee the church if you'll guarantee the girl. Why, it's your duty! Come, now, what do you say?"

Keziah's hesitation was at an end. Her face lit up.

"I say good!" she cried. "And I'll be thankful to you all the rest of my life. But for the dear mercy sakes, don't say 'duty' to me again. Oh, doctor, if you only knew what it means to me to be fightin' at last for somethin' that ain't just duty, but what I really want! I do honestly believe we can win. Glory, hallelujah! And now I want to give you a piece of advice, your course for the first leg, as you might say: you see Cap'n Zebedee Mayo."

"Humph! Cap'n Zeb is the first man I mean to see."

Captain Zeb listened with his mouth and eyes and ears open. Mrs. Mayo was with him when the doctor called, and she, too, listened.

"Well!" exclaimed the captain, when the plea for support was ended. "Well, by the flukes of Jonah's whale, talk about surprises! Old lady, what do you say?"

"I say go ahead, Zebedee. Go ahead! If Mr. Ellery wanted to marry Jezebel's sister, and I knew he really wanted to, I'd—I do believe I'd help him get her. And Grace Van Horne is a good girl. Go ahead."

"Of course," put in Parker, profiting by a hint of Mrs. Coffin's, "of course Daniels will fight tooth and nail against us. He'll be for discharging Ellery at once. And he really runs the parish committee."

"He does, hey? Well, I cal'late he don't. Not if I'm on deck, he don't. All right, doctor, I'm with you. He, he, he!" he chuckled. "Say, doc, do you know I sort of love a good lively row. That's been the only trouble with our society sense Mr. Ellery took command of it—there ain't been any rows. He, he, he! Well, there'll be one now."

There was, and it was lively enough to suit even Captain Zeb. Dr. Parker, on his calls that day, was assailed with a multitude of questions concernng Grace's presence at the shanty. He answered them cheerfully, dilating upon the girl's bravery, her good sense, and the fact that she had saved Mr. Ellery's life. Then he confided, as a strict secret, the fact that the two were engaged. Before his hearers had recovered from the shock of this explosion, he was justifying the engagement. Why shouldn't they marry if they wanted to? It was a free country. The girl wasn't a Come-Outer any longer, and besides—and this carried weight in a good many households—what a black eye the marriage would be for that no-account crowd at the chapel.

Captain Zebedee, having shipped with the insurgents, worked for them from sunrise to sunset and after. Zeb was something of a politician and knew whom to "get at." He sought his fellows on the parish committee and labored with them. Mrs. Mayo and the doctor's wife championed the cause at sewing circle. They were lively, those sewing meetings, and the fur flew. Didama Rogers and Lavinia Pepper were everywhere and ready to agree with whichever side seemed likely to win. Lavinia was so deeply interested that she forgot to catechise Abishai further about his untimely reference to Peter's grove. And Kyan, puzzled but thankful, kept silence.

It was by no means a one-sided struggle. Captain Elkanah, spurred on by the furious Annabel, marshaled his forces and proclaimed that Ellery, having disgraced the Regular Society, should no longer occupy its pulpit.

"If he does," thundered Elkanah, "I shall never cross the threshold of that church. And I've worshiped there for fifty years. Hum—ha! I should like to know whose money has gone more liberal for that meeting house than mine! But not another cent—no, sir! not one—if that licentious young scamp continues to blaspheme there."

He hinted concerning a good-sized contribution toward a parish house, something the society needed. If Ellery was discharged, the contribution would probably be made, not otherwise. And this was a point worth considering.

Daniels also wrote to his influential friends of the National Regular Society. But Captain Zebedee had forestalled him there and both letters were laid on the table to await further developments. As for the Come-Outers, they were wild with rage and Grace was formally read out of their communion.

"I wonder," shrieked Ezekiel Basset, in prayer meeting, "what the sperrit of the good and great man who used to lead us from this 'ere platform would say if he was here now? Hey? what would he say?"

Josiah Badger upreared his lanky person. "I dreamed about Cap'n Eben t'other n-nin-nun-night," he stammered. "I see him just as—p-pup-pup-plain as you hear me n-n-now. And he says to me, he says, Josiah,' he says, 'I-I-I-I——' "

"Ki yi!" broke in Thoph Baker, from the shadow of the rear seat. Josiah turned to berate Thoph, who, being in disgrace because of his defense of Ellery, was reckless, and the communication from the dead leader of the Come-Outers was lost in the squabble which followed.

Meantime Keziah, installed as head nurse at the shanty, was having her troubles. The minister was getting better, slowly but surely getting better. The danger of brain fever was at an end, but he was very weak and must not be excited, so the doctor said. He knew nothing of the struggle for and against him which was splitting Trumet in twain, and care was taken that he should not know it. He was not allowed to talk, and, for the most part, was quite contented to be silent, watching Grace as she moved about the room. If he wondered why she was still with him, he said nothing, and the thought of what his congregation might say did not vex him in the least. She was there, he saw her every day, that was enough.

He had expressed a wish to talk with his housekeeper. "I've got something to tell you, Aunt Keziah," he said weakly. "Some news for you and—and——"

"'at's foot!" snapped Keziah briskly. "don't start in tellin' me news now. I've got my hands full as 'tis. News'll keep and you won't, if you talk another minute."

"But this is important."

"So are you, tho you may not think so. If you don't believe it ask Grace."

"Well," the minister sighed. "Well, perhaps I won't tell it now. I'd rather wait until I feel stronger. You won't care, will you? It will be hard to tell and I——"

"No, no! Care? No. If it's bad news I don't want to hear it, and if it's good I can wait, I cal'late. You turn over and take a nap."

She could manage him; it was with Grace that she had her struggle. John was safe now; he would be himself again before very long, and the girl had begun to think of his future and his reputation. She knew that gossup must be busy in the village, and, much as she wished to remain by his side, she decided that she should not do so. And then Keziah began to fulfill her agreement with Dr. Parker.

First, and bluntly, she told the girl that her leaving now was useless. The secret was out; it had been made public. Everyone knew she was in love with John and he with her. Their engagement was considered an established certainty. Grace was greatly agitated and very indignant.

"Who dared say so?" she demanded. "Who dared say we were engaged? It's not true. It's a wicked lie and— Who is responsible, Aunt Keziah?"

"Well, I suppose likely I am, much as anybodq, deary."

"You? You, Aunt Keziah?"

"Yup; me. You are in love with him; at any rate, you said so. And ou're here with him, ain't you? If you two ain't engaged you ought to be."

"Aunt Keziah, how can you speak so? Don't you realize——"

"Look here. Don't you want to marry him?"

"Want to? Oh, please— How can you? I——"

"S-s-sh! There! there! I am a bull-headed old thing, for sure. But I'm like the dog that chased the rat across the shelf where they kept the best china, my intentions are good. Don't cry, deary. Let's get to the bottom of this thing, as the man said when he tumbled into the well. When I first knew that you and John were in love with each other, I felt dreadful. I knew your uncle and I knew Trumet. If you had married then, or let people know that you thought of it, 'twould have been the end, and ruin for John and you. But things are diff'rent now, a good deal diff'rent. John is worshiped pretty nigh, since his pluck with that smallpox man. He could go into church and dance a jig in the pulpit and nobody—or precious few, at least—would find fault. And you've stood by him. If it wa'n't for you he wouldn't be here today, and people know that. Dr. Parker and Captain Zebedee and Gaius Winslow and dozens more are fighting for him and for you. And the doctor says they are going to win. Do you want to spoil it all?"

"Aunt Keziah, that night before uncle died I was upstairs in my room and I heard uncle and Captain Elkanah Daniels talking."

"Elkanah? Was he there at your house?"

"Yes. Somehow or other—I don't know how—he had learned about—about John and me. And he was furious. Aunt Keziah, I heard him say that unless I broke off with John he would drive him from the ministry and from Trumet and disgrace him forever. He said that if I really cared for him I would not ruin his life. That brought me to myself. I realized how wicked I had been and what I was doing. That was why I—I——"

"There 'there! Tut! tut! tut! Hum! Now I see. But Gracie., you ain't goin' to ruin his life. No, nor Elkanah ain't goin' to do it, either. He can't, no matter how hard he tries I've lived to see the day when there's a bigger man in the Reg'lar church than Elkanah Daniels, and I thank the good Lord for it.

"I never should have come here. I know it. But he needed me . Aunt Keziah, he was sick and dying almost, and I couldn't leave him. I came, and now he will be ruined and disgraced."

"He won't. I tell you; he won't. Listen to me. I ain't talkin' for my health. Listen!"

(Continued Next Week.)

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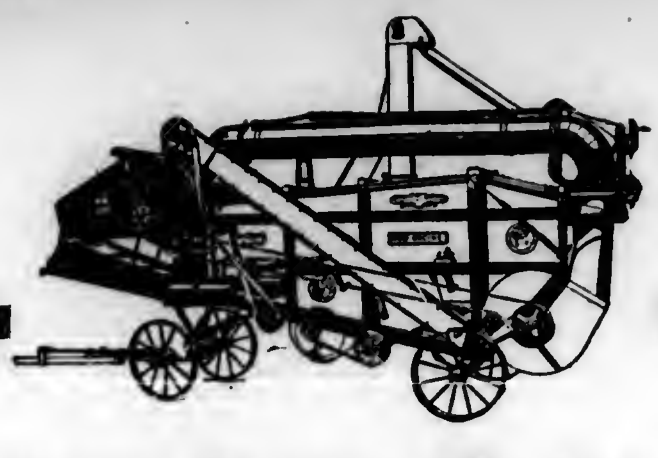

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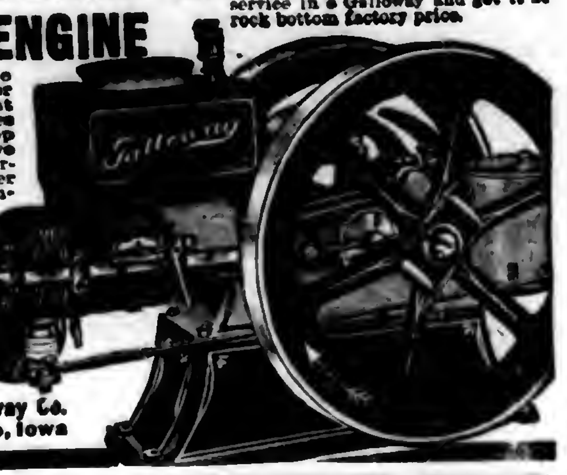

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Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., February 28, 1920

Since our last report, the market on potatoes has shown a very sharp advance. Supplies have been very light and there were not potatoes here in sufficient quantity to meet the demands with the result that we had a very excited market. Pennsylvania potatoes are now selling at $5.00@5.25 per cwt., with some extra fancy well sorted and graded stock bringing up to $5.50 per cwt. New York state and Maine potatoes have both been selling around $5.00 per cwt. with poor stock, of course, from all sections selling at a lower quotation. These extremely high prices have probably been caused by the bad weather and poor hauling conditions, and it is believed that with better weather and better hauling conditions increased supplies will come forward, and prices will show a reaction. The sweet potato market shows very little change, with most Eastern Shore hamper stock selling around $2.25@2.40 for the No. 1 stock with the No. 2s at $1.15@1.25 per hamper. Yams do not seem to meet a very active demand, the best hamper stock selling at $1.85@2.00 per hamper, while barrels go slowly at $4.50@5.00, with some very poor stock showing effects of cold weather selling at low and irregular values ranging on down to as low as $2.00 per barrel as to condition.

Vegetables.

Supplies of anise have been very light, and under the scarcity strictly fancy stock would probably sell around $4.00@4.50 per barrel. Artichokes are also very scarce and bringing around $8.00@10.00 per drum. Both green and wax beans are in very light supply, although there are now signs of increasing supplies. Prices have been ruling very high, some green beans having been sold since our last report up to $8.00 per hamper, but at the present writing $7.00 per hamper appears to be about top with other poorer grades down to $4.50 per hamper. Wax beans are not bringing quite as high prices as the green beans as they are selling within a range of $4.00@6.00 per hamper. Old beets from nearby New Jersey and Pennsylvania points remain about steady at the unchanged price of $2.75@3.25 per barrel. New beets from the south are also practically unchanged at 5c.@7c. per bunch or $1.75@2.25 per crate. The season on brussel sprouts is nearly over as there have been but very few on the market during the past several days. There is not very much of the old crop of cabbage left and the market remains firm and unchanged at $70.00@90.00 per ton. New cabbage is showing a little improvement in price over last week's quotations and selling from $1.75@2.15 per hamper with crates at $3.50@3.75. The market has been practically bare of old carrots for several days, and extremely high prices have been prevailing, some fancy nearby carrots having sold upwards of $8.00 per barrel. At this writing supplies are much more plentiful and prices are gradually seeking lower and more normal levels, barrel stock selling now at $6.00@6.50, with bushel baskets at $2.00@2.25, while some New York state stock in 100 lb. sacks were being sold at $3.50 per sack. Cauliflower is in light supply and meeting an active demand and movement at $2.00@2.25 per crate for good green stock with yellow at $1.50@1.75. There has been an advance in the celery market as the stock is showing better quality, and the market is now ruling steady at $3.00@4.50 per crate. Egg plants are in very light supply but as they have been running very poor in quality, low prices have been prevailing, ranging from $1.50@3.00 per crate, but if there had been any real fancy egg plants here they probably would have brought from $4.00@4.50 per crate and possibly a little more. Garlic remains unchanged from day to day at 20c.@30c. per pound. Horseradish has been a very scarce commodity on the market and bringing as high as $30.00 per cwt., but as supplies are beginning to show some increase the prices are not quite so extreme although it still brings the very fine price of $25.00 per cwt. Lettuce which has been in the dumps for several weeks past is now showing some signs of improvement when showing good quality, but as there is some poor quality lettuce still coming forward prices are taking a wide range. Florida lettuce sold today at $1.00@2.50 per hamper while the California iceberg lettuce brought $1.50@2.50 per crate. There are but a very few lima beans on the market and these are selling around $7.50@8.00 per bushel hamper. Mushrooms are showing very little change from prices prevailing at our last report as they are still selling around $1.25@1.75 per 3 lb. basket. The market on onions is higher than it was a week ago, as good onions are now selling at $5.75@6.00 per hundred pound sack, while poorer grades sell around $5.40@5.50 per sack, and the very small No. 2s or picklers are going out around $3.50@4.00 per sack. Parsley is more plentiful than it was a week ago, and instead of bringing $12.00@14.00 per barrel, it is now selling at $9.00@10.00 per barrel. Peas are very scarce and where here have been selling around $7.50@9.00 per crate for the western or California peas while the southern Florida peas have been selling at $3.50@4.50 per bushel hamper.

Peppers have been quite a little more plentiful during the past week; one or two cars of Florida peppers having arrived and selling every day. The market is ruling about steady at $3.50@4.50 per crate for fancy peppers with choice at $1.75@2.50 per crate. Romaine has shown very little change from day to day at $1.00@1.50 per hamper. Hot house radishes have remained unchanged at the decline of $1.00 per hundred bunches reported in these columns last week and they are still selling at $3.50@4.50 per hundred bunches. Hot house rhubarb is in moderate supply and selling at 75c.@85c. per bundle for the best with poorer grades at 40c.@65c. per bundle. Tomatoes are showing much better quality and condition than they did a week ago, and are, therefore, selling at correspondingly higher prices.

Some fancy tomatoes sold here this morning at $4.50 per crate with choice at $3.75 per crate. At the same time there are some poor tomatoes still coming. These are selling at various prices ranging on down as to condition with some very poor selling this morning as low as $1.00 per crate. Pennsylvania and New Jersey grown parsnips are in light supply and firm at $5.00@5.50 per barrel, with now and then some extra fancy exceeding these prices. Spinach is in light supply, there being no Norfolk spinach here at all. There is some coming from Texas wichh sells at $1.75@2.00 per bushel, and some from California which brings $2.00@2.25 per box. Turnips continue in light supply and firm while the nearby grown stock is selling at 75c.@1.00 per 5-8 basket for the whites and $1.00@1.25 per basket fo rthe yellow. Virginia turnips are bringing about $3.00@3.50 per barrel. Watercress is in light supply and selling from 2½c.@3½c. per bunch.

Fruits.

The market on apples is showing very little change over prices prevailing a week ago. Strictly fancy apples are in light supply and such are meeting quick sales at the top prices. The poor apples on the other hand are in fairly plentiful supply and are working out rather slowly at the lower range of quotations. Sales of the various varieties are being made at about the following range: Baldwins, $4.50@8.50 per barrel, Ben Davis, $4.00@7.00; Greenings, $5.50@8.50; York Imperials, $3.50@7.00; Starks, $5.00@8.25; Hubbardsons, $5.00@8.00; Rome Beauty, $7.00@8.50; Pippins, $6.00@7.50; Paragons, $6.00@9.50; Winesaps, $5.00@9.00; Gillflower, $5.00@8.50; Spys, $4.00@7.00; other odd varieties $4.00@8.00. Far western box apples sold here this morning as follows: Winesaps $3.00@3.65; Spitzenbergs $2.75@3.25; Rome Beauty $2.40@3.10; Jonathans $2.50@3.00; Stayman Winesaps $2.75@3.50. Cranberries continue dull and neglected by the trade, but the dealers are holding strictly fancy berries at about former values and quotations range as follows: barrels $4.00@8.00; crates 75c.@$2.50. Strawberries continue in light supply and are still bringing high prices, but the tendency from now on will be gradually downward as supplies should show increase from week to week. There were about 50 refrigerator chests of strawberries here this morning which sold all the way from 40c.@75c. per quart as to condition

Poultry

The decline in the market on live poultry as reported in these columns last week must have stimulated the demand as the decline was only a short duration when the advance 2c. per lb. on fancy fowls and the market has ruled very firm ever since. At this writing heavy fowls are selling at .40@42c. per lb.; smaller sizes .38@40c.; average soft meated chickens .40@42c.; inferior .38@39c.; fancy nearby broiling chickens .50@55c.; roosters .25@30c.; ducks .30@46c.; geese .30@45c.; turkeys .50@52c.

Eggs.

Pennsylvania and other nearby current receipts are now selling at 63c. per dozen with firsts at 65c: western firsts are selling at 62c.; with extra firsts at 64c. The market is very unsettled and fluctuates from time to time. One day since our last report prices advanced 6c. per dozen and the very next day they declined 5c. per dozen. It is the general belief, however, among the dealers in eggs that the tendency will gradually be lower.

LANCASTER PRODUCE MARKET

Lancaster, Pa., Feb. 23, 1920

The heaviest movement of eggs this winter was made here today at a flat rate of sixty cents per dozen. Not one dealer varied a penny from that quotation. The supply almost glutted the market. Cabbage prices went into dreamland, with a top quotation of 70c per head being reported. No sales were reported at that figure, however. Mediocre grades brought as high as forty cents. The quotations:

Butter and Eggs.—Creamery butter, 80@85c lb.; country butter, 70@75c. Fresh eggs, 60c per dozen; duck eggs, 75c per dozen; goose eggs, 8c each.

Poultry.—Dressed old chickens, $1.75@2.25; dressed young chickens, $1.25@2 each; no live fowls offered.

Vegetables.—Spinach, 40c ½ pk.; turnips, 25c per ½ pk.; potatoes, 30@40c ½ peck; do. $2.50 bushel; sweet potatoes, 35c ½ pk.; cabbage, 35, 40@70c hd.; cauliflower, 30c head; lima beans, 20c per quart; lettuce, 20@25c per head.

Fruit.—Apples, 35@50c ½ peck.

Grain Market.—Wheat, $2.20 per bu.; corn, $1.25; oats, 85c. Timothy hay, $31 per ton; mixed hay, $30; wheat straw, $15.

YORK PRODUCE MARKETS

Weather conditions are such that there are many empty stands at the various city markets. This, with the increasing scarcity of farm produce at this time of year, is helping to stiffen all prices. Eggs are firmer, and advanced slightly. Butter is holding its own better than ever known at this time of year. Potatoes are now beginning to move in quantity, and the price is advancing every week. Whether it is temporary or not will be seen as soon as roads open. Eggs, 60@65c. per doz.

Butter.—Country, 65@75c lb; separator, 75@80c lb.; milk, 12c qt.

Poultry.—Hens, 25@28c lb.; dressed, 75c@2.00 each.

Vegetables.—Potatoes, 20@35c ½ peck; $2@2.50 per bu.; cabbage, 5@15c hd.; lettuce, 8@15c hd.; cabbage, 5@15c hd.; 6c bunch; onions, 3c bunch; 10c box; 25@30c ½ pk.; lima beans, 30@40c qt.; soup beans, 20@30c qt.; celery, 5@15c stalk; turnips, 15@20c ½ pk.; apple butter, 45@50c qt.; sausage, 32@38c lb.; pudding, 30c lb; steak, 40@45c lb; bone meat, 25@32c lb.; lard 30@32c lb.; hogs, 20@21c lb.

Fruit—Apples, Yorks, 30@50c ½ peck; other varieties, 50@60c ½ pk.; Stayman, 60@80c ½ pk.; Pears, 15c box

Retail Grain Market.—Wheat, $2.60; corn, $2; oats, $1; rye, $1.75; bran, $3 per cwt.; middlings $3.50 per cwt.

Wholesale Grain Market.—Wheat, $2.50; corn, $1.45; oats, 90c; rye, $1.50; bran, $52@56 ton; middlings, $55@65 ton.

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NEW YORK PRODUCE

New York City, February 23, 1920

Butter—Firm; receipts, 5,687 tubs; creamery, higher than extras, 68@68½c; extra (92 score), 67½c; first (88 to 91 score), 59@66½c; packing stock, current make No. 2 67½c.

Eggs—Unsettled; receipts, 10,153 cases; fresh gathered extra first, 69@70c; do. first 67@68c; state, Pennsylvania and nearby western hennery white, first to extra, 71@75c; do. brown extra 73c; do. gathered brown and mixed colors first to extras, 65@72c.

Cheese.—Weak; receipts, 1,718 boxes, state whole-milk flats, held specials, 29½@31c; do., average run, 28¾@29c; state whole-milk twins, held specials, 29@30c; do., average run, 28@28½c.

Poultry.—Live not quoted. Dressed Steady; western chickens, 31@40c; others unchanged.

Vegetables.—Potatoes, Maine $6.25@7.25 per 165 lbs.; State $6.25@7.25; Long Island, $6.50@7.50 per 180-Beets, $3@4 per bbl. Carrots, $4@5; onions, $5@6 per 100-lb. bag.

Fruit.—Apples.—Ben Davis, $4@6.25; Winesaps, $4@9; Yorks, $3.50@5.50; Staymen, $4.50@8; Greenings, $5@11.00.

PITTSBURGH PRODUCE

Pittsburgh, Pa., February 23, 1920

Butter.—Prints, 71½@72c; Tubs, 70½@72c; cooking 65½@66c; Ohio, 65½@66c.

Cheese.—New York full cream, 36½@37c. Ohio, 35@35½c; Wisconsin Swiss, 60@61c; Philadelphia cream, $1.00 per dozen.

Eggs.—Fresh, select, 61@62c; at mark, 59@60c.

Potatoes.—Round, $6.25@7.00 per 150-lb. sacks. Onions, $5.25@5.75 sack. Cabbage, $6.50@7.25 barrel. Sweet potatoes, $2.50@2.60 hamper. Turnips, $2.25@2.50 bushel.

Fruit.—Apples, $3@4.50 box.

PHILADELPHIA LIVE STOCK

Philadelphia, Pa., February 23, 1920

Receipts of live stock for week ending February 21, were as follows:

	Beef Cattle	Sheep and Lambs	Hogs
Total for Week	2,170	3,911	8,262
Previous Week	1,881	4,854	5,658

Calves.—Receipts of calves last week were 1,385 head against 1,467 head week previous.

Beef Cattle.—Demand was slow and the market for steers and cows was quiet, with prices showing little change. Desirable grades of veal were in fair request and steady, but offerings were largely of more or less unattractive stock, which was dull and irregular in value. Quotations: Steers, fair to good, $12.50@14.25; common to fair, $11@12.50; cows, per lb., good to choice, corn fed, 8½@10c; do. fair to good, 6¾@8½c; common to fair, 4@6¾c; calves, extra to choice, $22.50@23; do., fair to good, 19@21; do., common, $13@17; do., heavy and rough, $8@11; do., Tennessee, choice, $18@19; other southern, $9@14.

Sheep and Lambs.—The market for both sheep and lambs of fine quality ruled firm and higher, with demand readily absorbing the offerings. Supplies were mostly of medium and under grades, which met with fair sale, but showed no change in prices. Quotations: Sheared sheep, wethers extra, $14@14.50; do., good to choice, $11@12; do., medium, $8.50@9.50; do., common, $5@6.50; heavy, fat, $11@12; lambs, spring, choice, $21.75@22.25; do., medium grades, $18.50@20; do., culls and common, $13.50@15.50.

Hogs.—Demand was only moderate and prices were slightly easier. Supplies were fair. Quotations: Best western, $17.50@18 per 100 lbs.; hogs, nearby, good, $16@16.25.

City Dressed Stock.—Steers, heifers and cows were dull and lower, due to free offerings and increased pressure to sell. Lambs of fine quality was firm and higher. Other descriptions were in moderate supply and demand, with little change in prices. We quote: Steers, 17@22c; heifers, 14@18c; cows, 12@14c; calves, city dressed, choice, 29@31c; do., country, 24@27c; sheep, choice, 14@24c; lambs, choice, 34@36c; hogs, 23½c.

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LIVESTOCK

Lancaster, Pa., February 23.—Receipts, 1081 head, against 1231 head last Monday; market draggy; prices 50c lower; good to choice steers, $13@13.25; fair to good steers $11@12; medium to fair steers, $10@11; common to medium steers, $9.10@10; smooth and fat bulls, $9.40@11.50; medium to good bulls, $8.60@9.65; common to medium bulls, $7.75@9; smooth to medium heifers, $9@9.75; good to choice cows, $8.15@9.25; fair to good cows, $6.75@8; common to medium cows, $6.25@8.25; stock bulls, $8.25@9.75; good to prime calves, $20@21; medium to good calves, $18.75@19.75; common to medium calves, $15@18.

Hogs.—Receipts, 322 head; market brisk; prices lower; good to prime, $16@17; light to medium, $15@15.85; roughs, $12@14; stags to sows, $12@13.

Pittsburgh, February 23, 1920

Cattle.—Slow; supply, 60 loads; prime, $13.75@14.25. Sheep steady; supply light; prime wethers, $13@14; lambs, $13@21; veal calves, $20@21. Hogs slow; supply, 30 double decks; prime heavies, $14.25@14.50; medium and heavy yorkers, $15.75@16; light yorkers, $15.25@15.50; pigs, $14.50@15; roughs, $11@13.

PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., February 23, 1920

Baled Hay and Straw.—Receipts, 24 tons of hay. The market ruled firm on desirable grades of both hay and straw, with demand absorbing the limited offerings. We quote: Timothy hay; No. 1, $38@39; exceptional lots higher; No. 2, $37@37.50; No. 3, $34@35; sample, $28@30; No grade, $21@24. Clover, mixed hay, light mixed, $37@37.50; No. 1 mixed, $35@35.50

Straw: No. 1 straight rye, $17.50@18; No. 2, do., $16@16.50; No. 1 tangled rye, $16@16.50; No. 2 do., $15@15.50; No. 1 wheat straw, $16@16.50; No. 2, do., $14@14.50; No. 1 oat straw, $16@16.50; No. 2, do., $14@14.50.

Bran.—Was quiet but steady. We quote car lots, to arrive including sacks; Soft winter bran, Western, in 100-lb. sacks, per ton, $50.50@51; spring bran, in 100-lb. sacks, per ton, $49.50@50.

Corn.—New, $1.58@1.68

Oats—No. 2 white, $1.02@1.02½; No. 3, white, $1.01@1.01½; No. 4, white, $1@1.00½.

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NEW YORK HAY AND GRAIN

New York, February 23, 1920

Feed—The market for mill feed was very inactive with buyers indifferent. Mill offers were limited and transportation facilities interfered considerably with the movement, but there appeared to be quite liberal holdings in second hands which were available and which holders seemed anxious to sell.

Quotations: City feed, bran, $50; middlings, $54, in 100-pound sacks; red dog, $67, nominal, in 100-pound sacks; Western spring bran, $49.50; standard middlings, $54; flour middlings, $61; red dog, $68, all in 100-pound sacks, 30-day shipment. Oat feed, $32; rye middlings, $52; white hominy feed, $66.00, all in 100-pound sacks. Cottonseed oil meal, $78; linseed oil meal, $74, in 100-pound sacks.

Hay and Straw.—Offerings are very light at 33d street shed, there is an unsatisfied demand and market continues very firm. We hear of some business in No. 2 timothy hay as high as $50 and it is possible that that figure might be exceeded for strictly No. 1 hay if here. The lower grades are also averaging about $1 per ton higher. In Brooklyn supplies are somewhat more liberal and prices are averaging from $1 a 2 under 33d street. Last business in rye straw reported at $23 and that figure might be exceeded if here at the close, and the same holds true of oat straw.

Hay.—No. 1 large bales ton; No. 2 $48.50 ton; No. 3, $46@48; shipping $44@46 ton. Fancy light clover mixed, $47@48 ton. Clover, No. 1, mixed, $46@47.

Straw.—Per ton, No. 1 rye, $23; No. 1, oat $21.00.

Oats.—No. 1, white, $1.02½; No. 2 white, $1.02; No. 3, white $1.01½@1.02; No. 4 white, $1; ordinary white, clipped, $1.04; fancy white, clipped, $1.02.

Wheat.—No. 2, red, $2.36½.

Corn.—No. 2, yellow, $1.64; No. 3 yellow, $1.61, No. 2 mixed, $1.62.

Rye.—$1.76½.

Buckwheat.—Milling, $3.25 per 100 lbs.

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PITTSBURGH HAY AND GRAIN

Pittsburgh, Pa., February 23, 1920

Hay.—Receipts of hay continue light. Demand active and urgent for all good grades. Advices indicate that cars are now being placed more freely for the loading of hay. This will, in all probability result in a larger movement during the month of March than there has been during the last sixty days.

No. 1 Timothy, $38.50@39; Standard Timothy, $37.50@38; No. 2 Timothy, $35.50@36.50; No. 3, $33@34; No. 1 Light Clover Mixed, $37.50@38; No. 1 Cover Mixed, $38.50@39.50; No. 2, $34.50@36.50; No. 1 Clover, $39.50@40; No. 2, $34.50@36.

Straw.—Nice clean long oat straw wanted. All other grades quiet and steady.

No. 1 oat, $15@15.50; No. 2, $14.50@15; No. 1 Wheat, $14.50@15; No. 2, $14@14.50; No. 1 Rye, $15@15.50; No. 2, $14.50@15.

Ear Corn.—Demand for ear corn not urgent. Market trifle slow.

Yellow No. 2, $1.55@1.57; No. 3, $1.50@1.52; Mixed No. 2, $1.53@1.56.

Oats.—Oat steady. Receipts and demand about equal.

No. 2 White, 96¾@97c; No. 3 White, 95¾@96¼c; No. 4 White, 92@94c.

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PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., February 23, 1920

Butter.—Receipts, 1,530 tubs. As usual on Saturday the market was practically neglected by wholesale buyers and there was no important change in prices. We quote: Solid-packed creamery, fancy, high-grade goods, 70@72c; the latter for jobbing sales; extra 69c; extra firsts, 65@68c; firsts, 58@62c; seconds, 52@54c; sweet creamery, choice to fancy, 71@73c; fair to good, 57@70c; ladle packed, as to quality, 46@48c; packing goods stock, 42@45c; fancy brands of nearby prints jobbing at 77@79c; good to choice 69@76c; fair, 66@68c.

Cheese.—Quiet and barely steady. New York, whole-milk flats, held, fancy, 31c; fair to good, 30@30½c; fancy, 31c; Wisconsin, held, fancy, 31c; fair to good, 30@30½c; jobbing sales of fancy held goods, 33@34c.

INTERSTATE MILK PRICES

The basic price for 3 percent milk within 10 miles of Philadelphia is $3.28 per 100 pounds, and one cent per hundred less for each 10-miles distant. Four cents per 100 pounds is paid for each one-tenth of one percent fat above 3 percent. These are prices for the basic quantity or less. Amounts exceeding the basic quantity are paid for at a less price.

CLOVERSEED

Toledo, Ohio, February 23, 1920

Cloverseed.—Prime cash, $35.30; February, $35.30; March, $34.80; April, $34.[illegible] October, $25.75.

Alsike.—Prime, cash, $35; March $35.

Timothy.—Prime cash, 1917, $6.50; 1918, $6.50; 1919, $6.70; March, $6.75; [illegible] $6.72; May, $6.67.

TOBACCO MARKET

At a recent meeting of the growers association it was proposed to dispense with the now antiquated method of individual sales and to generalize the cooperative method which has been so successful in a few localities. A representative of one of these organizations was present and explained that his company has handled some 550,000 pounds of tobacco upon which a net profit of $30,000 has been made over and above prices offered individuals. A certain grower whose crop consisted of 11,620 pounds received a net profit of $600 and such profits were declared only after all expenses and an attractive income on capital investment was allowed. The speaker estimated that in general a profit of fully $5 per cwt could be realized on the annual 12,000,000 pound crop of the state as compared with what is now being received. It was also proposed to add to the plan as now followed by establishing a great central auction market somewhat like those of other localities with the exception that tobacco would be offered by samples and not by presence of the actual product. The plan would include a publicity bureau which would work between sellers and buyers supplying all desired information including especially the advertising of auction sales which would probably be held periodically. The proposition as outlined was favorably received and doubtless will receive further attention. It would seem that the same is wholly plausible as it involves nothing of the freakish or untried but consists of plain business principles that if properly conducted can but lead to success.

Farm Products Prices and Prospects

HOME-GROWN ALFALFA SEED IS SCARCE

The present supply of alfalfa seed in the United States is wholly inadequate to meet the demand for next year's seeding. Ordinarily, we have a hold-over each year of 10,000,000 to 15,000,000 pounds, whereas last June we had a hold-over from the preceding year of 3,359,281 pounds, according to the Seed Reporter of the Bureau of Markets. In addition to this small holdover, the crop harvested has been extremely light. Kansas, which is the largest seed-producing state, obtained a yield of only 10 to 20 percent normal. Practically all of the southwestern states have had a much decreased yield.

The northwestern states, which are producing the hardy grade of seed, are likewise reporting a low yield of seed. As a consequence, the prices of seed have advanced approximately 100 percent from those of a year ago. The best-grade seed is now quoted at anywhere from 40 to 50 cents a pound, whereas a year ago this same seed was quoted at from 20 to 25 cents a pound. It appears as tho alfalfa will go as high as red clover. However, the high price is not nearly as unfortunate as the result of the scarcity.

Since July, 1919, about 8,000,000 pounds of alfalfa seed have been imported. Much of this comes from southern Italy, which has a mild climate, wholly unlike ours, so that the resulting crop is likely to prove a failure if this seed is planted in the north-eastern part of the United States thruout New York, New Jersey, New England, Pennsylvania, Ohio and Michigan.

The dealers at the present time are quoting imported seed at 10 cents a pound cheaper than American seed. However, for our conditions in the northeastern states, much of this seed should not be used under any circumstances. It is highly possible that some of this will be sold as American seed, since much of it has been shipped out to the seed-producing states, where it may become a citizen over night and return east as Kansas, Montana or Dakota seed.

Thus, the alfalfa grower has a two-fold problem this year; first to get in the market in time to get real American seed, and second to assure himself that the seed he purchases is truly genuine as to source when he pays the price for Montana, Dakota or Kansas seed. It is not enough that the seed should be shipped from these states, but there should be furnished a guarantee showing that it was grown in those states from which it has been sold.

During the past few years the New Jersey Alfalfa Association has been overseeing the purchase of seed for the members by having some reliable dealer or association buy the seed under the supervision of the State Association, so that the source could be inspected and certified, thus providing a genuine article for the growers. Thru this method, the production of alfalfa has been greatly increased thruout the state and the number of failures have been greatly decreased. However, with the scarcity of this American seed, it is highly probable that the northeastern states will have a large number of alfalfa crop failures next season from the use of much of this European importation. Alfalfa growers should take immediate action, as there is no insurance on the crop quite as good as genuine seed adapted to our northeastern conditions.—Frank App.

FARM POPULATION DECREASING IN NEW YORK

To obtain reliable information in regard to the movement to and from farms, records of the population on 3,775 representative New York farms on February 1st this year and February 1st a year ago, show that during the past year the number of people on these farms decreased nearly 3 percent and the number of hired men decreased more than 17 percent. Of the men and boys who were doing farm work on these farms last year 650 have left farming for other kinds of work and only one third as many have left other kinds of work to take up farming. If the same ratio holds for all farms in the state about 35,000 men and boys left farming to go to other industries, and about 11,000 men and boys went from other industries into farming. This is a more rapid movement from the farms to other industries than took place in the early part of the war. According to the school census the number of persons in New York who left farming for other industries during the year ending February 1, 1918, was 21,430 and in the same period 13,894 persons left other kinds of work to go to farming.

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The records show that on the 3,775 farms, 4,069 houses were in use and 458 habitable houses or ten percent of the total number were vacant. If these farms were typical in this respect there are about 24,000 vacant habitable houses on farms in the state.

There were 3,715 houses occupied by farm operators. Of these houses 20 percent have furnace heat and 11 percent have bath rooms. Of the 354 houses occupied by hired men 6 percent have furnace heat and 5 percent have bath rooms.

Of the nearly 16,000 persons living on these farms only 158 were women employed to help the housekeeper. This was an average of one woman so employed for every 24 farms. The number is nearly 20 percent less than a year ago—N. Y. College of Agr. and U. S. Dept. of Agr.

HIGH QUALITY DAIRY PRODUCTS NEEDED TO MEET FOREIGN COMPETITION

Arrivals of shipments of Danish butter are already affecting prices on the New York City market. Argentina is producing nearly three times the amount of butter and cheese consumed, and some of the surplus may be expected to come to this country, or compete with our products in foreign counties. Before the war Siberia was rapidly extending its dairy industry, and when conditions become settled in that country it may be expected to come back as a factor in the world's market. Recently there have been signs of interest in dairying in South Africa, and the industry as developed in New Zealand and Australia must be reckoned with.

If the dairy products manufactured in the United States are of a better quality than those from other countries they need not fear competition. Canada's cheese industry illustrates this. A strict system of Government supervision in the training of cheese makers, in the operating of the factories, and in the grading, marketing and exporting of the product, exists there. This has tended toward an improvement in the quality of Canadian cheese until it ranks with the finest on the English markets.—U. S. Dept. of Agr.

MILK PRODUCTION INCREASING IN NEW YORK

The production of milk in New York is estimated to have increased two and one-half percent during the last year. This indicates that local milk production is just now about keeping pace with the increase in population. The number of dairy cows on the farms on January 1st was about one percent greater than the number last year. The increase may be only temporary for it was due largely to the fact that unusually good crops of hay and silage were harvested last season. As the area of land under cultivation in this state is being gradually reduced, no permanent increase in the number of dairy cattle is to be expected except in so far as this is made possible by increasing the average yield of crops, by substituting cows for other kinds of live stock, and by feeding cows more largely on western grain. The quantity of milk produced by each cow is increasing steadily, year by year, as a result of improved breeding, better feeding and better care.—U. S. Dept. of Agr.

STOCKS OF HIDES INCREASE

Increased stocks of hides and skins on December 31, 1919, compared with the same date in 1918, are shown for the principal classes, with the exceptions of sheep and hog skins are:

Increases in percentages, were: Cattle hides, 11.4; calves, 31.9; kipskins, 70.9; horse hides, 135.6; horse fronts (whole), 1,353.8; horse butts, 92.1; kangaroo or wallaby, 196.6; goat, 126.9; kid, 116.3; cabretta, 126.5; and buffalo, 801.1. Decreases includes: Horse shanks, 39.5 percent; deer and elk, 29.1; sheep and lamb, 35.4; pig and hog skins (pieces) 40.7; and strips, 17.5. With a few exceptions the December, 1919, figures also show increases over those for November 29, 1919.

Total stocks on December 31, 1919 includes: Domestic and foreign cattle hides, 7,206,511, classified as follows; Packer green salted, 3,389,022; country green salted, 1,062,035; dry and dry salted, 95,312; foreign, 2,660,142. Totals for calfskins were 2,059,794; for kips, 1,107,891; goat, 15,981,468; sheep and lamb, 9,138,679; and cabretta, 2,092,029.

THE PRICE SITUATION

The level of prices paid producers of the United States for the principal crops increased about 4.5 percent during December; in the last 10 years the price level increased in like period about 2.2 percent. On January 1, 1920, the index figure of prices was about 18.9 percent higher than a year ago, 12.3 percent higher than two years ago, and 84.7 percent higher than the average of the last 10 years on January 1.

The prices of meat animals—hogs, cattle, sheep and chickens—to producers of the United States decreased 2.9 percent from November 15 to December 15; in the last nine years prices decreased in like period 0.7 percent. On December 15 the index figure of prices for these meat animals was about 13.9 percent lower than a year ago, 9.4 percent lower than two years ago, and 44.2 percent ighher than the average of the last nine years on December 15.

CROP NOTES

Maryland:—Farmers are hauling manure on land which is still frozen. Where land has thawed, it is impossible to walk without being mired. Considerable wood is being cut for future use, and machnery is made ready for spring work.

Live stock is reported to be in healthy condition notwithstanding the severe weather. Supply of feed is ample altho the fodder is not of the best quality.

Some boughs are broken from fruit trees but the fruit buds are still dormant and uninjured.

Tobacco seed beds are being prepared. A few are already made and the seed sown.

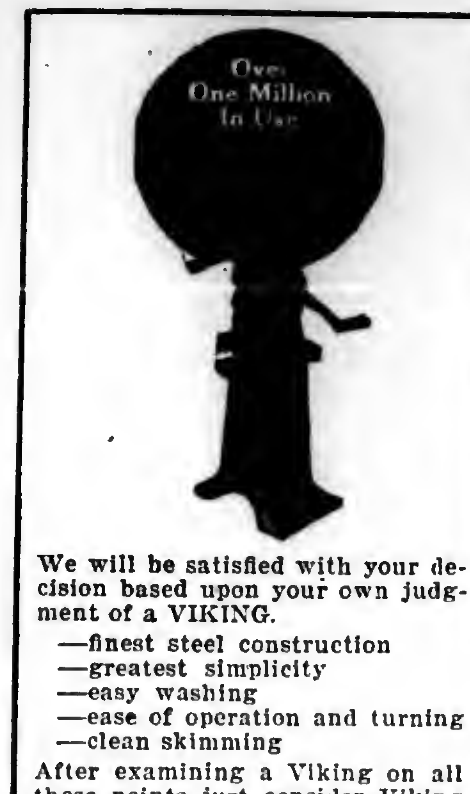
Delaware:—No damage to fruit trees is reported except loss of limbs which have broken because of the weight of ice. Damage is slight. Peach buds are still dormant.

FARM WAGES STILL RISING IN NEW YORK

Altho farm wages in 1919 were 80 percent higher than they were the beginning of the war, present indications are that this year wages will average 14 percent higher than they were in 1919. Estimates received from 350 farmers in all parts of New York indicate that experienced farm help, hired by the month, will be paid this year about $52 a month with board as compared with $45.50 last year. Experienced married men, not boarded but provided with a house and farm products are expected to receive on the average about $68.50 a month in cash as compared with $60 last year. U. S. Dept. of Agr.

WOOL HOLDINGS DECREASED

Wool holdings on December 31, 1919, were 624,000,000 pounds, grease equivalent, or 105,000,000 pounds less than on September 30th, 1919. That the commercial supply is evenly distributed is indicated by the fact that on December 31, 1919, manufacturers reported holdings of 244,000,000 pounds and dealers 242,000,000 pounds, grease equivalent. Altho the wool supply seems rather large, when referring to the total figures, it is not considered more than a comfotable reserve supply which should be carried in this country at all times to meet any emergency.—U. S. Dept. of Agr.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THE DAYLIGHT SAVING LAW

We farmers thought when we worked for the repeal of the daylight saving law (so-called) and finally won out, that the question was settled. Now it is stated that the cities are determined to saddle this law upon the public indefinitely.

It is all wrong. Not only wrong, but a great burden upon farmers, and their interests, which are also the interests of the nation. And I think they would see that it was, if there was no food raised to appease their hunger.

We have no kick against the cities having their work commence an hour earlier, and so give the employees more time at night for pleasure or profit. **But let them begin an hour earlier, let the factories open their doors at six,** instead of seven, and leave the clocks, time, and railroads, alone. Do the manufacturers have to have the time legislated to open their factories?

Merchants and grocers, in fact all dealers, can cooperate, and open their places of business at any stated hour they wish, and not force distruction, extra labor, and worry, upon the already overburdened farmer.

How would these people like to have us farmers pass laws that would compel them to arise long before daybreak, even in summer, in order to get their work done. Talk about a six or eight hour day—this law is forcing upon farmers one of fourteen and sixteen hours. For any dairy farmer who sells his milk is obliged to get the milk to the train on time; and now it is a tough job to make the trains, with the railroad time as it is, and come to set the trains one hour earlier, is only one more imposition on us. Are we going to bear it without protest? No, we are not.

I heard one farmer's wife say last fall that they had gone for their cows with a lantern every morning all summer, with but very few exceptions.

And this is only one part of the work that is interfered with. Take the hired man question. They want to commence work at 7 o'clock (an hour earlier than formerly,) and the former hour was too early when the heavy dews were on. Just wasted hours, and farmers paid.

In haying and harvesting, the afternoons are usually the time the hay and grain is ready for drawing in, and "then" the help's time is up, and their day's work done, and the farmer himself, can get that crop in, or let it lie, and perhaps spoil.

Perhaps if the cities are compelled to pay a higher price for their food, which they surely will if the persecution continues, they will find farmers will produce less and less, as they will not endure everything always.

The idea of city people telling that with the Daylight Saving Law, they could have a garden, as they had time after their day's work was done to make one. Why did not they arise in morning and work an hour before going to their work. We always had a garden, and a good one, too, and we did not have to apply to the legislature in order to give us ambition to make it.

The average comment well represents the attitude of the cities towards the farming community.

We secured some eighty odd signatures last year for the repeal of this law right in our small neighborhood. Every farmer is bitter against it, and for good reasons. The farmer seems to be the "scape goat." We will not always be shackled or driven—M. I. C. A.

INSTITUTE SPEAKERS ARE REAL PEACETIME HEROES

If the Croix de Guerre, Medaille Militaire or the Distinguished Service Medal were offered for feats of heroism in the more or less prosy pursuits of peacetimes, the speakers assigned to the various county Farmers' Institutes throughout the state during January and February by the Pennsylvania Department of Agriculture, would certainly be recommended for decorations.

During the inclement weather, the storms and the blizzards, this little band of lecturers braved the elements and traveled to out-of-the-way places to deliver their messages. The inconveniences and hardships suffered were not few, for in most cases, the speakers, after finishing their evening engagements, had to drive for miles to the next meeting place, to be on hand for the next mornings' program.

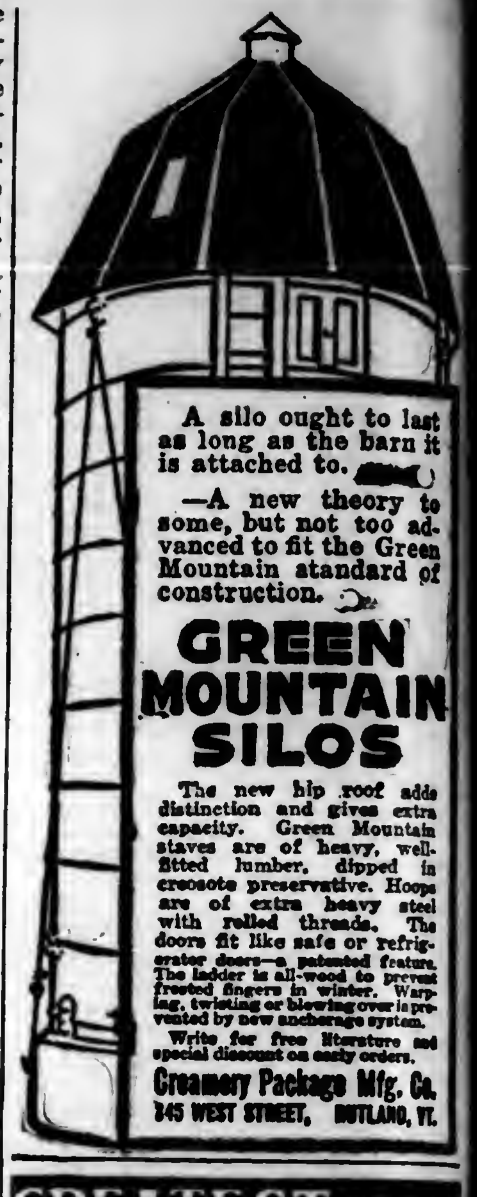
A typical case occurred at Shoenersville, Lehigh County. The three men assigned there by the state department spoke at an evening meeting during the blizzard of the week of February 2. At the close of the meeting it was found impossible for the men to make their way to the next meeting place. There were no hotel accommodations in the town and the men were compelled to sleep on the benches in the Shoenersville church that night, using the church song books for pillows. Fortunately, there was a supply of fuel on hand and the church stove was good.

THE COMMUNITY CENTER'S INFLUENCE ON FARM LABOR

My solution to the farm labor problem is based upon the fact that the farmer's own children, or his neighbor's children, are the best labor that can be obtained for the farm. I need not give any proof to establish this fact. It is self-evident. The children of the country grow up with the business and know without being told how to go about doing the work. Therefore, the farm labor problem will be solved by keeping these farm children at home on the farm until they reach at least their twentieth birthday. How to do this is the problem? How are you going to do this? I would do this by helping the country child to be in the country what he thinks he would like to be in the city.

Every normal child wants to be able to do some one thing, as well, or, better than some one else. Every normal child dreams of the day when he will be somebody. The rural child is no exception to this rule. In fact, I believe that the rural child has higher ambitions and is more able to attain them than the city child. Look among the places which are called high and you will find them occupied by men or women who spent their youth on the farm. Therefore, if you would solve the farm labor problem by keeping the farmer's children on the farm for a longer period of their lives help them to become somebody by establishing, out in the open country, within the reach of every child's home community day schools which include every necessary equipment for taking of the whole community of children into one building. A school with teachers who teach children, not subjects, a teacher who directs, suggests, inspires, and who always leads, but doesn't seem to; schools out in the open country with a curriculm that when completed by the rural child at the age of twenty will admit him into any college of the land on an equal rating with the most favored city child. **Do this and make it worth while for the rural child to remain at home on the farm and the world will have an abundance of labor for food production.**

Do this and do more. Make this school building the community center. Use it the year around. Have an up-to-date public library. Make its auditorium the place where the Grange and other organizations regularly meet. Here the community orchestra should meet for rehearsals, the community literary society, and the farm bureau. Here in this building should be the gymnamium and recreation center for the community. Out on the campus should be the baseball diamond. Here, when the day's work is done (and it should not be every day a day of exhaustion) the folks, old and young, meet for an hour or two before bedtime singing, reading, playing, talking and enjoying life; and through it all should run that seriousness that begets reverence for the things that are highest and noblest, that makes one feel that he can and is becoming somebody.—V. Ross Nicodemus, Bedford Co., Pa.



A silo ought to last as long as the barn it is attached to.

—A new theory to some, but not too advanced to fit the Green Mountain standard of construction.

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The new hip roof adds distinction and gives extra capacity. Green Mountain staves are of heavy, well-fitted lumber, dipped in creosote preservative. Hoops are of extra heavy steel with rolled threads. The doors fit like safe or refrigerator doors—a patented feature. The ladder is all-wood to prevent frosted fingers in winter. Warping, twisting or blowing over is prevented by new anchorage system.

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MANAGING THE FARM WOODLOT

Long has America been known as the land of plenty, yet the very truth of this fact has reacted upon us to such an extent that today we can well be known, also, as the land of waste. Many of our natural resources which our forefathers thought were inexhaustable, are showing signs of giving out, and if different methods are not adopted in the near future will soon become extinct.

The vanishing timber resources of this country is one of the greatest problems, of these, that confront the American people of today. Only a few years ago lumber almost went begging for buyers, the timber seldom more than paying the expenses of cutting and sawing it; but today all is different, instead of paying $6 to $10 a thousand for wide, knot-free, virgin pine, you will be lucky if you can get one hundred feet of the same grade of lumber for that price. The chief cause of this phenominal rise has not been the wage factor, but the ruthless waste of the lumbering methods that has drained the country of this class of timber.

Most of our forest area has been cleared or the few large tracts that remain cut so close that the timber outlook for the future does not seem to appear very bright. It is true that in certain sections virgin forests do still remain, yet at the present rate of cutting the lumber of the future must come more and more from domestic sources. And it is up to the farmer of today to give as good care to that little woodlot of his as he does his "blooded" stock, for it will be a continual source of profit to him in the future.

In the care of the woodlot certain facts must be observed and rules followed, the same as with all other property, if the most is to be realized from it. When material is wanted for fuel or building purposes the timber should not be cut clean, but only certain of the trees removed from throughout the plot. The careful farmer, who is mindful of the future, will first remove the dead or dying timber, and then, if this is not sufficient, the mature trees, as they will not increase very much in value by standing until later. The less desirable species, and ill-shaped trees should be picked out next, so that the young valuable material will have a better opportunity to develope.

Under no circumstance should young hardwood trees be removed that will cut into only one or two logs, for they are at just the stage where rapid development takes place. It being a well known fact that of two trees, one having two times the diameter of the other, the larger will cut out from five to eight times as much lumber as will the smaller; therefore, for this reason, the trees should be left until nearly mature, before they are cut.

Another fact that has been responsible to a considerable extent for our decrease in forest resources has been due to the careless method followed in felling the trees. The location, etc., of each tree should be well studied before it is cut, so that when it falls, it will not destroy any more of the young stuff than possible. In the removal of the logs, as small an area should be used for the roads and skidways as possible, because it takes years to grow the small saplings that one often unthinkingly removes as worthless.

And lastly, after we have removed the bulk of timber from our little woodlot, let us not yield to the temptation of clearing the land, and adding it to our already too large farms. The timber land that remains today is usually located on none too desirable soil, and one glance at the unproductive semi-barren hillsides that are all too plentiful should be enough to make one lose his desire for creating any more such land.—C. Randolph Kahler, State College, Pa.

Note.—The thought occurs to us that much land of questionable agricultural value has already been cleared in some sections. Possibly some of these semi-barren hillsides, now used for pasture, might be planted with profit.—Editors.

Keep all poultry manure dry until next spring and then apply it to the garden and special plants.

Increase Your Farm Profits

This farm belongs to a man whom his neighbors call the man with an open mind. He always has to be shown; but he is always ready to be shown.

He does not clutch blindly at each new thing, nor does he cling forever to every ancient, rusty practice. New methods submitted to him are examined sanely and thoroughly tested.

It was told to this farmer that the Milwaukee Air Power Pump Co. representative in his county was an expert, trained to install, on a separate, special plan for each farm, a water and light system that would increase the farm's value and profits and bring the water up direct from the well and cistern every time the faucet was turned. This farmer went to the trained representative. With many questions, the farmer searched for exact facts. He was convinced. The system was installed.

His farm, shown in the above illustration, now has water piped directly from well and cistern to farmhouse, barn, lawn, watering trough and dairy; and there's electric light in all buildings.

Our representative has been trained. Do as this farmer did—talk to our representative; there's no charge for consulting him. Let him convince you that he knows how to make your farm worth more, besides making you bigger profits. We have a representative in your county. If you don't know him, write us.

MILWAUKEE AIR POWER PUMP CO., 869 3rd St., Milwaukee, Wis.

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Baby Chicks— Single Comb Rhode Island Reds. Improve your flock by buying chicks produced from hens bred for the past ten years for high egg production. First hatch March 10th. Write for prices.
A. FELL, R. F. D. 1, BETHESDA, MD.

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Percherons Berkshires Holsteins
Ready for service. High Class Boars. 12 sows and gilts bred for March and April farrow.
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HOLSTEIN FRIESIAN Heifer and Bull Calves. High Grade and Purebred Reg., beautifully marked, splendid individuals. Reg. Durocs, pigs, bred gilts, and service boars. BROWNCROFT FARMS, McGraw, N. Y.

REG. P. CHINAS, BERKSHIRES, C. WHITES, large strains, all ages, mated, not akin; 8-wk. pigs, br. sows, service boars. Beagles and Collies. Write for circ. P. F. HAMILTON, COCHRANVILLE, PA.

Highland Stock Farm Belgian Horses, Jersey Cattle, Large Berkshires, and Indian Runner Ducks. Stock for sale at reas. prices. Anselm B. Kirsch, Nicktown, Pa.

FOR SALE: COLLIE DOGS, 1 to 3 years old, broken on stock. Beagle Pups wanted, two to three months old.
I. R. TANGER, YORK SPRINGS, PA.

FOR SALE—O. I. C. PIGS. ALSO RABBITS, Pigeons, Owls, and Bluerocks. Write for prices.
FRANCIS SCHEIB, GRATZ, PA.

100 Shetland and larger Ponies. Colts $50 to $75; broken ponies $75 to $150. List for stamp.
F. B. STEWART, ESPYVILLE, PA.

Chester White Hogs, All Ages
Shorthorn Bulls. R. L. MUNCE, Canonsburg, Pa

For Sale: Registered C. W. gilts and serviceable boars and pigs. Also Jersey Bulls, all ages. J. A. BOAK, NEW CASTLE, PA. R. 4.

BARRED ROCK COCKERELS; Moscovy Ducks; Eggs for hatching, 12 varieties; Duroc Jersey Hogs, all ages. Free list. Kahler & Son, Hughesville, Pa

Cattle For Sale. 2 loads feeders and 2 loads yearling steers. Also any number 1, 2 and 3 yr.-olds from 600 to 1000 lbs. Isaac Shanstrom, Fairfield, Iowa, R-8.

Percheron stallion for sale, Baron Loudoun No. 154627, by Insensible 2yrs. old next June. Price reasonable John W. Houston, Ventosa Place Lewes, Del

LARGE ENGLISH YORKSHIRES, purebred. The bacon hog. Good feeders, gentle and prolific. J. Homer Beams, Luthersburg, Pa

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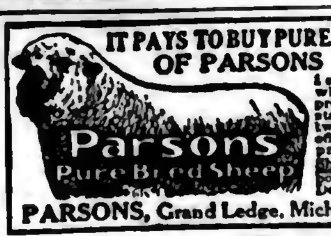

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NEAR-BY STOCK FARM offers Reg. Aryshire cattle. Reg. Berkshire pigs 3 to 5 months, a few bred sows. Best of breeding. White Wyandottes.
J. A. McMAHAN, POTTSGROVE, PA.

For Sale: Reg. Guernsey Bulls—May Rose, Jessie and Gov. of Chene lines. Reasonable.
HAYES C. TAYLOR, Embreeville, Pa.

Ayrshire Bull Calves From high record A. R. Dams
ROBERT TEMPLETON & SON, ULSTER, PA.

MILKING SHORTHORN BULL CALVES of the best breeding. Also a few females for sale
C. M. KENNEDY & SONS, ULSTER, PA.

Reg. Holstein Heifer Calves, from officially tested dams and a 30 lb. sire. Write for prices, pictures and peds. Walter M. Cruttenden, Wilkes-Barre, Pa.

Guernseys 11 head registered, fine animals. Must be sacrificed on account of disposing of farm. 7 cows and 4 heifers. C. O. HUTCHINSON, MORRISVILLE, Pa. Box 169.

Registered Holstein and Guernsey bulls from calves to serviceable age. 250 animals in the herd. BONNYMEADS FARMS, R. D. 1, Harrisburg, Pa.

Registered Holstein Friesian Cattle Sons of the great Finderne Sir Valdessa, a 37 lb. bull, for sale.
MILLARD E. BASEHOAR, Littlestown, Pa.

Jerseys For Sale. Herd bulls. Champion Torono's Nepos and Sophie 19th Tormentor 39th Hood breeding. GEO. P. BEVAN, Towanda, Pa. R. 3.

Holstein Bull Calves $25 each, 5 days old, unregistered. $30 each with papers. High producing reg. dams and sires. L. C. TOMKINS, ELLENTON, PA.

50 Head Pure Bred Berkshire Hogs
30 Head Bred Sows and Gilts
20 Head Open Gilts and Boar Pigs

Also 10 head grade cattle and 16 head of horses and mules. My hog offering consists of outstanding individuals of the most popular blood lines, such as Epochal Superbus, Masterpiece, Successor, Silberfa Bessie family, etc.
The sows are bred to such boars as Successor Romax, 254615, and an excellent grand son of Superbus.
I am sure we have hogs to please everyone.

SALE AT 12.30 P. M., MARCH 8, 1920

Farm one mile south of Annville, Lebanon County. Trucks will meet trolleys and trains at Annville.

IT WILL PAY YOU TO ATTEND THIS SALE
H. B. LONGENECKER, VERDANCREST FARM, ANNVILLE, PA.

Closing Out Sale OF MY Pure Bred Guernsey Herd

It will pay you well and you will get stock that will be a credit to your herd.
Sale will be held **TUESDAY, MARCH 23, 1920**
at my farm at Hollo (near Nazareth), Northampton County. Excellent trolley service from either Bethlehem or Easton. Only a few minutes walk from trolley. A postal will bring you a catalog.
P. S. TRUMBOWER, Nazareth, Pa.

GUERNSEYS
$546
was the average price paid for all Guernseys sold at public auction in 1919. This figure indicates the buyers' high estimation of the value of the breed. Let us tell why Guernseys lead in popular favor.
QUALITY ECONOMY QUANTITY
THE AMERICAN GUERNSEY CATTLE CLUB
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M&P HEALTHY HOLSTEINS
FEDERAL TUBERCULIN TESTED HERD
Young bull about ready for light service. Healthy, well grown, practically all white in color and an excellent individual. Sire's ten nearest dams average 29 lbs. butter in seven days. Dam has a seven-day record of 543.7 lbs. of milk, 24.43 lbs. of butter and is a most persistent producer.
Price $250.00
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Announcing the Webster Styer and Twin Broom Herd Dispersal Sale
At Ivins C. Walker's Sales Bazaar, East Main Street, Norristown, Pa.
March 15, 1920, at 10 A. M.
75 Head Registered Holstein-Friesian Cattle including the Herd Sires, KING KORNDYKE REBA VEEMAN, No. 116541, and TWIN BROOK KING MASTER, No. 158864, two show boys.
20 Granddaughters of KING KORNDYKE SADIE VALE
12 Granddaughters of KING of the SADIE VALES
2 Granddaughters of KING HENGERVELD AAGIE FAYNE
4 Daughters of SIR KORNDYKE PONTIAC ARTIS, 3d, including TWIN BROOK LASS, Senior 2-year-old Champion Butter Cow of Pennsylvania for two years. A. R. O. 7 days 546.3 lbs. milk, 24.75 lbs. butter.
W. B. DEVANEY, Malvern, Pa.
WEBSTER STYER, Spring City, Pa.

SPOT FARM
Registered and High Grade Holsteins: 30 reg. heifers, bred to freshen in fall, 10 reg. heifer calves 3 mths. old, 18 reg. bulls, 2 to 15 mths. old, 60 reg. cows, fresh & springers, 60 high grade Holstein springers, federal tuberculin tested. 25 high grade heifers part of them bred. 7/8 Holstein heifer calves $20 to $25 each. The Spot to buy Holsteins worth the money.
J. C. Reagan, Tully, N. Y.

MAPLE LAWN HOLSTEINS
BEST in High grades and Registered Holsteins. Elegant high grade calves $25 each. With ten calves will give choice registered bull free. Will accept Liberty Bonds and W. S. S. at par. Guarantee safe arrival and gladly ship C. O. D. Write your wants. C. W. ELLIS, JR., Cortland, N. Y.

REAL BARGAIN
Pure Bred Ayrshire Bull Calves. We offer four handsome bull calves, large, heavy-boned and of show caliber. Big A. R. Records on both sides or now in the making. We can refer you to our satisfied customers. It will pay to get our prices.
CRESTMONT FARM, SUNBURY, PA.

For Sale Registered May Rose
Guernsey Bull Calf, price $150. Sired by Brookmeads Royal Master of Riverview, who is brother to the Great Bull, Langwater Stars and Stripes 2nd and grandson of the famous Imp King of the May, who has 26 A. R. daughters who exceed an average of 600 lbs. fat and is also sire of Dolly Dimples May King of Langwater. RIVERVIEW FARMS, SWARTHMORE, Del. Co., Pa. (Suburb of Phila.)

King Cornucopia Dekol Paul No. 204356
First prize 2 year-old bull N. Y. State Fair 1919. Dam gave 74 lbs. milk in 7 days, as a 3-year-old world record when made. Two nearest dams average 30.01 lbs. butter, 721.75 lbs. milk in 7 days. Bull and heifer calves for sale at all times. Postal brings full information. Write me before buying a bull calf for your herd. E. G. DORAN, PREBLE, N. Y.

STEVENS' HOLSTEIN FARM
OF CORTLAND, N. Y.
King Korndyke Sadie Vale Jr., No. 20391, two nearest dams averaging 36 pounds of butter in 7 days, heads my herd. Butter records from 17 pounds two-year olds to 31 pounds at full age. Also high grade Holstein calves, either sex, $15.00 each. Write your wants. PAUL H. STEVENS, Prop.

HOLSTEINS— 20 head of young heifers and heifer calves; about half registered, balance high grades. These are a choice lot of particularly well marked and growthy heifers from my large producing cows.
Plumlyn Farm, Fairview Village, Pa.
(Near Norristown.)

GUERNSEY bull calf. Traces to Miranda of Mapleton (927 lbs. B. F.) Golden Secret, King of May, Glenwood's Mainstay, Holden IV and Masher's Sequel. Price $50. Morningside Farm, Sylvania, Pa.

COUNT PONTIAC IT (281956) from a 33 lb. sire and from a 20 lb. 5-yr. old cow. Eighth months old, nearly all white, good individual and thrifty. Price $125. THE OAKS DAIRY FARM, Wyalusing, Pa.

N. Y. GRANGE HOLD SPIRITED MEETING

New York State Grange has just held its 47th annual session, with a record attendance and spirit of progress. With the election of S. J. Lowell as National Master, it became necessary for the Rochester meeting to select a successor to him as Master of State Grange. There was practically no competition against the election of W. Newton Giles, of Skeneatles, who has attended 36 of the 47 sessions of State Grange and who has been its enthusiastic secretary for twenty years.

Next to Mr. Lowell there is no man in the State more popular in Grange Circles than Mr. Giles, and all feel sure of wise leadership under his direction.

Mr. Giles has modestly said he wants to think over his coming work, but from expressions he has let fall it is well known that the Grange is embarked on a new era in which he plans to do much to extend the Grange and to give especial attention to developing better relationship between the city and the country. These are now 921 Granges, having a membership of 128,000 in the State.

There was some rivalry for the office of overseer, which ranks next to that of Master. Albert Manning, and S. L. Strivings were the candidates, the former being elected. Mr. Manning is also secretary of the Dairymens' League, While Mr. Strivings, who was elected lecturer, is president of the State federation of farm bureaus.

A new extension campaign was started by Ira Sharp, for 5 years a well known official of the Grange, who donated $5,000 towards a fund for the extension of the Grange. Other contributions are expected with the plan of developing a fund of $50,000 to be known as the Sharp Extension Fund, for use in organization work. There is much need of missionary work in developing the Grange in the middle west. The work has heretofore been handicapped for lack of funds. The entire national organization has been financed on five cents a year from each member. At the National meeting, at Grand Rapids, it was proposed to raise this to 8 cents, but the advance has not yet been ratified. Every Grange in this state was urged by State Master Lowell, in his annual address, to donate something to this fund, if not more than one dollar, to show its spirit of Americanism. The Master's address drove home the fact that the Grange is Uncle Sam's biggest asset today, because of its 100 per cent. Americanism and because of its high standard.

Mr. Lowell was made the recipient of many tokens of the esteem of his fellow patrons before the close of the session. The fifty deputies of the State presented him with a handsome gold watch. His home delegation from Chautauqua County, gave him a silver loving cup; his brothers and sisters of the Grange gave him a travelling bag and a diamond ring and Mrs. Lowell was presented with an electric valcuum cleaner.

The Grange is now represented in but 33 states. The new program aims at its establishment in 48.

There was an unusually big flood of resolutions with a striking unanimity in many of them. Nearly every county sent resolutions asking for the repeal of the state daylight saving law, also expressing strong disapproval of the proposal of a new state milk commission to be appointed by the Governor. This was deemed so important that one typical resolution denouncing Senator Thompson's bill favoring it was passed from the floor early in the session, and the action was wired to Senator Brown, chairman of the Committee on Agriculture, who now has the bill in charge. Senator Brown was asked to explain the Grange's attitude at once to both Senate and Assembly.

There were over a dozen resolutions denouncing radicalism and attacks on our government. Several favored continuation of state road construction, but of paying therefore from annual appropriation rather than by bond issues.

The continuation of the 50 free scholarships by the Grange, which allow as many young men and women to go to Cornell for brief periods each year was favored. A change in the state primary law allowing voters to enroll any time of the year up to within 30 days of the primary was recommended. The ratification of national prohibition was favored. The election of rural district school superintendents by direct vote was approved, as was the right to appeal to the courts from rulings by the State Department of Education. The Grange disapproved a resolution seeking to fix by law the minimum salary of rural teachers, also one suggestion that the State pay half the salary of school nurses. It approved legislation seeking to prevent "free passengers" starting suits for damage against owners of automobiles. Several Grange members have experienced this thankless attention.

In a recent statement made public by Mr. Lowell, as National Master, he notifies the world that farmers hereafter refuse to respond to the call "produce, produce," while all other lines adopt the slogan "reduce, reduce." He says they see no reason why Grange members or other farmers should slave long hours, seven days a week, to supply unlimited amounts of cheap foods to workers of the cities who enjoy short hours and unlimited opportunities for rest and pleasure.

He says food is the cheapest thing in America today, that never before would a laborer's day wage buy so much of it. He announces that the Grange is ready to help try to reduce the cost of living for all the people if all are ready to join in the undertaking; but it does not intend to lead farmers into being the one class of workers and the only one to make sacrifices for the public good.

If the public really wants to cooperate in reducing living costs he says there are five things to be secured in oredr to protect agriculture as an industry, and thus assure the world's supply of food. They are: (1) A more direct and less expensive system of distribution; (2) The removal of all artificial restrictions on the sale of farm products; (3) A lengthened industrial day with honest service for wages paid; (4) Increased dividends on farm investments enabling owners to meet the wage scale of competing occupations; (5) And an increasing of social and educational privileges in rural communities.

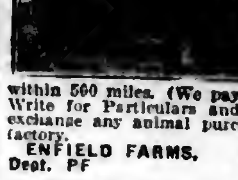
He sees no possible chance of cheaper food, but instead sees a procession of farmers going to the city and leaving the farms to unproductiveness. He reports the intention of large numbers of farmers to plant reduced acreages this year. Nothing but food scarcity can come from making the tilling of the soil the poorest paid work in the United States.

He points out that 60 to 90 per cent. of the cost of most commodities today is due to unjust labor charges. Farmers are big buyers, and thus find tremendously increased prices on all they buy. They are dependent on a distributing system that they neither create nor control. These conditions must be corrected. Farmers will revolt, for their own protection.—M. G. Feint, Dryden, N. Y.

Mattawana, Mifflin Co., Pa., Feb. 14, 1920. Had some snow and very cold weather the last of January. February came in warm. The 2nd had enough sunshine to scare the ground-hog back again, on the 4th we had an 18-inch snow with an east wind strong enough to drift some roads shut and pile the snow up around the buildings 4 and 5 feet deep. Did not make good sledding on account of too much snow and being too loose.

Quite a lot of sickness, in the way of cold and flu. Most farmers are not getting anything done but the everyday chores about the barn and home. Some public sales dated for next week, and will be many more later. Market is irregular, wheat, $2.30; corn, $1.25 to $1.50; oats, 80c. Apples and potatoes have lately sold for $2.00; butter 60 to 75c.; eggs now 55c; dressed pork 25 and 30c.; beef by the side, 18c.—J. H. Byler.

COLLINS' JERSEY RED the best pig breed
Leads on every count
Thorough observation on farrowing of 14,000 sows of all breeds showed Reds to average two per litter more. Guide to pig profits free.
375 lbs. 9 months
ARTHUR J. COLLINS & SON
BOX 12 MOORESTOWN, N.J.



DUROCS YOUNG PIGS, BRED GILTS AND SERVICE BOARS
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White Leghorns; Reds, both combs; White Wyandottes; Barred and White Rocks. Best strains [illegible] Eggs; Chicks; Pullets. Forest Farms, Rockaway [illegible] J.

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EASY CHIX HATCHING EGGS
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Baby Chix: Sturdy, thorobred chicks that live, grow and pay, from the four great American breeds—White and Barred Rocks, White Wyandottes, R. I. Reds and White Orpingtons. Safe delivery guaranteed. $25 per 100. Cash with order, postpaid delivery, any week after February 15th. LEONARD STRICKLER, SHERIDAN, PA.

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Our 1920 catalog FREE. How we breed the 300-egg hen. Scientific facts plainly told. Each month's routine. Feeding for winter eggs. *How We Win Medals at the Egg Laying Contests.*
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BABY CHICKS White and Barred Rocks, White Wyandottes, Reds, Anconas, White and Brown Leghorns and Broiler Chicks. Send for Free Catalog and prices before ordering elsewhere. Trial convinces. NEW WASHINGTON HATCHERY, NEW WASHINGTON, OHIO. Dept. C.

Hatching Eggs A Specialty, from Kreider's improved fine white Leghorns that are the persistent laying and big paying kind. Healthy, vigorous, free farm range stock. 15 eggs $1.50; 100 eggs $8.00. Orders accepted. ELMER KREIDER, GORDONVILLE, PA.

Day Old Chicks and Hatching Eggs
White Leghorns, Barred Plym. Rocks, Rhode Island Reds. Safe delivery guaranteed. Place orders now to insure prompt delivery. PARADISE POULTRY FARM BOX C, PARADISE, PA.

Tiffany's Superior Chicks That live. Silver, White, and Columbian Wyandottes, Buff, Barred, and White Rocks. R. I. Reds, White and Brown Leghorns. Pekin, Rouen, and Indian Runner Ducklings (heavy type). Aldham Poultry Farm, R. 33, Phoenixville, Pa.

200,000 Chicks Reds, Rocks, Leghorns, Minorcas and Broilers at low prices. Shipped by Parcels Post, charges prepaid. Safe delivery guaranteed. Our 11th year. Fine rate sheet free. THE KEYSTONE HATCHERY, Dept. 5. RICHFIELD, PA.

Eggs $1 Setting Parcel Post paid. Purebred, Barred, White and Buff Rocks; White and Brown Leghorns; Reds; White Wyandottes, Buff Minorcas; Black Langshans; Buff Orpingtons. Philip Condon, Box 119, West Chester, O.

Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Unthrifty Cow.—Last November I bought a 6-year-old cow. She came fresh December first. Since then she has been gradually falling away, but she has great appetite and is well fed on corn meal, wheat bran, good mixed hay and corn stalks, but she is not fond of roughage. W. Y., Medford, N. J.—Mix equal parts powdered gentian cinchona, ginger, cooking soda and salt. Give her a tablespoonful or two at dose in feed 3 times a day.

Sore Throat.—Have Jersey calf 6 months old that seems to be well, but when drinking, part of water returns thru nostrils Besides, she is inclined to choke. A. B., Johnson City, N. Y.—Apply equal parts tincture iodine and camphorated oil to throat daily. The mouth should be carefully examined.

Infected Hock.—One month ago my 4-year-old mare scratched hock, took cold in it, leg swelled, I poulticed with flaxseed meal, wound healed slowly, but she is yet lame. Our local veterinarians do not agree as to treatment. J. F. R. St. Thomas, Pa.—Paint hock with equal parts tincture of iodine and spirits of camphor daily. The wound became infected

Unthrifty Pair of Horses.—I have a pair of horses that always did hard work before I bought them. Now they are rough coated, low in flesh and are hardly able to get up without assistance. Both are about 14 years old. G. R. Campbell, N. Y.—It will be no mistake to see if their grinder teeth are in good condition. Their teeth may rquire floating Perhaps you are not feeding them as much grain as former owner, or possibly you should change their feed. Do you groom them daily? The stable should be well supplied with fresh air. Give each horse a teaspoonful bicarbonate of soda and a tablespoonful of ground or powdered gentian in feed 3 times a day.

Dainty Feeder.—I have a mare which seldom eats enough grain and is gaunt most of time She is not sick, weight 1600 lbs. G. E. S., Flinton, Pa.—Give her one dram fluid extract nux vomica, ½ ounce extract of cinchona and ½ ounce Fowler's Solution at dose in ground feed, or in drinking water 3 times a day, and she will soon eat plenty feed and lay on flesh.

Weak Heart.—Holstein Calf six weeks old seemingly thrifty, but disinclined to exercise and when he moves his heart action is decidedly too fast, but the funny part of it is the heart beat stops, dropping out a few beats, then starts up again, but shakes his body by spells. J. P. S., Troy, Pa.—Give him ½ pint black coffee at dose three times daily. Don't force him to exercise and if he grows worse, veal him.

Sore Teats.—My cow came fresh 4 weeks ago. Since then her teats have been sore, the remedies I have applied failed to heal them. W. R., York Haven, Pa.—Soothing applications of vaseline help relieve sore teats, but you had better apply equal parts spermaceti and oil of sweet almonds—adding ten grain of balsam of Peru to each ounce of this ointment to sort teats twice a day.

Care of Dairy Cow.—Have Jersey cow 6 years old, has had 3 calves and due to freshen again in April. She is the first cow we owned had I better dry her before calving, let calf suck cow for few days, and how to care for the milk. H. G. R., Dover, N. J.—Dry her 4 weeks before she comes fresh, let calf suck her for 3 or 4 days. Keep her stable clean, well supplied with fresh air, cool milk quickly after it is drawn and keep it in a clean cool place. Talk with dairymen regarding the care of cows and milk, they will be glad to advise you right.

If your Hens Don't Lay You Are To Blame
IT'S not the hens' fault when they don't produce. When they haven't the health and vigor with which they *will* produce. All that's necessary to *make* them lay *regularly* is to add to their feed
Pratts Poultry Regulator
More Eggs! Eggs from all your hens all the time. The biggest possible profit from the high egg prices! That's what you get *soon* after you begin to use Pratts Poultry Regulator.
Prevent colds, catarrh, roup, from attacking your poultry. Put Pratts Roup Remedy in the drinking water. PR-7A
"Your Money Back If YOU Are Not Satisfied"
Sold by 60,000 dealers
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ONE OF OUR MANY GREAT SOWS

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We have the undefeated herd of the world. Winning premier breeder and exhibitor at every fair shown in 1919, 1918, 1917 including the following state fairs—Ohio, Michigan, Indiana, Illinois, Missouri, Kentucky, Tennessee, Oklahoma, New York, Alabama, Tri-State Fair at Memphis, and the National O. I. C. twice. Stock of all ages for sale, registered free in the O. I. C. Association. Order now. We will ship any of our stock on approval and allow you to keep three days before you have to pay for it. You will be your judge on your own farm.
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All ages. Strong and vigorous stock. When you buy you want the best, don't you? Then write us. Inspection invited. ROSS B. WITMER, LAMPETER, PA. Member Lanc. Hampshire Breeders' Co-operative Association.

Large Type Reg. Berkshires of all ages for sale
Select a breeder from a thirteen pig litter. Pay when you see stock. No cash in advance.
DAVID WIANT, HUNTINGTON MILLS, PA.

Viewmont Farm, Mainville, Pa., has 20 reg. O. I. C., 90 to 110 lbs. Oct. pigs from Schoolmaster boar and Callaway Edd sows. Good enough to ship anywhere. C. O. D. $40.00.

BERKSHIRES—Longfellow and Masterhood breeding stock. Superior length, depth and extra thick hams. All ages. Booking orders for spring shipment. Mariandale Farms, A. L. Hostetter, Manheim, Pa. R. 1.

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Large Type Duroc Service Boars and Gilts. Aug. and Sept. pigs. Orian Cherry King Breeding. B. H. Sager, Basil, Ohio.

Large Berkshires Registered. May farrow, also October pigs. Both sexes. Prices reasonable. C. H. TOLAND, FREEPORT, OHIO.

Durocs.—Boars ready for service. Spring gilts, bred for March, April and May litters. Fall pigs, either sex. All immuned. I. D. Jackson, Van Wert, Ohio.

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HAMPSHIRES A few choice September Boars. Write for prices.
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Fine Reg. Duroc Pigs of Ohio Chief and Cherry King. Also fine young boars. Prices reasonable.
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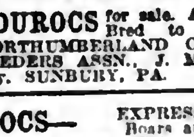

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Reg. Berkshire Swine Bred gilts $80. Open gilts $60. Sow pigs $20 and up. Immediate delivery.
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For Sale—1 Reg. O. I. C. Boar, 18 mos. old. 1 Reg. O. I. C. Sow, 2 yrs. old, with pig. 1 Grade Sow, 3 yrs. old, with pig. B. A. Corkran, Midlothian, Va.

Reg. O. I. C. and C. W. Pigs, Bred gilts and sows. Satisfaction and safe delivery guaranteed.
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Prolific Berkshires with size and type. Priced to sell.
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CHESHIRES The best white hog on earth. 6 mo. sows and boars at $20. Bred sows at fair prices. R. D. Button, Canastota, N. Y.

50 Registered Durocs at Public Sale
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This offering will consist of 2 herd boars, 5 herd sows, all bred for April farrow, 3 yearling boars, and the balance are Fall gilts and boars.
Some of America's best blood is diffused in the Slaty Ridge Farm Herd. The offering is all home raised and all registered. A complete catalog of this offering mailed on request. I want to see you at this sale. "Pigs is pigs, but it takes a Duroc to make a hog."
SLATY RIDGE FARM, J. ELMER LONG, Prop.
PALMYRA, PA., R. F. D. No. 1

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10,000 Cow Testing Association records are available to show the quality of Bradford County Livestock. Special prices now on young registered Jersey, Holstein, Guernsey, Ayrshire and Milking Shorthorn bulls.
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NAPPANEE
SEAL-TITE
SILOS
You Won't Have To Pay a Cent Down
-and-
It Won't Cost You a Cent Until it Has Paid for Itself

This BIG FREE BOOK Tells How

You would put a new silo on your farm tomorrow, if you thought you could get one for nothing—wouldn't you? Well, we have a Silo Selling Plan whereby you can do just that. You can place a NAPPANEE Seal-tite SILO on your farm and it won't cost you a cent. That sounds interesting—doesn't it?

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Thousands of American Farmers have taken advantage of our liberal Silo Selling Plan. The fact that NAPPANEE SILOS are being used in every part of the country from New England to Texas, proves that this Nappanee Selling Plan is ALL RIGHT and that NAPPANEE SILOS are "making good" wherever they go.

Get our big FREE Silo Book and see for yourself the many gratifying letters of satisfaction which we have received from NAPPANEE owners. Many say that their silo paid for itself with the first crop they put in it. They tell why they like the NAPPANEE better than any other silo and some give actual facts and figures on the profit the NAPPANEE has made them.

If the NAPPANEE will produce big returns for so many other farmers it will do the same for you. And on our liberal Selling Plan you cannot afford to get along without a NAPPANEE another day.

Read What These Pennsylvania Farmers Say:

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Gentlemen: I have a Dairy Farm and feed 25 to 30 head and I consider the Nappanee Silo saves me about half my feeding expenses throughout the long winter months. It is one of the best silos in immediate vicinity. J. W. Griffin.

Manns Choice, Pennsylvania.
Gentlemen: I think my Nappanee is the best thing I ever bought for the farm. The money I spent for your silo was the best investment I ever made. The Nappanee has the best ladder I have ever seen on any silo. I bought the first Nappanee Silo in our section and one of my neighbors said he would have nothing but a tile silo, but after coming to my place for two winters and looking at my ensilage, he bought a Nappanee Silo, too, last spring. W. H. Kinton.

Mattawana, Pennsylvania.
Gentlemen: The Nappanee Silo that I bought of your agent two years ago has given good satisfaction. It was easy to put up and when you have it up it looks right and the silage keeps all right in it. Had it not been for the Nappanee Silo we could not keep the number of cattle that we do. It saves lots of rough feed and we can fatten cattle on silage and cottonseed meal with a little bit of rough feed. Every farmer should have a Nappanee Silo. J. A. French.

New Albany, Pennsylvania.
Gentlemen: Just a word about my Nappanee Silo. I think they are the best silos out. The silage in my Nappanee keeps the best of any I know of and there is a great many different makes of silos in this locality. The doors are so perfect that not a particle of silage spoils around them as it does in a great many other makes, and if I were to build another silo it would also be a Nappanee. T. J. Cullen.

We have many other letters as gratifying as those above in our files from this state and other states, but the limited space does not allow us to print them all.

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Just fill out the coupon with your name and address, or drop us a postal if you prefer, and we will send you FREE and postpaid our new 1920 NAPPANEE Silo Book—the biggest and finest silo catalog ever printed.

It tells all about our novel Silo Selling Plan whereby you can get a NAPPANEE SILO practically for nothing. It also tells all about how NAPPANEE SILOS are made and their 25 points of superior merit, such as our Perfect Splice which is air-tight and rot-proof, our Anchoring System which is storm-proof, our Hip Roof which gives more room, our Ladder that is accident-proof, our Seal-tite Silo Doors that are real man-sized and will never warp, and many other exclusive improvements.

No matter when you expect to put up a silo send your name and address for this BIG, FREE SILO BOOK TODAY.

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NINE Out of Every Te Silos Are Built of Wo

Why?

The next time you drive to town or to the County seat, take particular note of the si in your community, just for your own sat faction.

We venture to predict that in your neigh borhood, just like most farming distric throughout the country—that probably nin out of every ten silos you pass (or at least great majority) will be built of wood. Why

There Must Be Some Good Reason for This

Your own good, common sense will tel you that it would be absolutely impossible to persuade the majority of the hard headed successful farmers in your community who own silos to build them of wood unless there were some mighty good sound reasons for giving wood silos the preference. And you can "bet your bottom dollar" there are some good logical reasons why most farmers buy wood silos.

Wood Silos Give Better Service

Did you ever hear anyone say that silos of other materials will cure silage better or keep it better than wood? No! But many agricultural experts, chemists and thousands of farmers who speak from actual experience emphatically assert that wood silos make and keep silage far better than do other kinds of silos.

It takes a certain amount of heat to cause fermentation in the silo and cure silage properly for wholesome feed. Wood is the only material non-conductive of heat and cold. Wood keeps in the heat necessary for the proper fermentation, and it also keeps out the extreme cold that causes silage to freeze.

Of course, you have to paint a wood silo every five or six years on the outside. But painting a wood silo on the outside is a whole lot easier than "doctoring" up the walls on the silo inside with some preservative preparation every few years. And remember, when the roof is on the silo you can't get a ladder inside of it.

These are some of the reasons why the majority of silos throughout the country are built of wood. And the best wood silo you can buy is a NAPPANEE Seal-tite SILO, because they are the most practical, the most serviceable, the most useful and convenient wood silo for any farm—the silo that will give you the biggest value for your money.

Wood Silos Cost Less

A NAPPANEE SILO costs just about half the price asked for silos built of other materials. And the cost of erecting it is far less, too. You don't need a crew of skilled mechanics to erect a NAPPANEE. The average farmer can do the work himself with the help of a farm hand and finish the job in two or three days time.

Where else can you find a silo that will give you all the convenient, useful, time and labor saving features that you will find incorporated in the NAPPANEE, such as the Double Anchor System that is as near storm-proof as it is possible to make—the real Man-Sized Doors that are six inches wider than the average silo door and give ample room and comfort in entering the NAPPANEE—the extra heavy metal Door Fasteners that seal up the NAPPANEE as tight as a fruit jar—the safe and sane Ladder, built so it is almost impossible to slip and fall—the Hip Roof Rafters that are furnished FREE with the NAPPANEE and add more room to the silo, and so on all down the line.

A NAPPANEE SILO is easy to erect, easy to fill and will cure your silage perfectly. It will keep the silage in A1 condition so that it is safe to feed to your live stock. Yet the NAPPANEE costs you no more and sometimes a great deal less than other silos.

The Silo You Ought To Have At the Price You Ought To Pay

A NAPPANEE SILO on your farm will make every acre of corn you put into it do the work of two acres the old fashioned way. And the NAPPANEE is backed by an iron-clad guarantee that it will not only give you satisfactory service, but will pay for itself on your farm.

Find out about the NAPPANEE SILO today. Find out about our easy payment plan, whereby you can put a NAPPANEE on your farm now and make it pay its own way. Don't [illegible] to write for our big FREE 1920 NAPPANEE SILO BOOK as offered on this [illegible]—the biggest and most interesting silo [illegible] ever published. It tells all about the [illegible] time saving and labor saving features on NAPPANEE SILOS not found on other silos. It [illegible] tells all about our novel silo selling plan [illegible] makes it possible for you to own a NAPPANEE without it really costing you a [illegible]. The big [illegible] book is FREE and [illegible]. Mail the coupon on this page for it [illegible] will bring it by return mail.

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PENNSYLVANIA FARMER

AGRICULTURE THE KEYSTONE OF NATIONAL PROSPERITY

ESTABLISHED 1880

PUBLISHED WEEKLY

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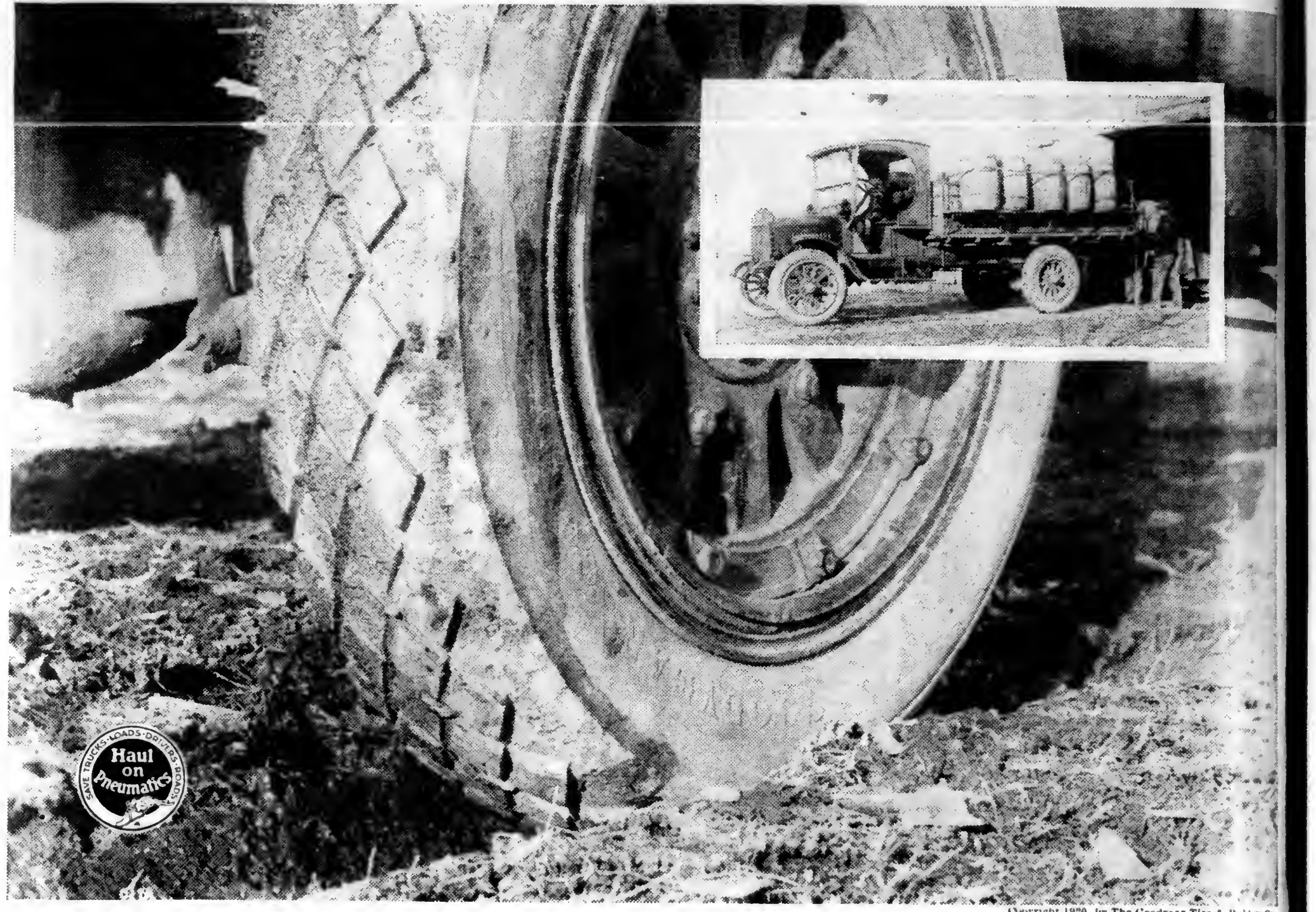

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"BECAUSE I use a truck on Goodyear Cord Tires I load potatoes, onions, etc., in the fields and haul to Louisville, 12 miles, in 50 minutes. Horses take 2 hours. The pneumatic-tired truck saves much labor and expense on my two farms totaling 180 acres."—Jacob Rupp, Farmer, R. F. D. No. 1, Louisville, Kentucky

THERE are farmers everywhere throughout this country today who have practically duplicated the experience related above by this Kentuckian.

They have proved that Goodyear Cord Tires free them from slow hauling, either by horses or solid-tired trucks, and thus free them from one of the worst handicaps ever placed on farming effort.

The use of the spry Goodyear Cords has the effect of moving a farm closer to town, of speeding up the other power-driven machinery on it, and so of getting each day's work done most easily and quickly.

Thus the perfected pneumatic truck tire is a powerful factor in that progress which not only is increasing decisively the income of the farmer but is also making his activities far more pleasant.

Its traction, cushioning and nimbleness have been made thoroughly practical for farm trucking by Goodyear Cord construction, which adds a tremendous toughness well known to rural users of Goodyear Cord Tires.

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PERPLEXING DAIRY PROBLEMS

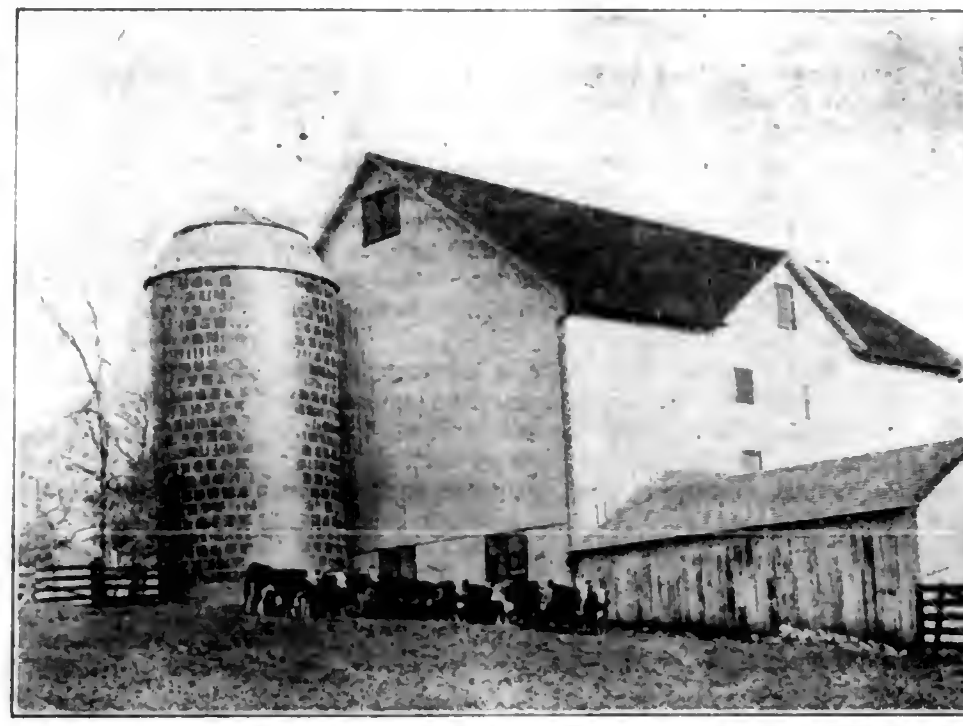
A Review of Present Conditions Made by an Optimistic Dairyman

By HUGH FERGUS

PENNSYLVANIA

A small negro had asked of his old granddaddy a lot of difficult questions and had received fairly satisfactory answers. Finally the boy asked one that was too much for the old man who rather than admit he could not answer it, said, "Son, the answer to dat question am de Latin words, Tuo puer perplexa, which can't be translated."

That is about how I feel in predicting the future in the dairy business for as the old saying goes, "I am neither a prophet nor the son of a prophet." However I hope I can make a better prediction than the weather reports have been that emanated from the Pittsburg weather Bureau via our Pittsburg daily during the past year when they tried to predict the weather for "tomorrow." We get our mail at noon and a fellow usually has a pretty fair idea of what the weather will be for that afternoon and already knew what it had been for the morning. But what we were concerned in especially through harvest was the next day's weather but it got so that when I would ask some other member of the family who got the paper first, "Well what is the weather prediction for tomorrow?" and they would say "Rain" we could feel pretty safe in thinking it would not and going ahead and preparing for the next day's work in the harvest field.



The Basal Idea in Farm Building Should be Permanency and Efficiency

We get about a dozen farm papers including the two best all dairy papers published and I have been "keeping my ear to the ground" by turning to the dairy section first so I am hoping the predictions following in this article will be more like the story told of James Whitcomb Riley, the Hoosier poet. A good many years ago when the bicycle was the highest development in motive power yet produced by man, Riley and a friend were walking along a country road when they saw a farmer over in a field plowing for corn. Watching him for a few minutes Riley finally turned to his friend and said "Do you know I believe the time is coming not many years distant when most farm work and farm travel will be accomplished by self-propelled machinery and vehicles." We know today how nearly this prediction has been fulfilled.

I believe that dairying today holds about the same place in dairy history that the war of 1812 holds in American History, or in other words we are still in the pioneer stage of development. The Revolutionary War period dating back about forty years ago when Babcock's discovery of a way to determine accurately the amount of butterfat in milk paved the way for the creamery and cheese business of today, while W. D. Hoard was the pioneer dairy evangelist who preached the gospel of better cows and better feeding. I am by no means an old man but I can easily remember a very few years ago when all milk was sold "loose" to the consumer in a pitcher, pan or what not and measured in a quart measure with the milk drawn from a spigot. Then a glass milk bottle was a rarety and a paper bottle was unheard of. It hasn't been many years either since I was a boy and mother made the butter at home and I was one of the many boys in America who had to be the power for the churn. Especially well do I remember the time my older brother was teasing me and when I made a pass at him and upset the churn. Mother in turn proceeded to hurt my feelings. Now the small retailer is mostly to be found in the small towns while in the city the large milk dealers are gradually acquiring a strangle hold on the retail business and toward the producer seem to have the attitude the railroads used to have which was summed up by one railroad executive who, when protested to in regard to service detrimental to the public, said, "The public be damned." For the past two or three years this attitude seems to be especially true in New York City which has caused the dairymen to resort to redress through the Dairymen's League (which we hope will survive through its many trials and vicissitudes). In Philadelphia, however, in justice to the milk dealers, it must be said there seems to be harmony between producers and retailers.

A Model Milk Center.

In its experimental creamery at Grove City, Pa., it seems to me the U. S. Dairy Division has the basis for the future market of products of the dairy which will not only take care of milk produced when there is a surplus but will supply the deficiency when there is a lull in production on the farm. This plant will buy either whole milk or cream, depending on the will of the farmer. If you send whole milk to it you are paid so much a pound for butterfat (in November this was 81 cents), and in addition a certain price per hundred for skim milk, credit being given for 85 pounds of skim milk in 100 pounds of whole milk. The creamery is equipped to manufacture butter, cottage cheese, condensed skim-milk, casein, cream cheese and several varieties of fancy cheese. In addition pasteurized milk and cream are put up in paper bottles and sold to supply a local demand in a town of 5,000. The kind of product manufactured depends on the market for it at the time. The object of course being to make of the raw material a product that will bring the best prices. Certainly here is an idea for the future marketing of milk. Why could not any larger dairy community have their plant for the manufacture of various products and sell to the city dealers whatever they wanted of the raw product and convert the surplus into the by-product. Then advertise!

Need for Advertising.

In spite of the fact that we have the greatest liquid food for sale in milk in the world there has been more fighting and protesting over the increased price of it during the past four years than over any other commodity. An old and often cited case of advertising is that of the orange growers of California who used to have annually thousands of dollars worth of fruit rotting on the trees through the lack of a demand until—they advertised and advertised until now everyone has heard of the word "Sunkist." A later example is the case of the Loganberry. Five years ago in Washington State Loganberrys were rotting on the vines. Then co-operation, followed by advertising until today not only has the supply of Loganberrys been absorbed but the section of the United States in which they are being produced is advertising for farmers to come and grow Loganberries. Thus far, advertising in the case of milk has been tried only locally here and there throughout the United States but in every case those who did the advertising claim that it paid

Overcoming Labor Shortage.

Labor is another of the problems which at the present time is bothering the dairyman, but perhaps the present situation will prove to be a blessing in disguise. It has been only eighteen years ago that I remember of my father hiring for fifteen dollars a month the best hand he ever had, a young fellow from Virginia who came to us from a nine dollar-a-month job. Last year I

(Continued on Page 15)

Mixing The Spring Fertilizers

What and How Much to Use For Economical Results

By T. L. WALL

CLEARFIELD CO., PA.

We will start out by supposing that you want a fertilizer for potatoes containing 3 percent of ammonia and 3 percent of potash and a good percentage of phosphoric acid which seldom comes amiss.

Let us begin with a sack of pure fine ground raw bone containing 4½ percent of ammonia, and 24 percent of phosphoric acid in the form of home phosphate of lime. It is best to start with bone so as to be sure to have it, not only as a very desirable source of ammonia and phosphoric acid, but as a dryer or absorbant to take up the surplus moisture often found in other substances that it will be found necessary to add, as nitrate of soda or sulphate of ammonia or muriate of potash or even acid phosphate.

The 167 pound bag of bone containing 4½ percent will supply about 7½ pounds of ammonia, whereas 3 percent of 2,000 pounds or 60 pounds is the amount required. So we will need 52½ pounds more. Suppose we decide to use sulphate of ammonia analyzing 25 percent ammonia to supply this additional amount, then all we have to do to find how much of this substance to use is to divide 52.50 by 25, the amount of ammonia, in pounds, contained in 100 pounds of sulphate, and the result, 210, is the number of pounds of sulphate required.

If we decide that muriate of potash containing about 50 percent actual potash is the proper substance to supply that element, we must divide 60, the number of pounds required to be found in a ton to contain 3 percent potash, by 50 the number of pounds found in one hundred pounds of muriate. By putting it thus: 60—50 the result is 120, the number of pounds of muriate required.

Taking the sum found by adding 167 pounds bone, 210 pounds sulphate of ammonia and 120 pounds of muriate of potash, we have 497 pounds, which we may by adding two pounds of sulphate of ammonia and one pound of muriate of potash for good measure call 500 pounds of these ingredients, leaving 1500 pounds to contain the greater part of the phosphoric acid, which may well be supplied in the form of acid phosphate. Fifteen hundred pounds of acid phosphate will contain 240 pounds of phosphoric acid. Dividing 240 with the proper ciphers annexed, by 2,000, the entire number of pounds in the mixture, it is found that we have added exactly 12 percent of phosphoric acid. But the 167 pounds of bone containing 24 percent of phosphoric acid in the form of bone phosphate of lime has added 40 pounds or 2 percent more. This makes a mixture containing 20 percent of plant food in a splendid form without using a pound of filler.

Why should inert matter be added as a filler in compounding a fertilizer? Frankly, it is something I never could answer, unless it be to fill the pockets of the fertilizer men and to help out the railroads with the extra freight charges on dirt farmers have been paying.

"But" some one will object, using the argument of the fertilizer agent, "each crop needs a different kind of fertilizer,—this might be all right for potatoes but intirely too strong for corn or oats." If it is and you must use a filler, why not put on less to the acre, letting the soil of the field be your filler, and save lifting it and hauling it, and paying freight on it.

By using precisely the same method employed in making the mixture described any desired combination or formula may be made. The percentage figures found on the bag represent just that many pounds of ammonia (multiply by .82 to reduce to terms of nitrogen), phosphoric acid, or potash in 100 pounds of the substance for which the analysis is given.

In order to find the pounds of any actual fertilizer element we need in the mixture we are compounding to give the desired percentage, we should multiply the total pounds in the mixture by the percentage required. Thus if we want to make a mixture containing five hundred pounds in all and carrying 2 percent of actual ammonia, we will multiply 500 by .02 and find that the mixture must contain 10 pounds of ammonia. Then if the ingredient used contains 10 percent, or one tenth ammonia we must put in ten times ten pounds or 100 pounds of the ingredient.

As for this talk of the great difficulty of making a good mechanical mixture of fertilizer ingredients at home, it is all "bosh," gotten up simply to part farmers from a lot of extra dollars for the fertilizer manufacturer. The mixed goods are always a lot higher than the sum of the value of the ingredients, plus a fair price for mixing.

In making the ton of fertilizer described containing 3 percent of ammonia in two forms, organic and inorganic; 14 percent of phosphoric acid in two forms, 2 percent of it as bone phosphate of lime and 12 percent of it as immediately available acid; and 3 percent actual potash from muriate,—put the 1500 pounds (nine bags of 167 pounds each) of 16 percent acid phosphate down first in a pile on the clean-swept barn floor. Level the pile down till it is about a foot thick. On top of this put the next smaller—quantity ingredient, in this case 212 pounds of sulphate of ammonia. Next put on the 167 pounds sack of bone, and last, on this put the 120 pounds muriate of potash. Level off each ingredient so that it just nicely covers the one under it before putting on the next one.

When all is ready take a common garden hoe and dig the pile over, beginning at one side and cutting down thru the pile and all its contents clean to the floor and hoeing back as you go far enough to move it over somewhat on the floor. Then beginning at the other side, hoe it back again in the same way and if a good job is done you will find that it is quite thoroly mixed.

In mixing a small amount,—five hundred to a thousand pounds—I have often simply dumped the sacks in one end of the tight wagon bed, leveling off each ingredient in the way described for mixing on the barn floor, and then hoeing over and back as before described. The mixing may also be done with a shovel, altho I prefer the hoe.

If there are lumps in the fertilizer ingredients they must be broken up by some means or the mixture will not be satisfactory for drilling nor uniform in character. Nitrate of soda is almost sure to need breaking up or grinding unless it can be bought already ground. The lumps in muriate of potash and acid phosphate can usually be broken up with the back of the shovel, but if the acid has hardened a maul may be needed to make it fine. I have used the discarded grinder of an old cider mill to break up nitrate of soda, and it worked very well.

In conversation with the treasurer of a New Jersey potato growers' association, he told me that they mix all the fertilizer for their 1400 or 1500 members by hand—(and the resultant mixture is so good that they sell a great deal to outsiders) saving hundreds of dollars by the operation.

I see no reason why a concrete mixer, like those offered to farmers on the advertising pages of the farm papers, would not make an excellent mixer of fertilizers.

Every true friend of the farmer is advising the use of high-grade fertilizers rather than low grade, and of those that contain elements that are surely available as plant food, I hold that there is no way quite as sure to acomplish both of these objects as for the farmer to buy the standard fertilizer ingredients and mix them himself.

TEST TOBACCO SEED

From a large number of germination tests already made on samples of tobacco seed, James Johnson of the Wisconsin experiment station finds that this year's seed sprouts slowly.

Most of the seed requires three weeks to complete a germination which ordinarily requires a week, he says. While the germination may improve as the seed gets older, Mr. Johnson warns every farmer who has grown his own seed to make germination tests before sowing time. Tobacco seed which is purchased should be of guaranteed germination.

"Any grower with a little ingenuity can make tests of his seed. Scatter a few seeds, preferably 100, on a moistened blotter. Place the blotter between two fairly close fitting plates to prevent drying out. Keep the blotters moist. Keep at ordinary room temperature. The sprouting should start in 3 to 6 days and be completed in 10.

An Inexpensive Cooperative Association

An Example of Real Cooperation From a Small Beginning

By THOMAS J. DURELL

NEW JERSEY

The Belleplain Farmers' Cooperative Association claims the distinction of being the poorest successful farmers' financial organization in the United States. Recent developments, however, make it look as if we might have to drop this claim—but that comes further on in the story.

Let me start at the beginning. The village of Belleplain in Cape May County, New Jersey, is a collection of about 30 houses, flanked on either side by 18 or 20 farms, averaging about 10 tillable acres each and surrounded by unbroken woods. Most of these farms are owned by Italians; 2 or 3 of them by native Americans, and one, a successful poultry farm, by a Frenchman. Only three farms have been self-supporting for several years; the owners of the rest have eked out a living by day-labor on the railroad which runs thru the village. They were typical one-horse farms of the poorest type, with soils so exhausted that money and labor were thrown away in tilling them. They did not raise much more than enough vegetables for the family and enough corn to feed the horse thru the winter, and it cost them more to raise both vegetables and corn than it would have cost to buy them. The three farms which paid expenses specialized in small fruits.

Early in 1919 half-a-dozen of these small farmers decided simultaneously that if they had to pay the rapidly mounting dealers' prices for fertilizers, lime and other farm supplies, they might as well stop farming. They called an informal meeting which all of us attended. The point was immediately raised that to start a formal organization required capital, and capital was the one thing which we did not possess. The most modest kind of stock company, with the limited membership available, would mean that each man must subscribe at least $100—an absolutely impossible hypothesis. All the money we could raise was just enough to buy the necessary supplies for the spring planting.

We finally decided to put our problem up to the State Department of Agriculture. They solved it for us. Mr. A. L. Clark, Chief of the Bureau of Land, Crops and Markets, came down from Trenton and told us at a second meeting that a State law, providing for the incorporating of "associations not for pecuniary profit" exactly covered our conditions, and that one of the main functions of his department was to help such farmers' associations develop. That evening we organized, electing the French poultryman president and the writer manager, and four days later the Belleplain Farmers' Cooperative Association was enrolled among the corporations of New Jersey, with a membership of 16.

Each member paid initiation dues of $1. The incorporating cost $2.75; letterheads, envelopes and membership cards, $6.71; a cash book $1.25; leaving in the treasury a working capital of $5.29.

From the first, we determined to buy not necessarily the cheapest but the best supplies, and with the aid of the County Agent and the State Experiment Station we found out where to get these. Not without misgivings, we mailed, on our new letterheads, our first orders for a 30-ton carload of lime and a 23-ton car of fertilizer. We offered to pay cash on the receipt of the cars, but, to our surprise, both companies accepted our orders on their regular terms of "cash within 30 days."

After that, our financial problem was simple. We collected from each member 10 percent of the amount of his purchase when he placed his order, and the balance when he unloaded it at the car. As we secured dealers' prices, we could charge 5 percent above our cost price and still save our members several dollars a ton on both for fertilizer and lime. Members were notified of the exact hour when each car was to be unloaded, and it took on an average less than 3 hours to unload a car. One man checked out and collected at the car, and was paid for his time. When our books were balanced after the first two cars had been distributed, we found that our balance had jumped to $26.85.

The same method was followed with our purchases of seed, fruit trees, etc. By keeping in touch with the State Bureau of Markets, we were able to effect several large savings not only by locating the cheapest source of supply but by anticipating market changes. For instance, we were warned early in the season that vetch seed was scarce and would soon rise sharply. We at once ordered 2½ tons of winter vetch seed at 24c a pound; by the time it was delivered, the retail price had advanced to 40 and 45 cents.

In the few cases where supplies were shipped to us "sight draft attached to bill of lading," two neighboring banks offered to accept our demand notes for any amount to tide us over until the goods were unloaded and the bills paid.

We used the simplest method of bookkeeping, a single-entry ledger which was practically only a cash book, which any high school boy can keep. Fourteen pages of a small ledger held the year's accounts of $3508.37, and it took less than an hour's evening work each week to keep it posted. At the end of our first fiscal year we have a bank balance of $101.27. By cooperative buying we have saved a little more than $1100.

A Good Hot Bed Makes Gardening a Pleasure as Well as More Profitable

But after all no farm and no farmers' organization can make a living simply by saving money in purchasing supplies. They must sell as well as buy advantageously. There are two sides to this selling problem. First, the farms must be fed and built up so that they can grow large enough crops to make a profit; second, the crops must be selected as to variety, market, community coöperation, etc., so that they can be sold profitably.

We are meeting the first problem by education. Our form of organization has been an immense help in this. We could call meetings at which we could be sure of the attendance of practically every member, and thru the cooperation of the County Agent, the County Vocational School and the State Department of Agriculture, successful farmers in our line of trucking could be secured to educate and inspire us with their stories of financial success and the scientific methods by which they had achieved it. By buying only the best fertilizers and the most successful varieties of cover crop seed, etc., we could almost compel our backward members to build up their farms in line with the more advanced.

For example, we know that winter vetch is particularly efficient on our soil. The cost of vetch seed last year was almost prohibitive if sown broadcast at the rate of 30 pounds to the acre. We had found by experiment that we could secure just as heavy a stand from 10 to 15 pounds if disced in with a seed drill, but very few of us could afford to buy a seed drill. Therefore the Association bought a drill which we rented to members for $1 an each acre of seeding. Our rentals paid for the drill in one season, and in addition we saved individually from $2.90 to $4.20 an acre in the cost of seed, besides the incidental advantages of drilling—ability to space the seed as we wanted it, to place it at the right depth, and to plant it thru weeds and other trash.

The second problem of marketing dovetails into the first. All of our farms have large areas of woodland which we are clearing and breaking up as rapidly as possible. To build up this new land and at the same time grow profitable crops which can be shipped in carload lots, requires a standardized rotation for the community. Our type of sandy loam is peculiarly adapted to certain crops, not all of which have proved profitable in our section. Canning-house tomatoes, for instance, with our long hauls to the canning factories, have never paid us. In the past, our marketing failure has been largely due to our dividing our acreage among too many different crops and varieties One man would raise a few acres of navy beans, another some limas, a third a few early tomatoes, a fourth sweet potatoes, for their "money crops." When the time came to sell, most of us were ignorant of the first principles of marketing, and were forced to ship on consignment to commission houses which too often did not pay our expenses.

Shipping in carloads would of course enormously simplify this selling problem by enabling us to sell for cash at the station to responsible buyers. We have therefore adopted a tentative five-year rotation of strawberries, strawberries and late potatoes with cover crop, peppers with vetch, watermelons with vetch, and sweet potatoes with rye.

Last year we were able to try only one community crop. Eleven members agreed to raise at least one acre of Ruby King peppers each, hoping to grow enough to be able to ship a carload a week. Unfortunately, we didn't succeed in doing this, principally because we made up our minds too late to secure enough hotbed sash to grow our own plants. We had to buy 90,000 plants 40 miles away, and we were not able to seize that one day which always seems to come every spring for setting out plants successfully. By the time the plants were ready for transplanting the weather wasn't We brought our plants over in a motor truck, and set them out in a drought which lasted 3 weeks. The consequence was that 60 percent of them died.

At that, we made more money than if we had grown canning-house tomatoes on contract of $16 a ton. We raised over 700 barrels and received an average of $1.40 a barrel net for them. Shipping on consignment we found invariably unsatisfactory. Less-than-carload shipments took 10 days to reach New York City, and after two shipments the railroad placed an arbitrary embargo on us, refusing to receive any perishable consignments for New York points. Three of our members owned motor trucks; they hauled our peppers, as many as 130 barrels a week, a distance of 30 miles to a point where we could ship with another farmers' association in carloads. It cost us 35 cents a barrel for cartage; we received fom $1.75 to $2 cash at the other station.

This year we intend to get those cash prices at our own station for our own carloads. We have already bought 150 hotbed sash, enough to raise all our own plants. We are not going to be too late this spring! Two other communities within 8 miles of us have asked us to help them organize and to let them join us in shipping from Belleplain carloads of watermelons, peppers and possibly sweet potatoes.

We have 25 members now; including a lawyer, a commission agent, a lumberman and a storekeeper, all of them active farmers. Our credit at the bank is good for any reasonable amount. We can see no reason why we cannot develop as far as we wish. That is why I said that it looks as if we might not be the poorest

(Continued on Page 21.)

PENNSYLVANIA FARMER
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PHILADELPHIA, PA., MARCH 6, 1920.
VOLUME 47 NUMBER 10

Our job is to serve our readers. Whenever and wherever we can help you, write us.—The Editors.

An Explanation

OWING to the shortage of print paper we find it necessary to set most of our columns "solid" for the time being. This means, as you will notice, that the lines of type are closer together—there being five in the usual space of four. We do this so that our readers will not be deprived of the usual amount of reading matter. This practice gives the same amount of matter in 60 columns as is usually put into 75 columns. We are aware that it is not so attractive nor so easily read and we shall go back to the original practice just as soon as the paper is available. In the meantime we ask your patience and your pardon.

Tell Us Your Views

NOTHING is more helpful to editors than to have a full expression of the opinions of their readers. We do not mean that it shall necessarily be for publication but letters in the nature of a chat in which you tell your views on any and all questions. The ideal way, of course, would be for us to go out and have a visit with each one—sit by the fire in winter evenings, help with the barn chores, or assist in field work in summer and have a heart to heart talk. But this is impossible. So the next best thing is to write us. You get our opinions—let us have yours.

Caution to Dairymen

THERE is need for every one engaged in the dairy business to realize that prices may slump more or less within the next few months. If the factors that enter into the cost of production fall in proportion, no great harm may be done; but if they do not, it will be natural for the unthinking to place the blame for failure to maintain prices upon the dairymen's organizations. It is just here that we wish to plead for sane action on the part of all members of such organizations. Even if the officers are compelled to make contracts at lower prices for the time being, there will be economic reasons for it and no true dairyman will desert the ship and drop out of his organization. It is in times of stress and unsatisfactory conditions that organizations are most needed and, while it may not be always possible to enforce ideal conditions or even to hold all we have achieved, nothing can be gained while all may be lost by failure to maintain and increase the membership in business organizations.

This word of caution is suggested by several letters we have received from dairymen criticising their officials in regard to price contracts, and also by certain facts in world trade which effect our economic conditions. It must be remembered that milk and its products brought the prices of the past three years because dairymen, thru organization, were able to take advantage of the uuusual conditions in supply and demand. It is the change in this last factor which will tend to "bear" the price of milk.

For five years we have been exporting immense quantities of milk and milk products to Europe. The amount of butter exported increased from 3,599,600 pounds in 1913 to 33,739,960 pounds in 1919; cheese from 2,599,058 pounds in 1913 to 66,050,013 pounds in 1917. Added to this there were millions of pounds of evaporated and powdered milk sent abroad every year. This greatly increased the demand upon us while our supply was increased but little and made possible the prices received the past three years.

But conditions are again changing. The dairy industry of Europe is again getting on its feet and will soon be able to largely supply the home demand to say nothing of exporting. Added to this is the unbalanced financial condition between this country and European nations. The rate of exchange is so high that trade will soon be unwise if not impossible, and the products we have been sending over there will be thrown upon our own markets. Can we absorb them? What will be the effect?

To the first question we will answer, yes. One hundred million people can use the product of 23,000,000 cows after normal export trade is resumed, provided every one uses all the milk, butter and cheese they should use. But the home consumption must be increased and it could be doubled if not trebled by judicious education and advertising. This is one great field of organization activity which has scarcely been touched except locally. There are innumerable examples showing how a demand can be created and a market made or extended by effective advertising witness, breakfast foods, soft drinks, citrus fruits, Northwestern apples, etc. Intelligent advertising is educative and most people need more knowledge as to the food value of milk.

To the second question we will venture that the immediate effect of decreased demand, if left entirely to the regulation of the law of supply and demand, will be a lower market. Dairymen must, thru organization, prepare to not only sell milk and its products but the surplus and by-products as well. The surplus and by-products in the hands of others have always been used to lower the price of milk, and we are approaching a period when we will again have a large so-called surplus.

Rightly viewed, these prospective and actual conditions are sufficient proof that dairymen's organizations must remain intact and even increase their membership and efficiency. Dairymen cannot afford to allow their business to slip back to the unprofitable conditions of pre-war times. Only thoro business organization can prevent it.

Penny Postage

THERE appears to be much agitation in many of the larger cities of the country for the establishment of a one-cent letter rate for local mails. It is contended that the receipts will increase from the one-cent rate due to a greater volume of business. This was true of the discontinuation of the war tax of one-cent on all mail.

Greater and better facilities of communication are always desirable. In steps toward this end the farmer should not be overlooked. His purchasing power is very large and commercial interests of the cities now urging penny postage within their limits would do well to consider improvements which might be made in the handling of the rural mails.

Prompt and efficient service to the rural people brings them nearer the cities, and enables them to fulfil their desires more quickly, and in the same manner, the cities' wants may be attended to promptly.

The mails carry a great many items of interest to farmers. Besides correspondence there are weather and market reports, and other information upon which the farmer's operations depend regardless of whether it is a matter of planting, harvesting or marketing. We do not begrudge the city man's one-cent postage but we do wish to have the rural delivery of mails maintained and improved in such a manner that there may be no reasonable complaint from anyone on the land.

Our Washington Letter

Congress is making an honest effort to cut down appropriations and thereby keep Uncle Sam's expenses somewhere within range of his income. If it fails it will not be due to any lack of good intentions, but owing to the overpowering influence of political jobbery and other questionable practices of long standing and official respectability. At no time in the history of the nation has there been more urgent need for rigid economy in government expenditures than now, and no one more fully realizes this than the congressman.

Whenever a bill or an amendment calling for an appropriation comes before the House or Senate there is a good deal of objecting. Long speeches are made in which the speakers denounce extravagance in the departments and point out in vivid word pictures the deplorable condition of the country's finances. The other day a Senator, speaking in opposition to a certain appropriation, said that there was no limit to the voracious appetite of the various departments of government; their only interest was in spending not in saving the people's money. "You seldom hear the executive officer of a department pleading economy. He wants to make a big showing, regardless of the cost." "Where are our taxes going to come from?" he asked. "Our exports and imports are going to diminish. The incomes of our people will be reduced, cutting down the income tax returns along with the customs revenues."

* * *

The Senator's pessimistic oratory was wasted, however, for when the vote was taken the friends of the appropriation were in a majority.

Never did a Congress labor under more difficulties in its efforts to please all the people than at the present time. The representative who can walk the political fence without slipping off on one side or the other is indeed an expert. In the old days the well organized commercial, manufacturing and financial interests were represented in Washington by expert lobbyists, and usually got what the asked for without much difficulty, while the unorganized farmers received little attention. Now that labor unions and organized farmers are ably represented in Washington by men of influence who are constantly on their jobs of looking after the interests of their organizations, the average law maker is kept in "hot water" most of the time.

There are many farm organizations but they are not co-operating as thoroly and as efficiently as do the many units which compose the Federation of Labor.

The National Board of Farm Organizations evidently aims to be a representative federation of farm organizations, but its methods are crude and its claims relative to the actual number of farmers it represents open to question. So far as I have been able to learn, it has no definite programe of action or legislative demands. I cannot find that it has an effective means in force for ascertaining the sentiments of the individual members of the various organizations for which it acts as the Washington representative.

The National Board of Farm Organizations holds an annual conference in which all farm societies are invited to participate. Resolutions are adopted which are published as representing the demands of millions of farmers; but as the sessions are conducted an organization with less than a half dozen members can have about as much influence in shaping the policy and demands as one of a million members. Any one who registers as holding membership in a farm organization is allowed to vote, and the conference could be easily packed by a local Grange or Farmers' Union from one of the nearby communities.

I have no criticism to make concerning the resolutions adopted at the recent conference, held at the National Board's headquarters. Many representatives farm leaders were in attendance, men who have won and merit the confidence of the farmers. I am referring to this matter at some length because I feel that farmers should know who are claiming to represent them, by what authority, and how they are being represented.

It would seem that the leaders of the Nationally Board of Farm Organizations might devise some plan whereby voting in the annual conferences could be limited to accredited delegates of the farm bodies, each organization being represented according to number of members.—Elmer E. Reynolds, Washington, D. C., Feb. 26.

HARRISBURG LETTER

Weather Conditions. — Foremost among topics at the various agricultural meetings held during February in this city and in other parts of the state were weather conditions. Seasons are always very much to the front at such gatherings, but from what has been reported the situation brought about by a winter of continued cold, heavy snows and rigorous conditions generally has caused more or less anxiety in some sections of the state. Letters coming here express some fears as to what may follow the break up of the streams and the thawing of land frozen to an unusual degree and of melting in the roads. State officials say that from all they can learn the ground was well covered with snow in the grain raising sections of the state thruout the winter and that the early advent of cold weather without any periods of alternating thaw and hard freezing has prevented damage to fruit trees. The men here for the convention of the threshermen declared that generally the grain was in good shape under the snow and that they saw no reason now why there should not be a good crop. One of the interesting statements made was that farmers had generally sown late and that there was apparently little reduction of the acreage devoted to wheat in the big grain growing counties. Other reports were to the effect that there would be a big acreage in corn this year and that many farmers would be limited in what they planted in various crops by their ability to obtain farm labor. All told, the reports on the weather were not favorable to the crops, but the state will be called upon to do its utmost to obtain hands to harvest what will be grown in Pennsylvania.

Warnings Given.—State officials have taken advantage of the great interest being shown in farming to call attention to the importance of combatting the pests which have caused such extensive loss in recent years. Secretary Rasmussen has declared with considerable plain speech that the moth must be fought in the "million bushel" counties of the state or they will lose their prominence in wheat growing and that the farmers must give attention to other pests and that the public must help. Figures gathered on the ravages of the grain moth the last few years have demonstrated that stringent measures must be taken and the state is preparing to aid in the most extensive campaign yet launched against this dollar destroying nuisance.

To List Labor.—State agencies have started very promptly to list the labor that will be available for farming and it hoped that the men who have flocked to the cities since the war will be ready to go back to the farms for a few weeks during the busy season. Arrangements are being made to call to notice of the public generally that the conditions on farms may be as serious as regards the supply of labor this coming season as during the war when the manhood of the state was mobilized for fighting or war production. Special efforts will be made in the industrial communities to get men to agree to give some time to farm work.—Hamilton, Harrisburg, March 1.

NEW YORK LETTER

Revision of Fair Premium Lists.—A committee of representative women of the Home Bureaus of the state and one of men of the Farm Bureaus met for planning a revision of the county and state fair premium lists this week. They aim to improve and standardize the premiums in women's and men's departments. These committees sent a smaller committee the following day to Albany to spend two days in securing recognition of their recommendations.

Tobacco Growers Finance Business.—The Central New York Tobacco Growers' Co-operative Association at Baldwinsville recently voted to finance its business more generously raising the amount of indebtedness directors may incur to $75,000.

Tie-Up in Canning Crops.—Canning companies of the western or canning crop section of the state have announced the prices they will pay in 1920 as follows: Tomatoes, $20 ton; shelled peas, $72 ton; and corn, $25. The growers have organized, and say they cannot accept less than $22.50 for tomatoes, $82 for peas and $27.50 for corn. Things seem to be at permanent odds as the canners say they will not operate if they do not get the crops at their own prices, while growers will plant crops other than canning crops if they do not get the prices they deem necessary. Cortland canners are offering $80 for peas, while some Northern manufacturers have voluntarily offered the $82.

Farm Interest in Candidates.—Farmers of the state heartily approve the formation of a committee of heads of seven leading farm organizations having headquarters at Washington under the National Board of Farm Organization, to request presidential candidates to state their beliefs as to agricultural policies.

Teeth in Market and Storage Laws.—Two new bills will inject efficiency into last year's market and storage laws if passed. One would make the State Council of Farms and Markets consist of but five members appointed by the Governor and confirmed by the Senate. Their term of office would be six years, at a salary of $5,000 a year, their whole time to be given to the office, and the governor to remove them from office if he deems it best. The council would be given power to prevent hoarding and profiteering. The other bill would make the one year limit now on cold storage of foods apply to all refrigerating plants.

Dean Mann Against Cheap Food From Europe.—Dean Mann of the State College deems it a deadly blow to American Agriculture if our government allows cheap food from Europe to be importeed. American farmers cannot compete with it successfully he says. He notes an increase of interest on the part of our youth, in farming, this being demonstrated by the unusual proportion of young men in attendance at Farmers' Week. But he says agriculture must be made attractive by offering opportunity for self development and reasonable financial returns, if this interest is to continue. He says there is no occupation or industry today that so closely builds upon the findings of educational and research institutions as do the farmers and deems their hard sense and conservation a National asset in these times.—F.

NEW JERSEY NEWS

Daylight Saving Move.—A move for a daylight saving plan has been made here. It is being backed by Commissioner George W. Page, of the Trenton City Commission. With New York and Philadelphia committed to daylight saving such as was adopted by the United States Congress for two years, the commissioner is of the opinion that daylight saving would work well in the Capital of New Jersey. With this idea in mind, he is preparing an ordinance which is a duplicate of the one in force in New York and Philadelphia, and intends to introduce it at a meeting of the city commission in the near future, or as soon as he finds what the Legislature intends to do with daylight saving bills now in its possession, and which caused great protest at a hearing recently largely attended by the farmers, who appeared to have won out in their argument against the legislation. It is likely that action by the municipal authorities here will be taken within the next month. It has been stated in connection with the matter that since the Pennsylvania Railroad Company's anouncement that it will operate its trains according to the New York and Philadelphia daylight plan much of the problem that would develop from a municipality's ordinance is overcome. The Trenton ordinance would become operative the latter part of March and provide for daylight saving until the latter part of October. It has the support of the city dwellers, but not farmers.

To Standardize Farm Production.—Despite the newspaper talk that the farmers would let up on the producing of farm products for the markets in the cities for various reasons, a campaign has been started among the agriculturists in Morris County for the purpose of producing more and better products during the present year than ever before and the exhibiting of the same at the annual fair of the Morris County Fair Association.—Kelly.

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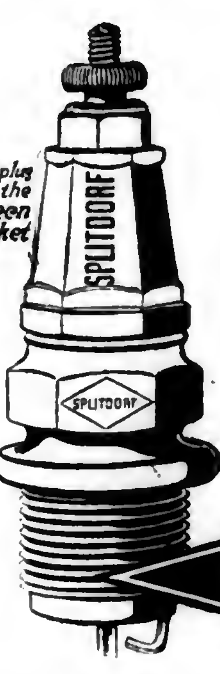
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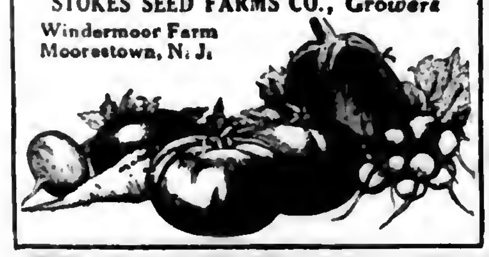

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National Board Farm Organizations

The annual conference of the National Board of Farm Organizations was held at the board's headquarters in Washington, during the three days ending Saturday, February 21. Members of twenty-five or thirty farm organizations were in attendance, some as accredited delegates, and other members of farm organizations who came to Washington upon their own expense. Everyone present who desired to do so was permitted to vote and to participate in the proceedings. This led the representative of a Kansas organization to question whether it was a conference of accredited delegates from farm organizations or a mass meeting of farmers. The sessions were attended by about 150 persons coming from many states.

In his opening remarks, Charles S. Barrett, chairman of the conference, said that knowing the obstacles that have been presented to every effective attempt at consideration of agricultural effort by those who feel themselves threatened by collective purchase and sale of agricultural requirements and farm products, and above all familiar with the bickerings and petty jealousies of farm leaders themselves, he thought that the success attained by the National Board of Farm Organizations was truly astounding.

"Not long ago," said Mr. Barrett, "a prominent farm leader said that for every hundred dollars expended by the National Board of Farm Organizations in an effort to secure the proper position for agriculture during the period of readjustment and reconstruction, a million dollars could be saved for agriculture. Farmers' Union people in the Northwest, thru whose efforts in co-operation with the National Board of Farm Organizations wheat growers on the western slope secured millions of dollars thru adjustment of freight rates, will vouch for the truth of this sweeping statement.

"It is the purpose of the National Board to unite the energies for the farm leaders backed by the brawn and sinew of their membership. It is our purpose to get our force together and be ready at the right time and the right place to use our power.

Senator Arthur Capper spoke on the Capper-Hersman bill, saying that he had done his best to convince the committee that it is not class legislation. The prospects are reasonably fair that the bill will be successful, but the committee needs the help of the farmers. He said the organized farmers could do no greater service to agriculture than by frankly expressing their views on the great agricultural questions before Congress. The more resolutions from farm organizations and letters that are sent direct from the farmers to Congress the better will be the chances for farm legislation.

Senator Capper said that unquestionably the United States Grain Corporation has not had the interests of the farmers at heart, nevertheless he thought it was not probable that the Gronna bill which proposes to abolish the grain corporation will pass Congress. In Kansas, he declared, the farmers were practically unanimously opposed to compulsory military training, and this seemed to be the sentiment of the delegates attending the conference. He said the sentiment in Congress was strong for some sort of effective packer regulation legislation, and he was encouraged to believe that the peace treaty would be ratified, with reservations which will protect American institutions.

One of the activities of the Federal Trade Commission, according to Victor Murdock, chairman of the commission, is to find out the cost of production of basic commodities; that there had been a steady concentration of wealth, the units growing larger and larger, and the people should know the truth in regard to the processes by which this wealth accumulates from the handling of basic products. He said it was the work of the commission to take the sand bars and obstructions out of the channels of trade and commerce.

Congressman Sidney Anderson of Minnesota, speaking on packer legislation, told the conference that the four or five big packers control the live stock markets and set the prices on all the cattle, sheep and hogs in the country. He urged government regulation of the stock yards, stock exchanges and packing plants. Regulation has not hurt the banks and it will not harm the packing industry. He explained as the reason for the heavy slump in pork prices, that the packers had large quantities of pork products in Germany expecting early action on the peace treaty. Much of this pork spoiled in storage, and the packers are making up their losses by cutting the prices on hogs.

"There is too much co-operation of the few for the exploitation of the many," said C. O. Drayton, president of the American Farmers' Equity Union. His organization aims to protect the men, women and children on the farms from those who take what the farm folks produce. The Equity Union runs exchanges. The shares are $100 a piece and no member can own more than two shares. It buys old elevators and builds new ones. One exchange in Western Kansas was started on farmers' notes because they did not have the money. After paying the members the market price for their products and selling them supplies at the retail price, it has prorated to the members in dividends over $100,000 in five years. The Equity Unions are now buying supplies thru their central purchasing agency cheaper than the dealer can buy the same goods from the wholesaler. Competent local managers are paid a salary, which takes away any incentive for them to gouge the farmers. The Farmers' Equity Union is organized in fourteen states and is saving for its members $5,000,000 a year.

Maurice McAuliffe, president of the Kansas Farmers' Union, said there were 540 chartered co-operative business associations of farmers in Kansas. The Farmers' Union does a commission business at the Kansas City stock yards, selling live stock, and has been able to prorate back to the producers 25 percent of the commissions. The organized Kansas farmers hold their annual conference at the capital at the opening of the legislative session, and prepare a platform of demands so that the legislature knows exactly what they want, and they usually get the legislation they demand.

State Grange Master Ketcham of Michigan emphasized one problem that is confronting the co-operating farmers of his state, the apparent increase of unfriendliness on the part of wholesalers toward co-operative buying. He said there seemed to be a well organized movement on the part of dealers to discredit co-operative buying by farmers. He said the Grange live stock shipping associations had saved the farmers of his state large sums of money, and that the Grange insurance associations carry $40,000,000 in fire insurance on Michigan farm buildings.

A. P. Snader, secretary of the Mt. Olivet Fruit Company, of New Windsor, Md., urged the co-operation of the horticultural societies of the Eastern States, in buying and selling to their members spray implements and materials.

Senator Miles Poindexter, of Washington state, said that an experienced practical farmer should be selected to head the Department of Agriculture, and that "farmers should be given that freedom of action necessary to obtain the greatest possible legitimate results." He opposed government ownership and paternalism, saying that when you break down the principle of individual ownership and reward, you destroy the conditions which have made the country the leader among nations.

An outstanding feature of the conference was a brief address by J. R. Howard, president of the American Federation of Farm Bureaus. The congestion of the people in the cities, he said, was due to unsatisfactory conditions on the farm. While there are not enough houses to go around in the cities there are many empty farm houses in the country. The sugar beet men fortell a great shortage of sugar beets. The same condition exists in the corn belt with hogs and other stock. He would not be surprised if the wheat crop does not exceed 650,000,000 bushels. This means higher prices for farm products. It means that in the next 12 months we are going to force more agitation on the subject of price fixing. There is going to be a demand for embargoes on foodstuffs. Farmers must organize to meet these demands

The American Federation of Farm Bureaus, said Mr. Howard, is willing to co-operate with every other farm organization in the real interests of agriculture. "We propose to come before Congress with referendum votes of members in such a way that there will be no mistake in regard to the opinions of farmers. Men have claimed that they represent all the farmers in the United States. One man recently asserted before a Senate committee that he represented 40,000,000 American farmers; yet there are only 6,000,000 farms in the Nation. We have got to have truth and sincerity back of our demands. We must be careful that the representatives of farmers be real bonifide farmers." "We must not stop until every farm boy and girl has just as good school facilities as the city children," continued Mr. Howard. "Fertility of land and good citizens go together. The fertility question is one of the big problems confronting the nation. The slogan, 'stay on the farm is a thousand times better than back to the farm'."

The conference appointed a committee of seven farm organizations leaders to draw up a platform of questions designed to bring out the attitude of each candidate for the presidency upon matters which relate to the interests of agriculture and farm organizations. C. S. Barrett, of Georgia, president of the National Farmers' Union was named chairman of the committee, the other members being T. C. Atkeson, of West Virginia, representing the National Grange; Gifford Pinchot, Pennsylvania, of the Pennsylvania Rural Progress Association; J. B. Houston, Wisconsin, secretary Wisconsin Society of Equity; W. I. Drummond, Oklahoma, International Farm Congress; R. D. Cooper, New York, Dairymen's League, and J. R. Howard, Iowa, American Farm Bureau Federation.

Resolutions were adopted urging Congress to pass the Capper-Hersman bill restoring to the farmers the right of collective buying and selling; favoring the necessary appropriation for the Bureau of Crop Estimates; asking for the appointment of an American delegate to the International Institute of Agriculture at Rome, to succeed the late David Lubin; petitioning Congress to amend the Farm Loan act to increase the maximum loan from $10,000 to $25,000; disapproval of the policy of compulsory military training and a large standing army; that all restrictions in importations of fertilizers be moved at once, and in favor of government operation of the Muscle Shoals nitrate fixation plant to manufacture nitrogen for farm uses.

On Thursday afternoon a large delegation of farmers attending the conference visited the Department of Agriculture, and paid their respects to Secretary of Agriculture Edwin T. Meredith. The secretary made a few remarks in which he asked the co-operation of the most effective service to agriculture. At a reception to friends and delegates at the farmers' headquarters in the evening Secretary Meredith outlined some of the plans he was making for the improvement of the department.

The National Board of Farm Organizations is a loose jointed confederation of farm bodies, with little regard for system in its organization or deliberations, yet it is growing in influence and becoming yearly more effective in its efforts to promote a better agriculture condition.—Elmer E. Reynolds.

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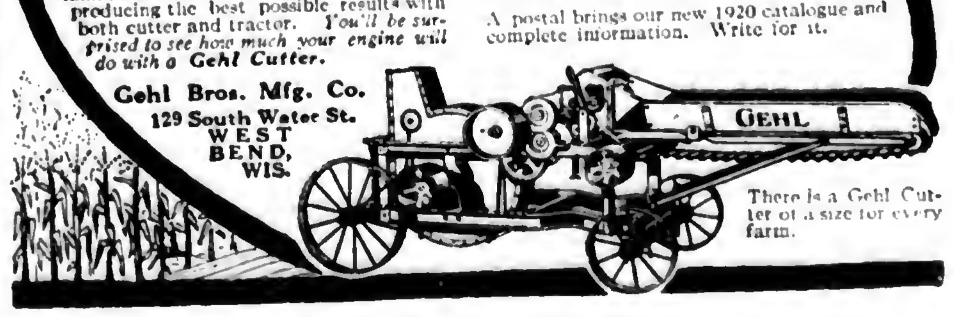

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HORTICULTURE

Results in Dehorning Peach Trees

"How shall I prune my peach trees?" is a question which every peach grower is asking either himself or someone else about this time every year. The question is generally easy to answer when the trees are young and vigorous and bearing good crops for then a little thinning out and moderate heading back will give satisfactory results, but when the trees are ten years old or more the answer is a little more difficult. In many instances the trees have not been properly headed back when they were young; in some cases close planting or interplanting with apples have forced the trees to shoot upward As a consequence the bearing surface of the trees is 15 or 20 feet in the air with no fruit bearing branches nearer than 10 feet from the gound. Such a type of trees is illustrated in Figure 1.

What can we do with such trees and with other peach trees that are lacking in vigor and not producing maximum crops of large fruit? In Burlington County, New Jersey as as well as in other peach sections there are just such orchards as described above. In the attempt to demonstrate the feasibility of rejuvenating such trees and bring them back into profitable bearing, the Farm Bureau and the County Agent cooperated with the Extension Specialist in Fruit Growing of the New Jersey Experiment Station last spring and outlined a project to determine the best methods of cutting back or dehorning old peach trees.

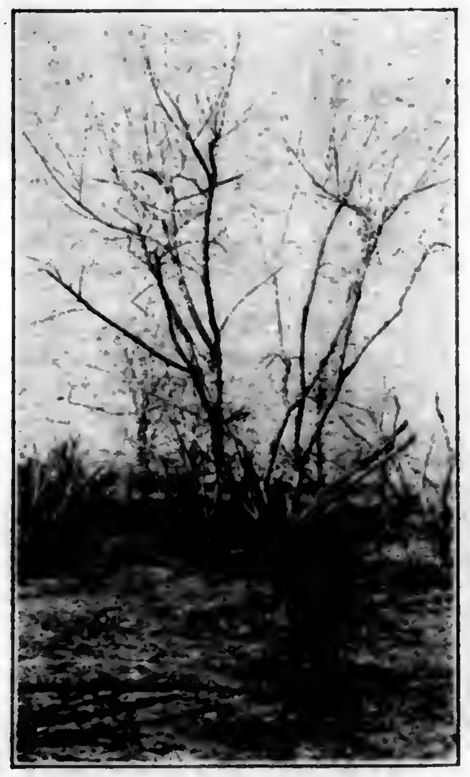

Figure 1.—Result of Not Cutting Back

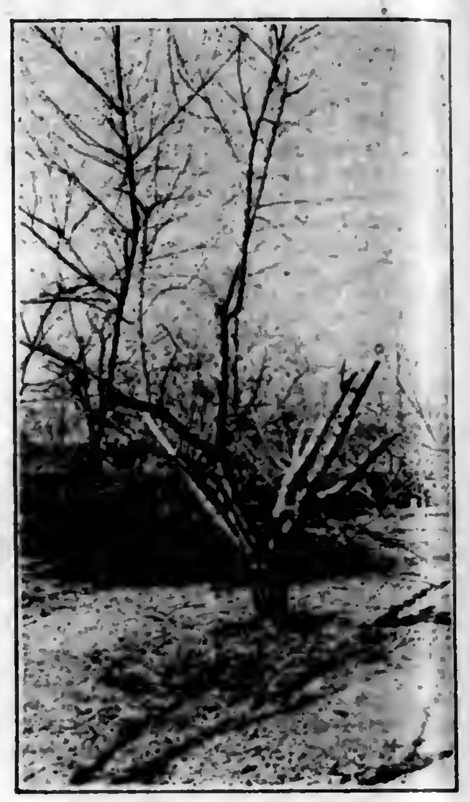

Figure 2.—Removing ½ of Tree

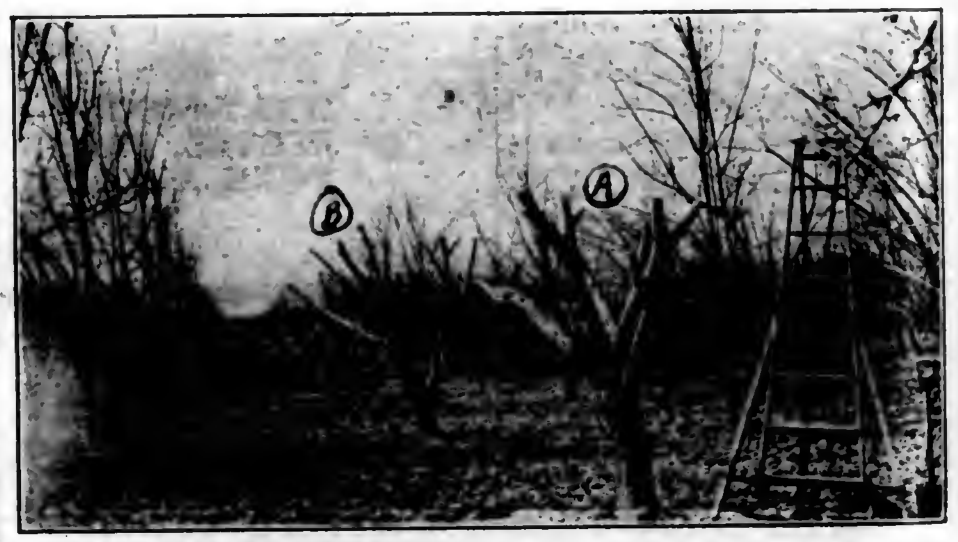

Figure 3.—Dehorning High—At Second Fork

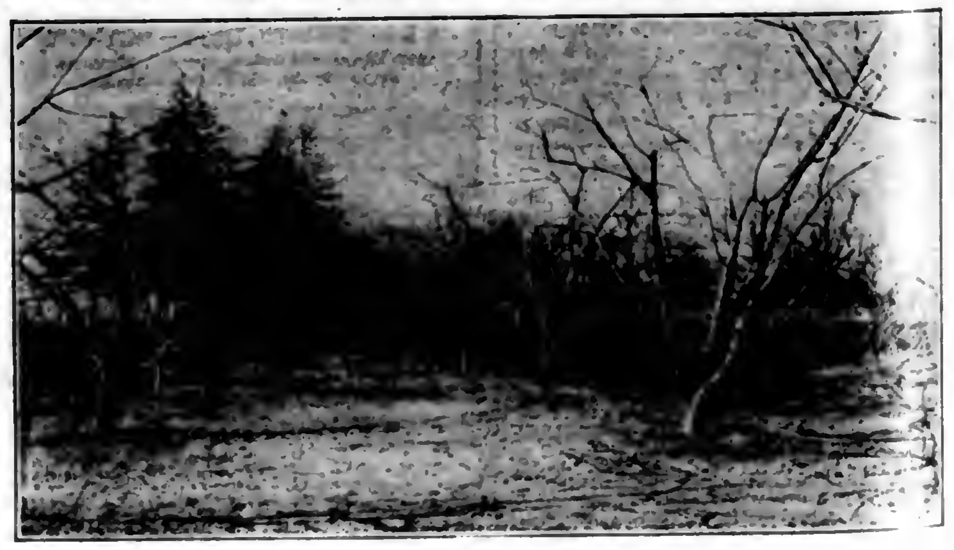

Figure 4.—Severe Top Pruning

This year five different kinds of dehorning were tried in an effort to find the proper method of doing this work.

1.—Dehorning low; not over 5 feet from the ground as at a Figure 3.

2.—Dehorning high where the main branches fork the second time as at B in Figure 3.

3.—Severe pruning in the top as at the right in Figure 4.

4.—Cutting away ½ of tree as Figure 2.

5.—Cutting away two or three branches around the tree.

Results

"Won't such hard cutting back kill the trees?" askd one of the farmers in whose orchard some of this work was done. Figure 5 is the answer. In all of the different methods used not a tree was killed and in no instance was there a lack of satisfactory growth. All of the dehorned trees made a strong healthy growth with dark, rank, foliage.

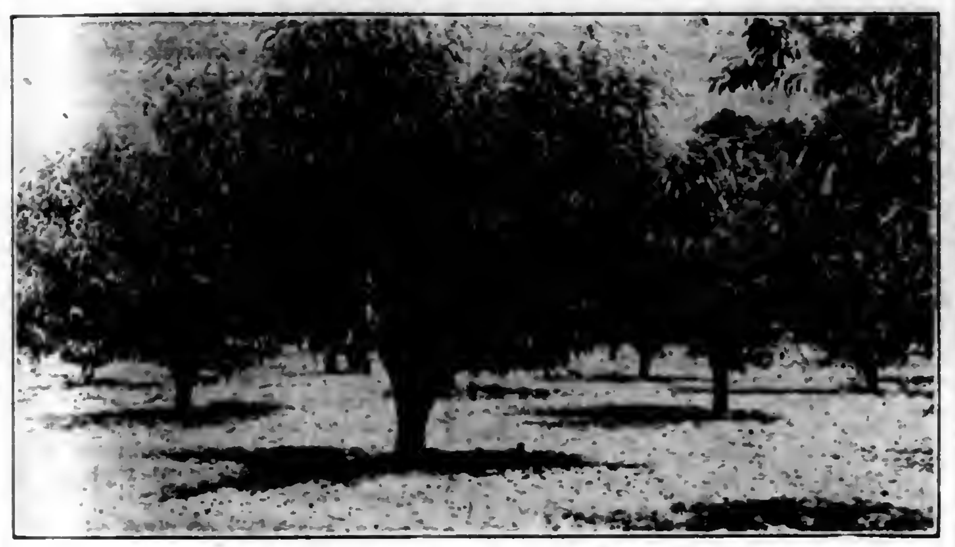

Figure 5.—Growth After Severe Pruning

The trees which were dehorned low made a wonderful growth during the summer. Five to six feet shoots were not uncommon but in this rank growth of new wood lies the objection to this method. When the trees are dehorned adventitious buds are forced out on the large branches of the trees and when these buds form shoots five to six feet long the union with the larger branches is not strong enough for them to stand the strain of a large crop of fruit.

It has been a common practice with many peach growers in this section to cut about a third or a half of the tree away each year as illustrated in Figure 2. When the dehorned part of the tree has again come into bearing the remainder of the tree is dehorned. There are some objections to this method. The trees treated in this way are unsightly in appearance and the dehorned branches are ofen so shaded that an unsatisfactory growth results. When a third or half of the tree is cut off the strength of the trees is often forced into the remaining branches and the new growth expected is not obtained. If all of the trees are half cut away each year more satisfactory results can be obtained by dehorning every other tree completely each year.

The two methods that seemed to be the most satisfactory at the end of the season and which stand out by far as the two best methods are Numbers 2 and 3.

In the high dehorning method as at B in Figure 3 it is frequently possible to leave in considerable bearing wood. In one of the blocks dehorned in this way last spring some fruit was obtained during the summer. When dehorned as high as this the top had sufficient spread to allow the formation of the open center type of tree when the new growth comes in. The new shoots from on smaller branches and make a better union. In all cases the trees dehorned high have set a fine crop of buds on the new growth for next year's crop, a much better set than any of the low dehorned or ½ dehorned trees.

Probably the majority of fruit growers would prefer the third method of severe pruning in the top as in Figure 4. The tops can be brought down 5 to 6 feet of bringing the tops down and bearing a crop too. The thinning out and cutting back the top permits the entrance of sunlight and gives some young growth lower down on the tree which will allow a further cutting back the next winter.

It is a common saying that the life of a peach orchard is about ten years but if the trees are properly cared for they ought to be in profitable bearing at 20 years. The results of our work here this season have convinced us that these old peach trees can be profitably renewed and brought back by proper methods of dehorning.—Harry B. Holcomb, New Jersey.

SPRING WORK IN THE ROSE GARDEN

Spring is the time to plant rose bushes, although the more sturdy growers may be planted in the fall. Roses should be planted out as soon as the soil can be spaded without puddling. A large hole should be dug, soil loosened at the bottom and some top soil thrown in. The roots are spread out in a natural position and placed at such a depth that the bud (if budded stock is used) is two inches below the ground. Soil is gradually thrown in around the roots and tamped. If the soil is dry it may be puddled by pouring water into the hole, after it is two-thirds filled with soil. Hybrid perpetuals or June blooming roses should be planted two feet apart; hybrid tea roses, 18 x 18 x 24 inches, depending upon their vigor. Newly-planted field-grown hybrid perpetuals should be pruned to about three heavy stalks and about four good buds on each stalk. Field-grown hybrid teas should be cut back about one-half of their growth. Established hybrid perpetuals should be pruned back early in March.

Medium pruning is recommended. Cut back heavy four or five feet stalks to within eighteen inches of the ground; cut out all the spindly growth and cut back the smaller growths to within five buds of the old wood. Always prune above an out-growing bud. Hybrid teas are not pruned so early. When settled weather comes, cut out the dead wood.

The leaf covering of the rose bed should partly be removed about the middle of March and the remaining leaves taken off two weeks later. The mound should not be removed from around the plant until growth is started. The manure which was applied in the fall should be spaded into the bed. Hybrid teas will do much better during the hot summer months, if a light mulch of manure is applied to the bed. Most roses will do well on a rich, well-drained loam containing about five per cent clay.

The Yates County Farm Bureau News tells about Bill Bonehead's barnburning. Total loss. No insurance, and Bill nearly got gassed trying to pull the door off the hinges. After Bill came to, some one said to him, "Bill why did you act so crazy about that barn door?" "Well, dang it," says Bill, "all my figures for the last five years was right on the side of that door."

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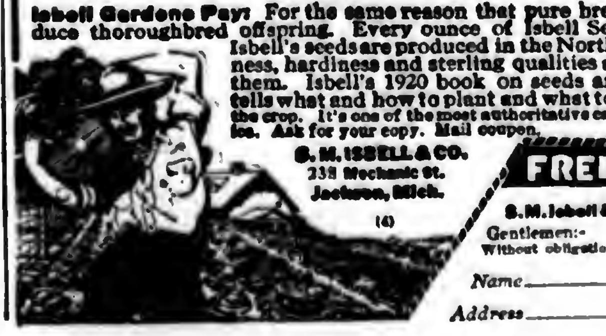

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EXPERIENCES WITH BERRIES AND FRUITS IN YORK COUNTY

By CLAYTON F. WEAVER

The past season has been a record-breaker in prices for all kinds of fruits. Those who have a full crop of berries received the greatest returns ever noted for these fruits. Yet the prices were not high if compared with the advance of all goods manufactured or raw, not produced on the farm. I cannot understand why men and women always refer to farm produce when talking about the high cost of living. Just as if shoes, dry-goods, furniture, groceries, all kinds of machinery and labor were priced at a normal rate. There is no doubt that Secretary Meredith has a right conception of the situation as he was quoted in the Pennsilvania Farmer of the 7th. If he has the backbone to stand for what he expressed, he will be the man of the hour for the agricultural interests. And after all, what is for the good of the farmer must benefit all, the consumer as well as the producer.

Excuse me for leaving my text, but when I read some of the articles found in the papers every day about the profiteering farmer, and then remember how he and his family have to slave early and late, it stirs my Irish blood.

Varieties of Berries

I hardly believe we shall ever receive as high prices for our berries as last year. But for the man who will grow only the best and put them on the market with the best appearance, there will be money in berries for years. There have been more than 80 varieties on the place since our start and this spring there will be but four kinds planted. Three of these are new berries. Of the later ones tried, Chester, Magic Gem, Dr. Burrill, and Todd's Late Champion have been very disappointing. The Chester is extremely soft, and the others are not of good quality and appearance. They may be of more value some places but for our soil and the York and Harrisburg markets they are far from profitable. We have fruited Kellogg's Premier for five years and had no failure. If left on too long it becomes rather dark, but take it in time and you have one of the largest, best colored, and most productive berries of its season. The next is Big Late, and possibly it should rank first. It is a good, upright grower; makes plenty of plants, and yet not too many for its vitality as the nodes are far apart causing the plants to be well distributed over the ground. It bears loads of berries on long stems, standing well up, until the berries become so heavy the stem is actually broken down. Large, bright-red berries lay in piles around each stalk. They not only have the quality but keep well after picking. I consider the Lupton as next best. It is a vigorous grower with tough, leather foliage, and a good plant maker. It produces extra large bright-red berries that never touch the ground. It will out-sell Chesapeake and produce more berries. Further, they ripen well together, making it unnecessary to go over the ground so often. The everbearers are not a money-making proposition in this county.

The Raspberry and Blackberry in York County.

Red raspberries have been yielding well for the past several years, but the grower who would plant one or more acres is at a disadvantage as there is but a limited market in this section for them. The black-caps can be handled in much larger quantity but there is usually not as much money in them. For our purpose, the blackberry fits in better, coming a little later than the raspberries. This gives us more time to go over the strawberry beds that may have been neglected during the rush of the picking season and get them in good shape. Of the several kinds tried, the Snyder is giving good returns in quality and quantity. It has never winter-killed.

Lessons From My Apple Trees.

Two years ago I sent in a report of some of what might be termed the newer varieties of apples. Noting the results as they continue to increase in bearing and under different weather conditions, some of our statements must be modified. The Jonathan is a fine dessert apple, but the tree is not as vigorous as it should be for commercial planting. It blights badly, but the worst fault is the spot on the fruit, called by some the Jonathan spot. Up to this time our Experiment Station cannot help us out with a remedy. Under the proper soil conditions it is profitable but not here.

The Champion is a strong grower. It makes a well-proportioned tree, but this is all we can say for it. The Gano or Black Ben is a good grower, a heavy annual bearer under the proper treatment and is a barrel-filler. But remembering the half of a Gano I ate yesterday, after having eaten Stayman all winter, I have no more to say about Gano.

The Liveland Raspberry apple trees are young and have fruited but twice. They have not met our expectations. They may do better yet. Wilson Red June is a fine apple here. Coming, not as its name would indicate, in June, but in August. It is an upright grower, making it desirable as a filler. The fruit is red, of good size and quality. The Wealthy is an excellent apple, but I have not found it to be as hardy a tree as some other sorts. It is one of the best market apples of its season. The King David started in fine, bore young, a good grower, well-shaped, but the last two years has something like the Jonathan spot. A dark-red apple, juicy, a good cooker, but almost too tart for eating. The Delicious has been very disappointing in its bearing. It has not been a young bearer as recommended so strongly. Have had reports from various growers thruout the state, and their experience has nearly always been similar to our own. Also, it has a tendency to become mealy after the 1st of December. It may keep better in cold storage and we intend to try it the coming year. As to quality, it cannot be excelled for dessert. Let a customer taste it and they cannot help but come back the next time, never asking the price. The last one, and the one that is proving a money-maker is the Stayman. It is the youngest bearer here, and the heaviest bearer of large, perfect, apples, unequaled in quality. Last year we had apples on two-year old trees. However, this is misleading, as our experience has been in the last 12 years that one cannot count on any apples worth considering before the trees are seven years old, and more will begin producing at nine than at seven years. There is much printed just now about the wonderful profits in apple-growing, and then illustrations are given of trees yielding six to ten bushels of fruit at five to six years of age. This will cause many to plant trees this spring that cost unheard-of prices and they will be greatly disappointed if the apples do not show up in four or five years and the result is almost certain to be the neglect of the orchard as it costs too much to care properly for an orchard that does not bear until eight to ten years of age.

Just a few more words about profit in apples. Four years ago I sold apples at $1.50 a bushel and paid for labor needed $2.00 a day. This winter we are getting $3.50 a bushel for No. Stayman and paid $7.00 a day for labor. Two years ago I bought first class trees at $17.50 a hundred. Knowing there would be a tree shortage I sent the order last November for this spring, and paid $55.00 a hundred. Today the same trees are selling for $95.00 a hundred. Same trees, same grade, and the same nursery. And who knows what we will pay for labor and trees next year?

STRAWBERRIES

One of the most common mistakes in growing strawberries, especially for home use, is in selecting plants from an old neglected bed. Plants for resetting should always be taken from a young plantation which has never been enfeebled by bearing fruit. When dug the plants should be kept moist and roots shortened to about four inches, as the plants can be set better and the young feeding roots will start much quicker than from tangled and torn roots, reaching deeper into the colder soil.

Put the sprayer in shape now, so it can be ready for operation in the early spring.

Hoffman's Seed Oats

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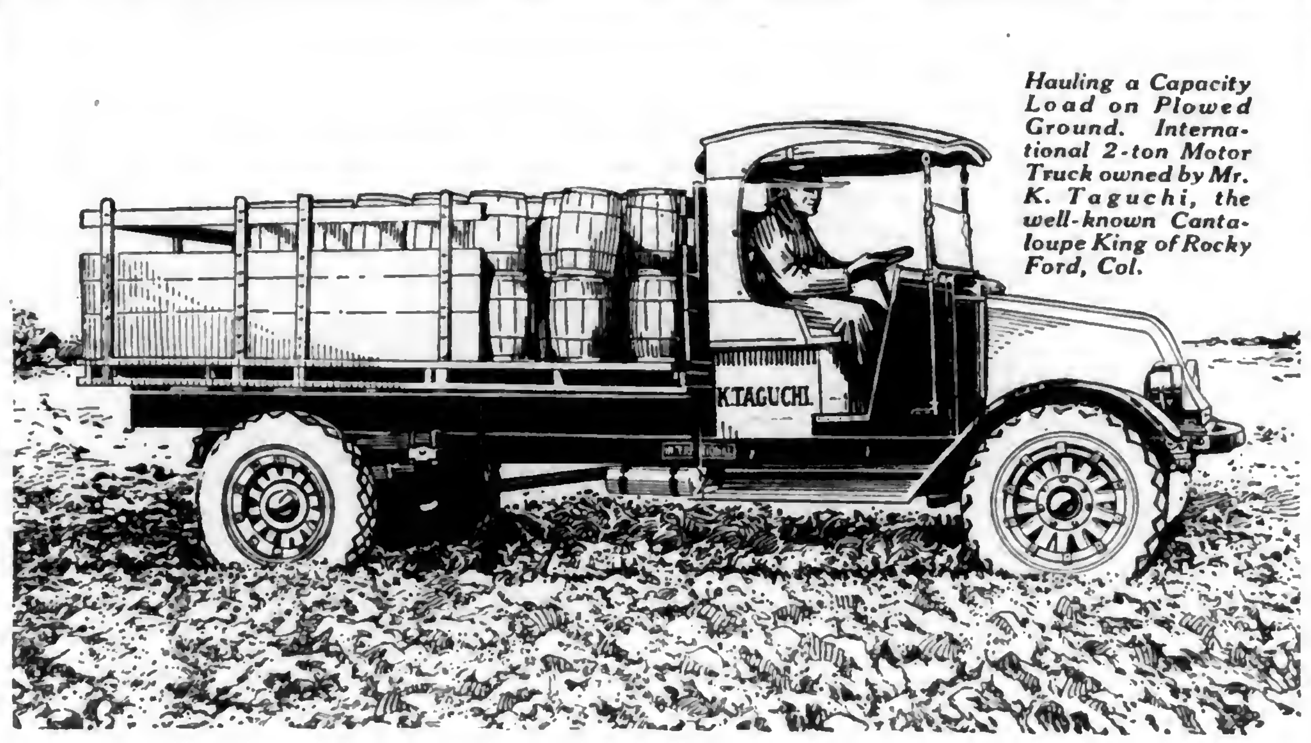

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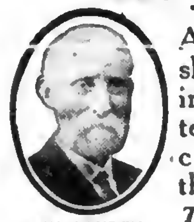

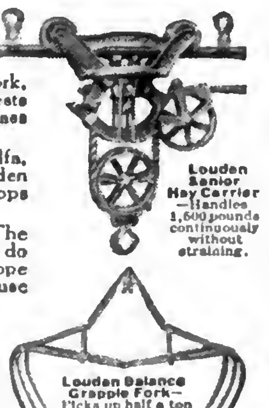

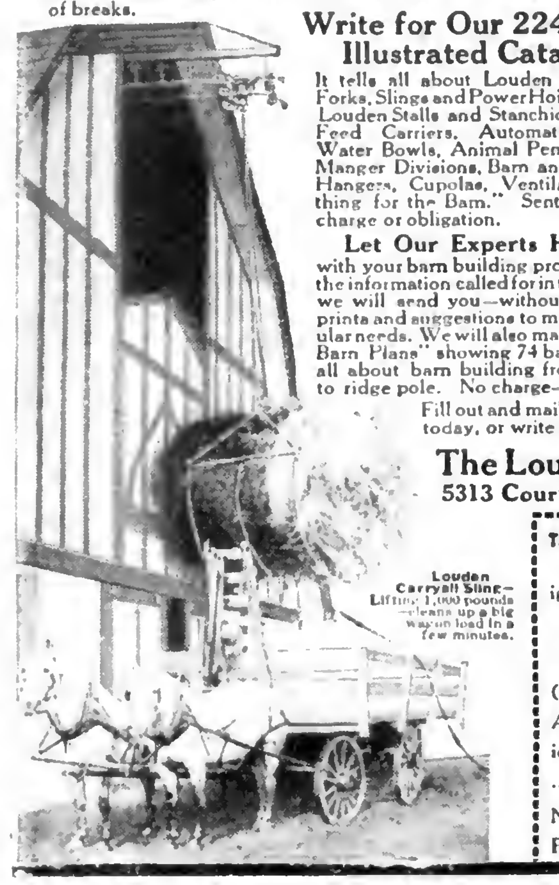

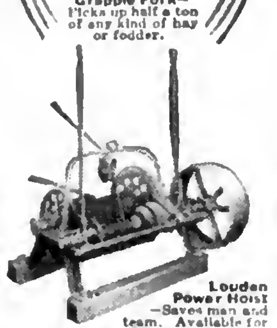

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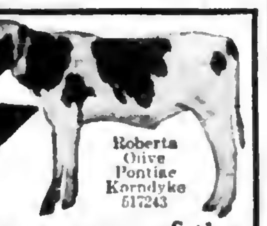

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LACKAWANNA COUNTY DAIRYMEN'S IMPROVEMENT ASSOCIATION.

The First Lackawanna County Dairymen's Improvement Association completed a year's work on January 31, 1920. This association is simply an organization of farmers who united for the purpose of employing a trained man to weigh and test the milk of every cow in the herds of the association at monthly intervals. Thus a record of every cow in the herd is obtained at the end of the year without any trouble on the part of the individual dairyman.

We had 26 members with a total of 345 cows in the association for the year. The average production of all the herds for the year was 6,657 pounds of milk and 237 pounds of butterfat. The returns for each dairy were figured according to the price received for the product. The majority of the members sold milk on the test basis at the prices figured from month to month by the Dairymen's League. Feeds were computed at the prices paid by the members. Roughage and pasture was figured at the same price for all members—Hay, $26 a ton, silage $8 a ton, and pasture $1.50 a month per cow.

Miller Bros. of Clark's Summit, have the distinction of having the highest herd average in milk production and the highest producing cow in the association. Their herd average was 8,744 pounds of milk and 304 pounds of butterfat. The record of the highest producing cow was 12,443 pounds of milk and 3,487 pounds of butterfat. The profit returned after deducting the cost of roughage and the cost of grain was $217.89. She is a purebred Holstein cow named Princess Johanna Cornucopia. Compare this record with the poorest record cow in the association, she produced 3,322 pounds of milk and 1,186 pounds of butterfat. After figuring her cost of roughage and cost of grain, we find she was a loss to her owner to the amount of $26.62.

The four herds in the association averaging the highest in milk production are: Miller Bros., 8744 lbs. of milk, 304.0 lbs. of butterfat; G. A. Spencer, 8564 lbs. of milk, 291.6 lbs. of butterfat; J. W. Klipple, 8493 lbs. of milk, 307.4 lbs. of butterfat; T. C. S. Demonstration Farm, 8104 lbs of milk, 300.0 lbs. lbs of butterfat.

The herd averaging the highest in butterfat production is owner by the Lake View Poor Farm, B. U. Bogert, Supt. The herd average was 7952 pounds of milk and 309.7 pounds of butterfat. Comparing these high producing herds with the poorest producing herd, we have a very appreciable difference in favor of the better herds. The average production of the poorest herd was 3504 pounds of milk and 111.2 pounds of butterfat. The representative breed in all of the herds in the association was the Holstein.

Four herds averaged over 8,000 pounds of milk, five herds over 7,000 pounds, eight herds over 6,000 pounds, five herds over 5,000 pounds two herds over 4,000 pounds and one herd over 3,000 pounds.—LeRoy Hoffer, Supervisor.

COW TESTING ASSOCIATION LESSONS

The following list of quality cows in the Ulysses Cow Testing Association in Potter County, Pa., brings out some very striking dairy business. While these cows produced more than forty pounds of butterfat or more than twelve hundred pounds of milk in thirty days and while they represent only twenty-two of the best records made out of 390 cows, yet there is some very striking variation in the profit returned by different individuals in this list. These variations were only discovered by the use of the milk scales and the Babcock test.

Taking the two cows, Lily and Cooney, owned by C. E. Huck & Son, Lily produced 1344 pounds of milk and 37.6 pounds of fat and Cooney produced 1470 pounds of milk and 61.7 pounds of fat. Cooney used 29 pounds more feed than did Lily. The value of Cooney's milk for the 30 days ending January 15 was $59.54 while the value of Lily's milk was only $46.90. Cooney ate just about one dollars worth more feed than Lily and produced $12.64 worth more milk than Lily, leaving $11.64 more profit for the 30 days. She was able to do this because her milk tested higher in fat and shows that higher butterfat content is just as important or more important than a high flow of milk. The ability to produce a higher per cent of butterfat must be bred into a cow and cannot be produced by feeding.

On the other hand quantity cannot be sacrificed entirely for quality. A cow called Brown produced in 30 days 771 pounds of milk testing 6 per cent. of fat while Black Bell produced 1290 pounds of milk testing 3.8 per cent of fat. The feed cost five dollars more for Black Bell than for Brown but her milk was worth $13.40 more than that of Brown when delivered to the condensery. This shows that Black Bell made $8.40 more profit in the month than Brown even with a lower test.

Persistency in milk production is an important factor. The purebred Ayrshire cow Reba, owned by O. A. Kibbe & Sons and the grade Holstein cow Swing Bag, owned by C. S. Holbert are two examples of this quality. Reba in the fourth month of lactation produced 1341 pounds of 4 per cent milk and 53.6 pounds of butterfat. Swing Bag in her third month produced 1659 pounds of 3.5 per cent milk and 58.1 pounds of butterfat. In spite of the fact that she had been giving milk four months Reba produced $53.24 worth of milk in 30 days. Swing Bag produced $62.54 worth of milk in 30 days. Some cows possess this quality while others make phenominal records for a short time then fall off. Every dairyman should know which of his cows are persistent milkers and which are not. It is a quality that will be bred into the offspring, and the production of future herds depends on the offspring from these cows.

This discussion deals only with the cows that made a record of over 1200 pounds of milk or over 40 pounds of butterfat in 30 days and are the highest producing cows in the association. When we consider the wide variation in profit returned by these leading cows, what must we expect of the rest of the cows in the association. There are a number of cows which have shown a record of not paying for the feed they consumed say nothing of labor, equipment and investment. Some cows paid $5.00 above feed cost and others a little more while the average of all cows was about $25 profit. It can readily be seen why some dairy herds make a profit and are a paying enterprise while others pay no profit or in some cases are losing money. The poor cows will eat up the profit of the good ones and should be eliminated before they reproduce.

Keeping a record of the weight of milk produced and the butterfat test together with the feed and labor cost is the only accurate way of checking up on the cow robbers which each dairyman may be keeping in his herd.—Bert Straw, Potter Co., Pa.

PERPLEXING DAIRY PROBLEMS

(Continued from Page 3.)

paid forty-five dollars with board and washing and in addition kept a horse and furnished a buggy. We got up all summer a little before six (Wilson time), took a full hour off at noon and rarely was it when we were not through with supper and the evening's work by six o'clock. But even these conditions did not seem attractive enough for both men quit October first, leaving my wife and I 19 cows to milk the day they left. Our field corn was not all cut yet, a few of the silos owned by men we neighbored with were yet to fill and a few jobs of late threshing to be done. And after these jobs, 1200 bushels of ear corn to husk. These jobs are now all done but who feels like increasing the size of the herd while these conditions prevail. I neglected to mention that one of my men quit for a job at the mines paying six dollars a day. (Poor downtrodden, overworked miners and their six-hour day). The other went to drive a truck. With the present situation we will either have to keep only the number of cows that we can milk and care for ourselves or else add enough labor-saving devices that

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Besides its well-known value in keeping the udder and teats healthy, Bag Balm is a wonderful healer of any cut, bruise, chap, chafing or wound. An application will immediately relieve the pain and heal the injured tissues.

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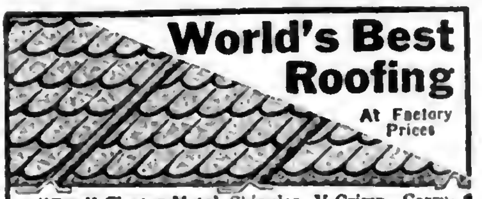

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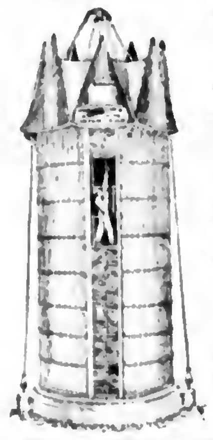

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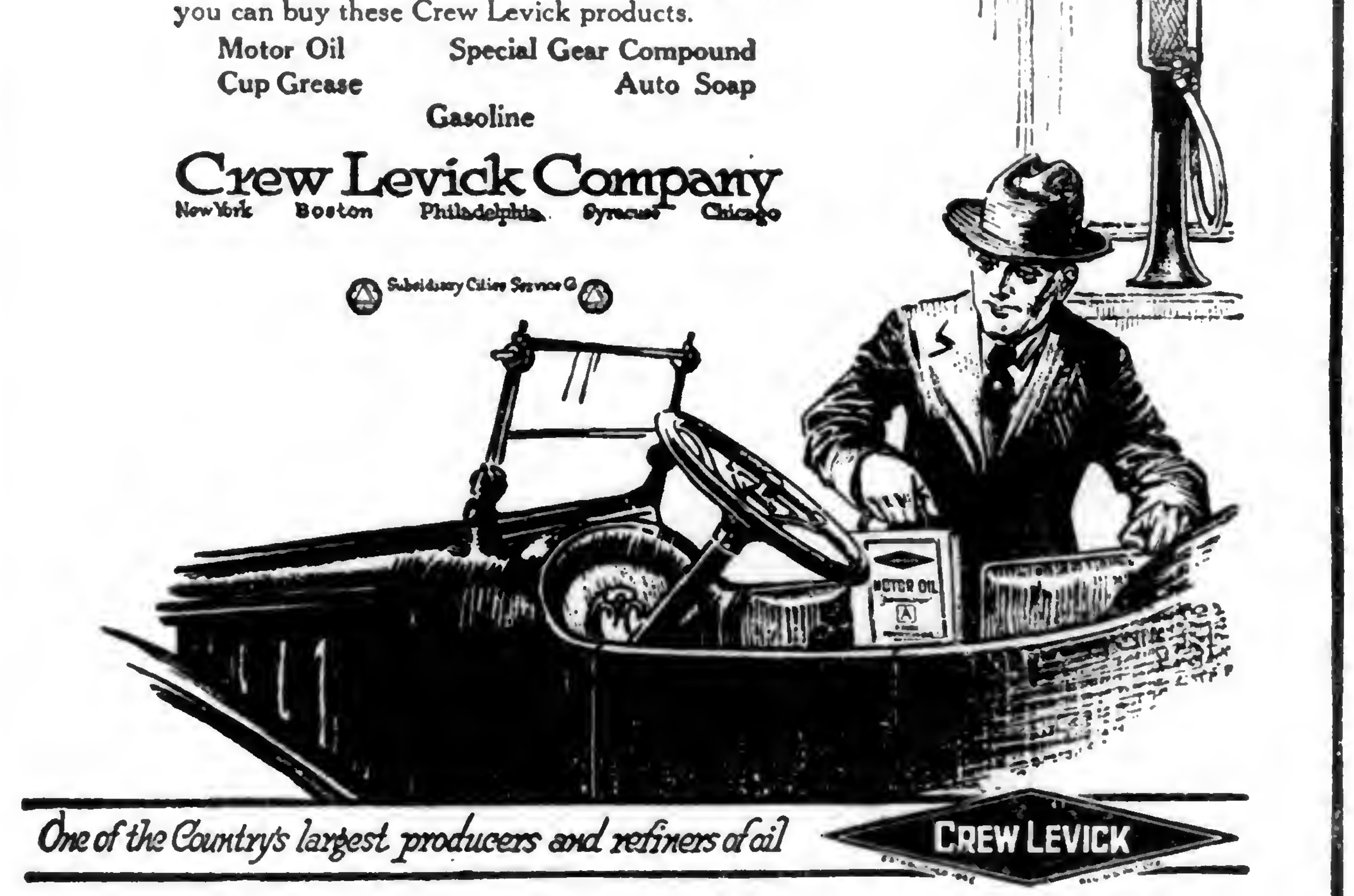

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That is the one certain test of quality that any novice can make—right from the driver's seat.

Heat burns the volatile units from oil, leaving useless carbon. Quality oils offer a greater resistance to heat—they burn slower, in consequence, and last longer.

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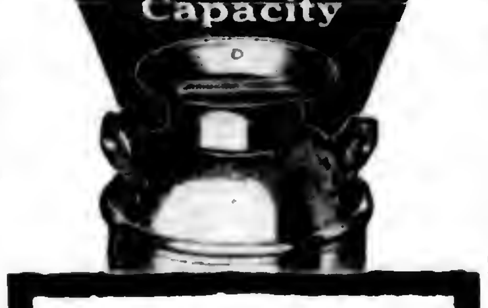

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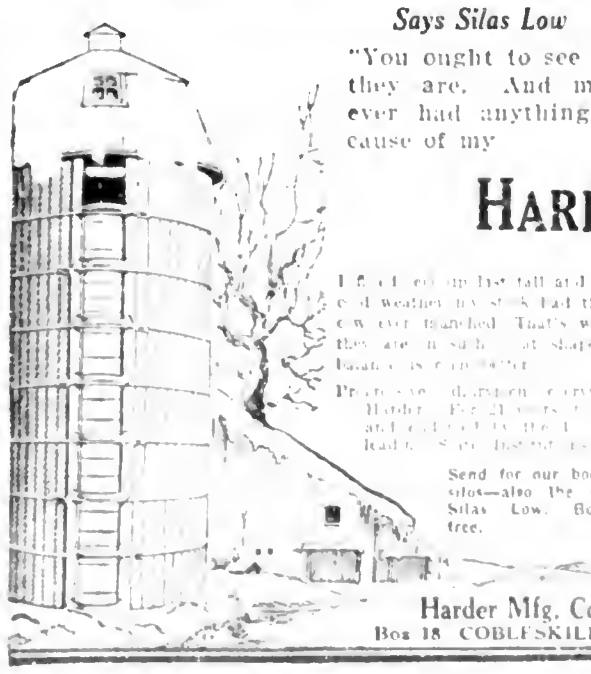

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Says Silas Low

"You ought to see my cows, how fat and sleek they are. And milk—why no summer milk ever had anything on this. And it's all because of my

HARDER SILOS

I filled my silo last fall and all through the cold weather my stock had the finest feed a cow ever munched. That's why every spring they are in such [illegible] shape and my bank balance is [illegible] better."

Progressive dairymen everywhere use the Harder. For 21 years it has been used and endorsed by the U. S. Gov't. and leading State Institutions.

Send for our booklet on silos—also the story of Silas Low. Both are free.

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we can keep them with less work, or keep more of them and pay wages equally attractive as city wages.

Necessity being the mother of invention will come to our rescue. Already there are a lot of labor-saving devices on the market, but like many others lack of capital stands between us and them, or at least part of them. The biggest one especially as regards cows is the milking machine. While there are a lot of good machines on the market they do not seem to entirely fill the bill. Every year, however, shows new improvements and I look for the time when we will see the machine that will bear the same relationship to our present ones that the modern airship does to the ones in use prior to 1914. Other devices that are going to cut man power and which we will gradually adopt are tractors, hay loaders, hay slings, small threshers, corn huskers, and silo fillers. Most writers are agreed, too, that in the future the dairyman on a large farm will have to biuld a good tenant house or houses and depend on married help instead of transient single men. However, let us be optimistic like the lady in a late automobile story:

A minister was preaching on modern day evils and among other things said, "The Blank car is taking more people to Hell today than any other one thing." A woman in the back of the audience hearing this said "Hallelujah! Praise the Lord for the Blank" "Why lady, what makes you say that?" the minister exclaimed. "Because," she replied, "the Blank never takes you anywhere that it does not bring you back."

The Feed Problem.

Just now the dairyman is passing through another situation which we hope cannot grow much worse and that is the item of feed. Our old mainstays for protein, viz., cottonseed meal and oil meal were never scarcer and higher priced. Personally, I cannot see much hope for a lot of improvement in future years with these two feeds. Oil meal as most of us know is what is left of the flax seed after the oil is pressed out to be used in painting. Flax is a plant that takes from the ground so much fertility that it is usually grown only in new country. For a number of years paint manufacturers have seen the handwriting on the wall and have been experimenting with the oil from other sources. The worst trouble has been to find an oil that will dry. Soy bean oil has been one of the ones tried and if it can be made a success here will be one source of our future dairy feed and one too that is not likely to diminish as the years pass, for soy beans through their power to draw nitrogen from the air are soil builders rather than destroyers of fertility. Then in the cottonseed country of the south two plants are now being extensively grown that are likely to be a considerable factor in our future feed mixtures. These are peanuts and velvet beans. Both these are nitrogen gatherers too so that the number of acres of them grown from year to year is likely to increase rather than dimish. A few southern companies are already advertising meal from both these plants but for two years I have made an unsuccessful attempt to procure some thru our feed dealer so I cannot say how they compare with cottonseed and oil meal. It seems to me here is a place where our experiment stations might help us out.

Just as bran and cottonseed used to be thrown away or nearly given away there may be by-products of some industry being thrown away today that may be future factors in our dairy feed. In fact I read only recently of the seeds of the rubber plant I believe it was, that are now being allowed to rot on the ground. Experiments are being tried out as to their use for dairy cattle and advance indications are that they will be successful. If they do several million pounds more dairy feed will be made available yearly.

The widespread use of lime in Pennslvania the past few years is increasing the yearly production of clover and alfalfa which means less protein to buy and the feeding of more home grown feeds. Matt Michels, who is considered the best farmer in Wisconsin, feeds nothing but alfalfa to his herd of pure-bred Guernseys and has been following this practice for several years. He reports that not only has his herd been almost perfect in health during this time but a number of excellent advanced register records have been made on twice-a-day milking. Who knows but what we may some day be feeding our cows their lime, phosphorus, and nitrogen requirements in the form of some chemical. In fact I have heard no less a person than Professor Larson, formerly of the Pennsylvania State College, predict such a thing.

Better Cows Necessary.

How about the future cow? Someone has estimated that the average cow of the United States produces about 160 pounds of butterfat yearly and I know from personal experience as a former cow-tester and from figures in our local cow-testing associations that a cow cannot produce this amount here in Pennsylvania at a profit. However, in addition to feeding there are two ways that this average can be, and is made better. This is thru the cow-testing and the bull associations. To quote a personal experience with testing and records: Four years ago when we moved here our herd averaged 250 pounds of fat the first year. Using the records to weed out we increased this average in one year to 330 pounds per cow. Another member of our association made an increase from 333 pounds of fat to 414 pounds in his first two years in the association. Records will help too, in the future sale of stock. Just recently I read of a sale of grades with good records in Iowa that averaged over $300 apiece. About the same time I sold a fat cow to the butcher from my own herd that was found wanting in butterfat, for $68.

Overcome Disease.

A couple of years ago a man very high in Pennsylvania agriculture told me that if it were not for tuberculosis and contagious abortion he would go into the dairy business. However, I believe the dairyman has a right to feel optimistic in regard to these two diseases. In the last year our State Bureau of Animal Industry, co-operating with the United States Bureau, has made wonderful progress through the Accredited Herd plan in eradicating tuberculosis. No way has yet been discovered to cure contagious abortion but within the past few years what seems to have been discovered a practical method of irrigating the womb and of preventing sterility. Here again our State Bureau of Animal Industry is helping us out thru the employment of a nation-wide expert along this line who is demonstrating it to local veterinarians, one of whom I am thankful to say is practicing in this section.

So, considering all our present dark problems, I believe the dairyman has a right to feel optimistic. If I am wrong maybe we will be like a story of a man in Allegheny County who kept a family cow. One day he went to his grocer and said, "Charlie, I have a couple of pounds of butter from my cow that I would like to trade for two pounds of butter from someone elses cow." "What do you want to do that for?" Charlie said surprisedly. "Oh, my wife left the lid' off the crock the other night when she set the cream to ripen and a mouse fell into it. We could not have stomach enough to eat it but thought I could trade it to you and you could sell it to someone who did not know about it, for you know what people don't know won't hurt them." "All right then," Charlie agreed "I will trade you." So Charlie took the roll of butter to the cellar, rolled it around a little to change its shape then brought it back to his customer and charged him ten cents for the supposed trade. A week or so later the customer was in the store and Charlie said to him, "Well how did you like that butter?" "Fine," the customer replied. "Did you have any kick on that the mouse was mixed up with?" Not yet." Charlie said. "Who did you sell it to?" "Oh," Charlie said "I took it down to the cellar and changed its shape, then brought it back up and gave it back to you. You know, you said what you don't know won't hurt you."

Unadilla Silos on Famous Dairy Farms

THOUSANDS of the nation's dairy and stock farms own UNADILLA Silos.

Here the best is none too good. Fine appearance, strength, silage keeping quality and labor convenience win out for the UNADILLA. When a new silo is added on farms like these, it's invariably a UNADILLA.

Borden, Walker-Gordon, Hood & Sons, National, State, County, College and school farms have UNADILLAS.

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Send for a copy. Learn why it pays to buy early.

A few Live Agents Wanted.

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Color Sells Butter

Add a rich "June shade" to the splendid taste of your butter and get top prices. Try it! It pays!

Dandelion BRAND Butter Color

gives that even, golden shade everybody wants. *Purely vegetable.* Harmless. Meets all laws. Small bottle costs few cents at any store. Enough to color 500 lbs

Feed More Silage

Turn more corn into high-priced beef and dairy products with a Preston Lansing Vitrified Tile Silo —the silo beautiful that lasts for ages. Patented blocks with notched ends, reinforced with twisted steel. Most durable tile construction known. Order now—build your silo before the rush season.

Write for Catalog and Prices

J. M. Preston Co., Dept. 245, Lansing, Mich.
Factories: Fort Dodge, Iowa; Uhrichsville, Ohio, and Brazil, Ind.

Lasco Vitrified Tile Silo

It is now possible to secure a Lasco Tile Silo

With the Famous Ladder-Hinge Door

Door forms a perfect ladder—steps 15 inches apart.
Safe, easy—any boy can operate.
Door always in place—no lost doors.
Lever Lock operated by one hand.
Keeps ensilage perfectly next to the door.
Does not sag, bind or stick.

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You can also secure the Ladder-Hinge Door with our stave silos.

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For Cows Only

KOW-KURE

W. Nicholls, Trempealeau, Wis., writes: "I have used KOW-KURE with entire satisfaction. The first box I used saved for me two valuable Guernsey cows which would not breed."

Most barrenness is caused by a weakened condition of the nerves and muscles of the genital organs. In such cases, KOW-KURE is an unfailing remedy, because it acts directly on these organs, giving them the strength to function properly. You take no chances in using KOW-KURE; it has a quarter century of success back of it. KOW-KURE is equally valuable in preventing or treating Abortion, Retained Afterbirth, Milk Fever, Bunches, Scours, etc. Sold by feed dealers and druggists; 60c and $1.20. Send for valuable free treatise, *"The Home Cow Doctor."*

Dairy Association Co., Lyndonville, Vt.

Do Away With BARRENNESS

Warranted to Give Satisfaction

Gombault's Caustic Balsam

Has Imitators But No Competitors

A Safe, Speedy, Positive Remedy for

Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs and Lameness from Spavin, Ringbone and other bony tumors. Cures skin diseases or Parasites, Thrush, Diptheria. Removes Bunches from Horses or Cattle.

As a Human Liniment and Antiseptic for external use it is invaluable.

Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price $1.75 per bottle. Sold by druggists, or sent by parcel post, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

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Quit the draining expense and cure your suffering, lame and idle horse. Don't hold back—we take all risk to permanently cure mule, work horse or $10,000 trotter of Ringbone, Thoropin—SPAVIN or Shoulder, Knee, Ankle, Hoof or Tendon Disease. Our FREE Save-The-Horse BOOK tells the story. This remarkable, serviceable book, which every horse owner will value, sample of signed Guarantee with other substantial references and evidence are all sent FREE. They prove what Save-The-Horse has done for over 280,000 satisfied users. Save-The-Horse is no cure-all but for diseases causing lameness you can depend upon it. Horse works, earning while being cured. Write at once.

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Druggists Everywhere sell Save-The-Horse with GUARANTEE, or we send by Parcel Post or Express Paid.

MINERAL HEAVE COMPOUND In use over 50 years

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$3.25 Box guaranteed to give satisfaction or money back
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Wear them all day—
Your feet stay dry and comfortable

A new rubber shoe for farmers—the "U. S." Bootee

WHEN the ground is wet, and your job means a lot of walking, what do you wear on your feet?

Ordinary leather shoes get soaked and caked with mud in no time. What you need is something that will give you the *comfort* of a leather shoe, combined with the *protection* of a rubber boot.

Here at last is a shoe specially designed to meet this need—the U. S. Bootee. It's a watertight lace *rubber shoe*—designed originally for miners, and now becoming popular with farmers everywhere.

Solid comfort all the time—that's what the light, pliable U. S. Bootee means for you. It fits smoothly over your sock like a leather shoe. It gives you perfect freedom of movement, yet in the wettest weather—over the muddiest ground—it keeps your feet *absolutely dry*.

Ask your dealer today to show you a pair of the new U. S. Bootees.

Note their waterproof, smooth rubber surface—feel how pliable and comfortable they are—examine for yourself their wonderful built-to-wear construction. Every point of strain is heavily reinforced.

Look over the rest of your dealer's U. S. line — boots, rubbers, arctics—whichever you need. Tough, heavy soles—special reinforcements at toe and heel—and always the highest quality rubber — these points are winning U. S. rubber footwear thousands of new friends every year.

Ask for U. S. rubber footwear—it means solid wear and long service for your money.

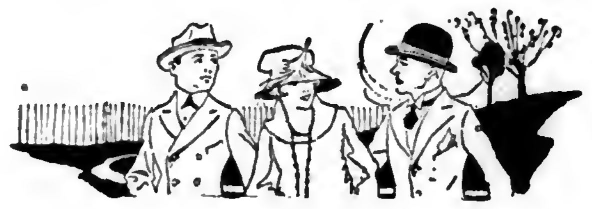
Ask for "U. S." RUBBER FOOTWEAR

United States Rubber Company

"U. S." Boots—made in all sizes and styles — Short, Storm King, Sporting, and Hip. In red, black and white.

Spring Clothes — Remarkab Variety — Surprising Values

For the entire family, everyday and Sunday–clothes which enable you to make worth-while savings and obtain substantial quality



OFTEN it is very hard these days for small buyers to obtain at any price quality materials in sufficient quantity. Yet splendid quality prevails throughout the spring lines of Charles William New York Styles. In the big, new catalog are shown clothes for the entire family, not only for Sunday wear but for everyday use.

Tremendous purchases of merchandise from the manufacturers—contracts made months in advance—foresighted buying—these have made it possible for The Charles William Stores to gather a full supply of new goods. As a result The Charles William Stores presents—in spite of American and world market conditions—a larger showing of attractive, substantial values in clothes than ever before.

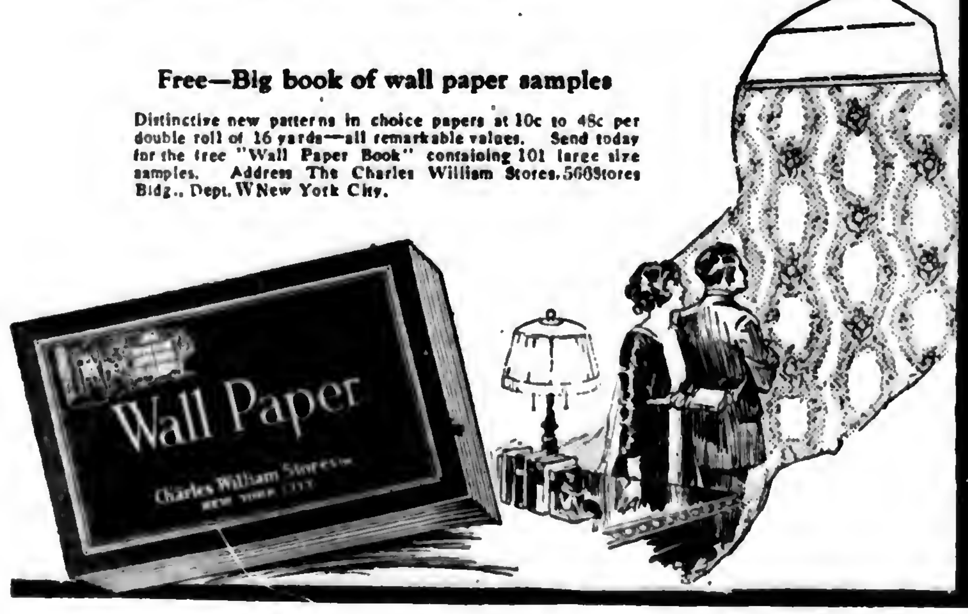
Here are included men's supplies, women's dresses, suits and accessories for rain or shine, boys' and girls' outfits for play or work, all ready today for prompt shipment.

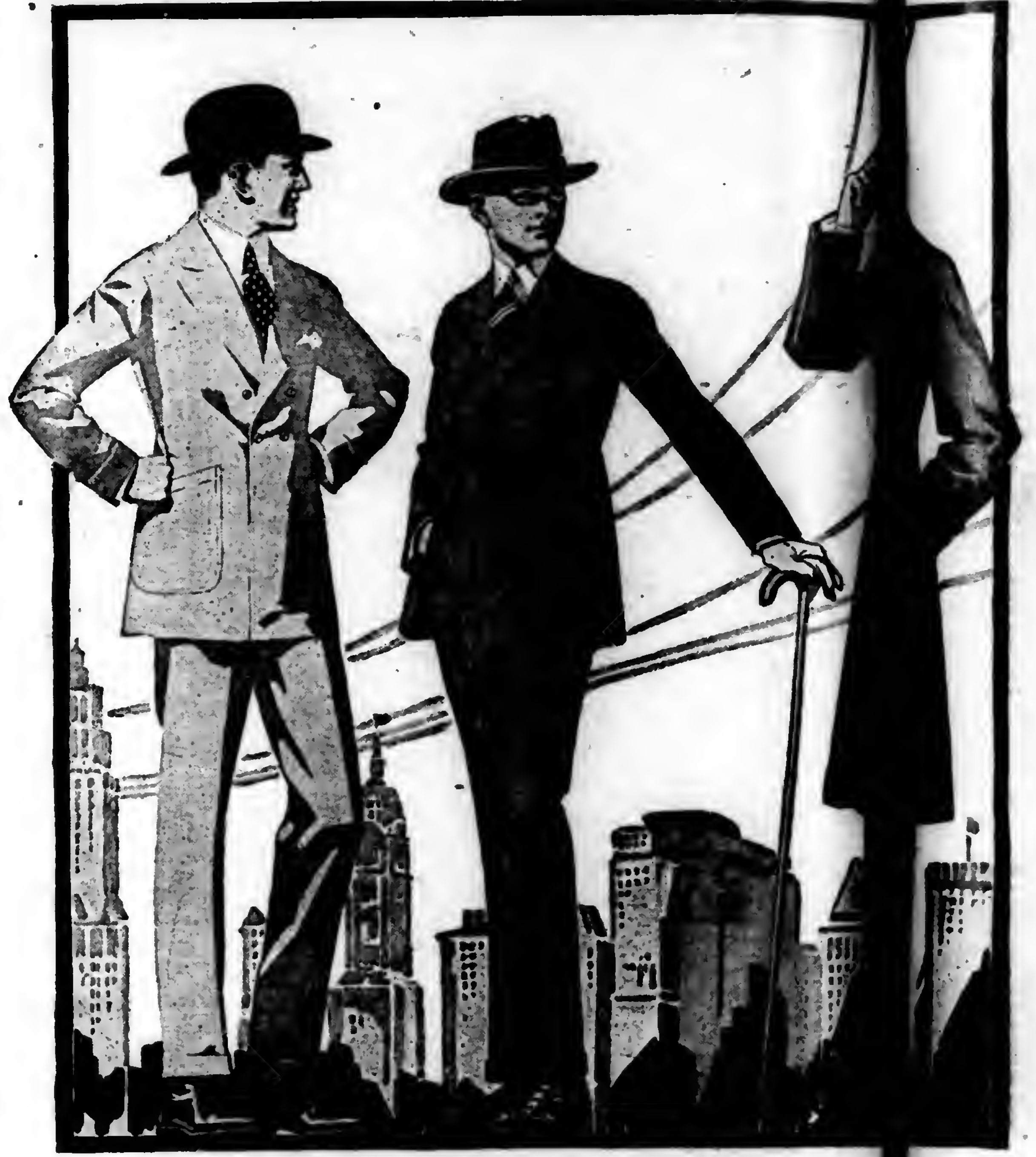
The Charles William Stores' guarantee protects you fully on every one of these products. Yet, because of our great facilities and because so much of our merchandise comes to our Stores direct from great factories, to be shipped direct to you, we are able to offer you substantial savings on everything purchased.

These rock-bottom prices which we are able to make in our Clothing Stores are reflected throughout the big Charles William Stores catalog. Look through it. You will find not only a great variety of clothes for the entire family but also household furnishings, farm implements, musical instruments, and other goods to satisfy nearly every human need.

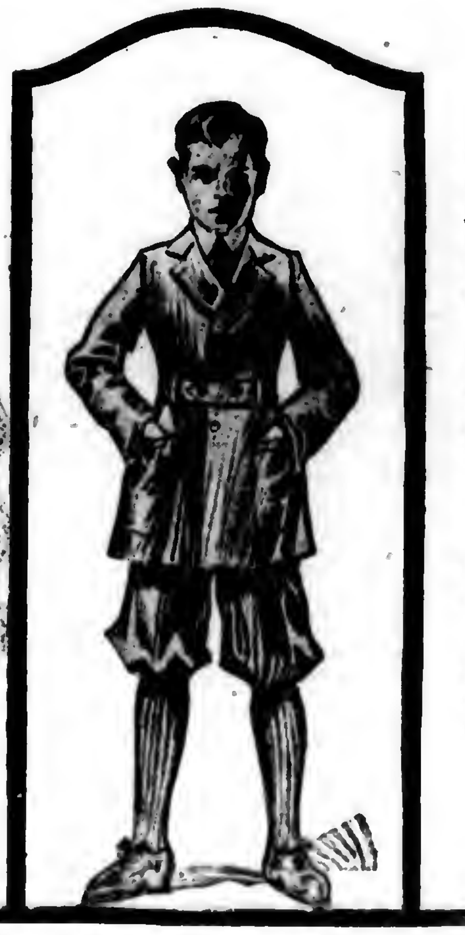
Free—Big book of wall paper samples

Distinctive new patterns in choice papers at 10c to 48c per double roll of 16 yards—all remarkable values. Send today for the free "Wall Paper Book" containing 101 large size samples. Address The Charles William Stores, 566 Stores Bldg., Dept. W New York City.





New York spring and summe at savings



IN spite of the fact that year market conditions h na it exceedingly difficult to p rial of the first quality in sufficient quantity, our expert buyers have again stocked our Clothing Stores with dependable suits for Spring and Summer, for both men and boys.

Above, in the center (1), is illustrated the new belted model suit—*all wool* which is available in a fine cheviot of olive green or brown shade. Our price, delivered free (4E1613 olive, 4E1614 brown) $33.75. It is shown with many other models on page 322 of our catalog. There is a profusion of other models shown on pages 316 to 324.

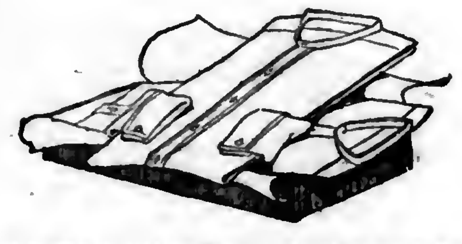
The popular New York double-breasted Palm Beach Cloth Suit for summer wear is at the left. Every suit is carefully tailored; the coat is unli d and finished with is the genuine Pal , half cotton, light and holds its sha the popular sand sha wn with other mod to 321 of the C . Our price (4E

F th quality and style the wool-mixed cas ctured above, and . Our price, deli 4) $14.

T suit (shown at the . Yet, it retains its of good quality gray tailored with thr removable belt. It is 6 of our catalog, Our free (4E674) $6.

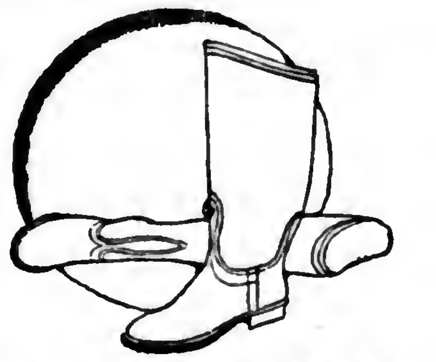
Complete outfits for men—for Sunday and everyday—for rain or shine

The Charles William Stores, full stocked with clothing accessories for men, make it possible for you to consult the catalog and satisfy every need at substantial reductions in price. Unusual values in these substantial lines are possible largely because of our location in the heart of the market—our nearness to importer and manufacturer—our ability to buy quickly and in quantity.



An example of good quality at a marked saving is this Madras dress shirt in coat style with soft French cuffs and cushion neckband. It comes in your choice of three colors—pink, lavender and green; launders nicely and holds its color. Our price, delivered free (33E4322) $2.59. Other models and prices on page 364 of the Charles William catalog. Neckties and collars on page 366-367.

Just when leather prices make quality and reasonable prices most difficult, we are able to offer these high quality dress Oxfords in the New York cap toe last, mahogany Calfskin and O'Sullivan Rubber Heels (7E2172) $7.98. Shown with other models, at various prices on page 290 of the Charles William catalog. Work shoes on pages 292 to 294.

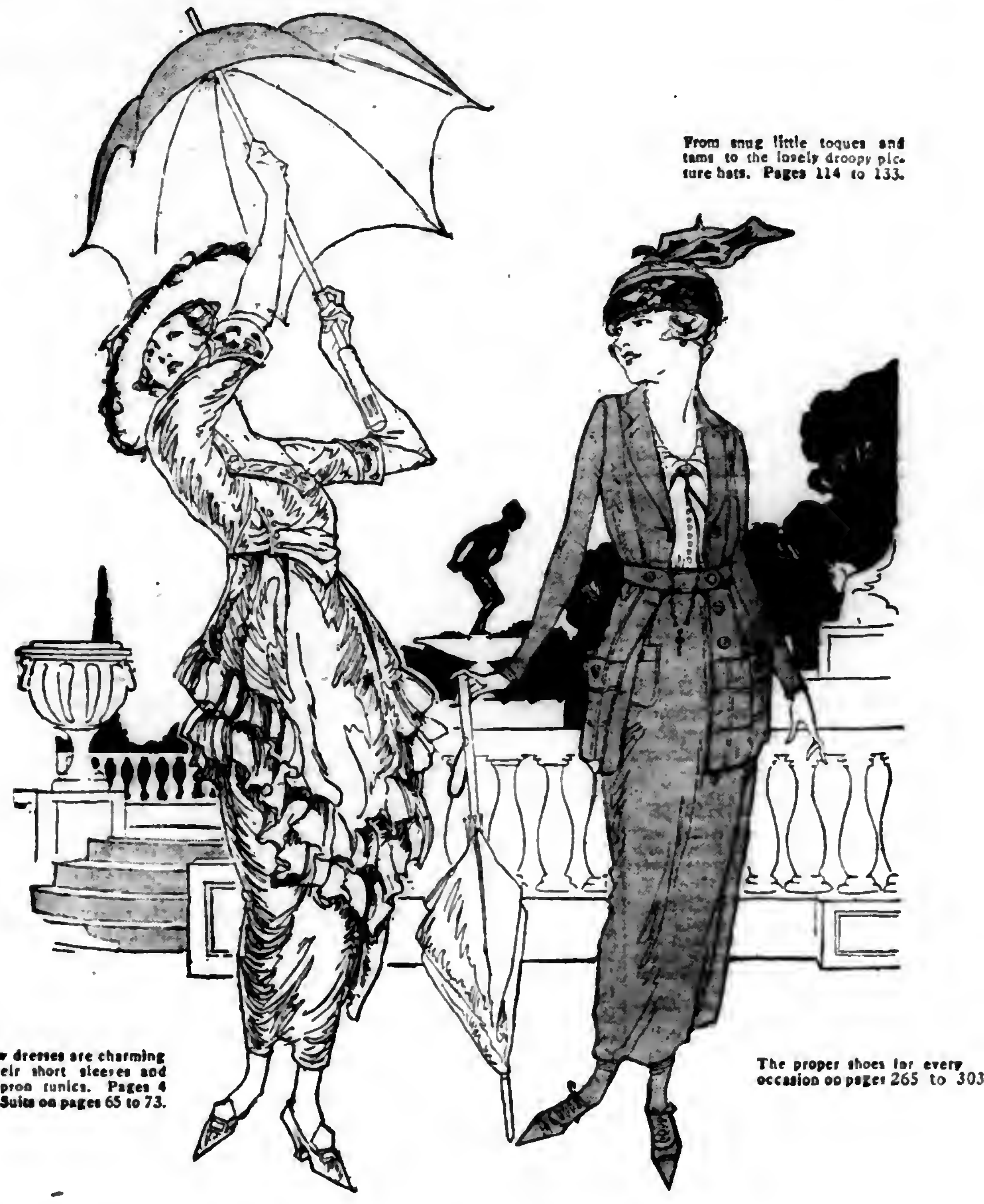


Rubber boots at real savings! This boot has an extra heavy rolled sole which adapts it to the roughest use. Heels are solid rubber. The sides are re-inforced. Our price (7E1223) delivered free, $4.59. Other rubber footwear is shown on pages 296 of the catalog.

Motor Car Supplies

Valuable 1920 Motor Car Supply book—Free

Everything your car needs, is shown in this book. Regent Super-Cord Tires, guaranteed for 10,000 miles—tools, lamps, spark plugs, jacks—accessories of all kinds, at prices lower than usual. Send for "Motor Car Supplies" today. The Charles William Stores, 566 Stores Bldg., Dept. M New York City.



From snug little toques and tams to the lovely droopy picture hats. Pages 114 to 133.

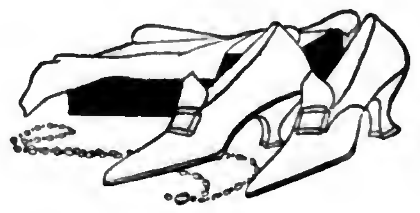
The new dresses are charming with their short sleeves and frilly apron tunics. Pages 4 to 39. Suits on pages 65 to 73.

The proper shoes for every occasion on pages 265 to 303.

1920 fashions are ready!

The new 1920 styles are fascinating. Do you need a smart suit, or one of the new coat dresses, a dainty Georgette blouse, gauntlet gloves, a beaded bag? Study our new catalog to find out just what you *do* need for this spring and summer. 200 pages of new styles for you to choose from!

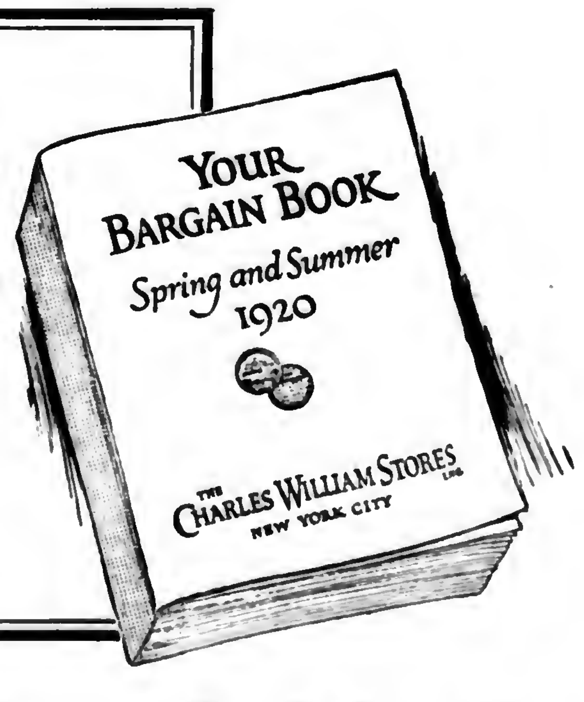
And every detail is correct. From your jaunty straw tam to the tip of your Colonial pumps, you are wearing the styles that New York is wearing—a wonderful selection at unusually low prices. Write for your book today. Address The Charles William Stores, Inc., 566 Stores Bld., Dept. F, New York City.



FREE
The new 1920 Bargain Book

THE new 1920 Bargain Book is ready for you now. More than 900 pages of fresh new merchandise—clothing for all the family—attractive home furnishings—modern farm implements.

Write to The Charles William Stores, 566 Stores Bldg., New York City.



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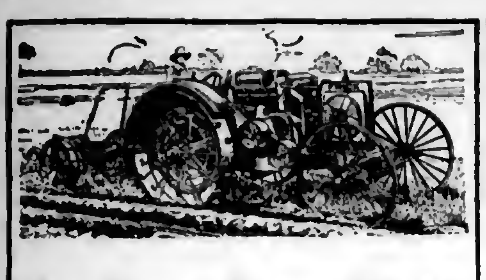

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WITH THE
FRICK TRACTOR

A light, easy running Kerosene Tractor for general farm work. Is small, sturdy and has plenty of power. Made and sold by Frick Company, manufacturers of substantial Farm Power Machinery since 1853. Write for price and further information. Dealers wanted. Immediate deliveries.

FRICK COMPANY, Inc.
347 W. Main St., Waynesboro, Pa.

Add Value to Your Home

The most beautiful modern homes are now decorated with metal ceilings. Fireproof, clean, sanitary, indestructible. Can always be renewed with a coat of paint.

"Penco" Metal Ceilings

are dust proof and air tight. The only ceiling with countersunk joints. Are easy to install. Placed over plaster or rafters. Shipped cut to fit any room, ready to put up; painted both sides with primer.

Send drawing with sizes of ceiling

We will mail prices, suggestions, instructions and valuable illustrated art book, showing beautiful designs in "Penco" Metal Ceilings, from simple effects for dwellings to the most elaborate ornamentation for Churches, Schools, Halls and Stores.

Delivery prepaid to nearest R. R. Station. Shipments made promptly.

PENN METAL CO., Ltd.
Manufacturers of Sheet Iron, Steel and Hampton Metal Building Material. "Penco" Metal Ceilings.
Office and Factory, 2500-50 Wharton Street, Philadelphia, Pa.

Rider Agents Wanted

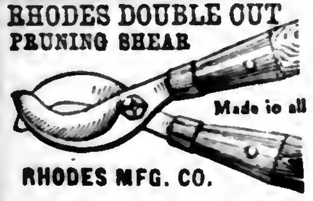
Everywhere to ride and exhibit the new **Ranger "Motorbike"** completely equipped with electric light and horn, carrier, stand, tool tank, coaster-brake, mud guards and anti-skid tires. **Choice of 44 other styles, colors and sizes in the "Ranger" line of bicycles.**

EASY PAYMENTS if desired at a small advance over our Special wholesale cash prices.

DELIVERED FREE on approval and **30 DAYS TRIAL.**

TIRES Lamps, Wheels, Sundries, and parts—at half usual prices. **SEND NO MONEY** but tell us exactly what you need. Do not buy until you get our prices, terms and the big FREE catalog.

MEAD CYCLE COMPANY Dept. S-78, Chicago



RHODES DOUBLE OUT PRUNING SHEAR

Cuts from both sides of limb and does not bruise the bark.

Made in all Styles and Sizes

All shears delivered free to your door. Send for circular and prices.

RHODES MFG. CO.
617 S. Division Ave. Grand Rapids, Mich.

Seed Corn Clodd's Yellow Dent [illegible] corn for heavy soils. [illegible] County White for light soils. Yielded [illegible] last year on [illegible] soil $1.25 [illegible] $1.50 bushel. Stowells Evergreen sweet corn [illegible] peck [illegible] All tested. Parcel Post prepaid. C. G. PELLMAN & SON. RICHFIELD, PA.

Strawberry [illegible] Have the best kinds [illegible] pay you to write for [illegible] Route 3, ALLEGAN, MICH.

Farms in South Jersey [illegible] Poultry [illegible] Stock Grain and General farms [illegible] Southern Jersey also described [illegible] Illustrated catalogs just out. NEW JERSEY FARM AGENCY, DEPT. [illegible] VINELAND, N. J.

New York State Farms. Write for complete [illegible] We have a size, location and price to [illegible] Stock and tools included on many. MANDEVILLE REAL ESTATE AGENCY, INC. Dept. M. OLEAN, N. Y.

TEAMSTERS— Wanted [illegible] preferred. Steady employment. $55 per month and board. Give reference and state age in first letter. WINTERTHUR FARMS, WINTERTHUR, DEL.

Queries and Comments

CLOVER GROWING WITHOUT MANURE

Query

"Five years ago I bought a thin, run-down farm. I have been using lime and fertilizer of different grades. It is no trouble to raise good crops of grain but I am short of hay and pasture. Last year I sowed alsike and timothy mixed with my oats. Where I manured it, it is very good but there is a very poor stand on the land which received no manure. What can I do to get a good catch of clover without manure?

"Several seed catalogs recommend special grass seed mixtures for hay and pasture. One catalog recommends hairy vetch, spring vetch and bromis inernis for pastures. I would like some information on these grasses."—I. M. H., Indiana Co., Pa.

Answer

On land properly drained and well tilled the use of lime and manure, supplemented with fertilizer when needed, is the best way to obtain a good crop of clover. When there is not ample manure for top-dressing the clover after the oats have been harvested the problem is much more difficult to solve. Whenever possible such a condition should be foreseen and a small amount of fertilizer containing available nitrogen and plenty of phosphoric acid should be used at the time of planting oats. This should be followed by top-dressing the clover in early spring with a mixture of 200 pounds of acid phosphate and 50 pounds of nitrate of soda to give the clover a good start. If some material containing potash is available enough to supply 25 pounds of actual potash to the acre should be added. Wood-ashes are very good but they should be applied separately. A mixture of this kind cakes easily and should be spread immediately after mixing or some dry material should be mixed with it.

Such a mixture will not entirely take the place of manure because manure is alive with bacteria and contains about 10 pounds of potash in every ton. Remember also that manure brings the greatest returns when it is spread lightly and evenly. Six tons to the acre is sufficient tho an eight-ton applications is more common due to mechanical difficulties encountered in spreading so little uniformly.

In regard to mixtures of grass seeds, it is better to buy the seeds separately and mix them in proper proportions on the farm. In this way it is possible to secure seeds of high quality and seeds adapted to prevailing conditions on your farm. You can buy separately any seeds contained in a special mixture or brand and put them together yourself at no greater cost.

Awnless brome grass is a coarse, tall grass, occasionally found growing as a weed in grain fields. On very high, dry, thin land, a little added to the seeding mixture may prove profitable but it is unwise to bother with it where timothy and other common grasses may be grown successfully.

Hairy vetch and spring vetch are annual forage crops. The former may be used for pasture when sown with wheat or rye in fall. It is a legume and when inoculated and grown on good land, especially loam sandy soils, makes a good supplemental forage. Spring vetch is grown very little because it reseeds itself and it is likely to become a nuisance.

It is better to plant a field to permanent pasture grasses than to maintain timothy more than a single year. Even the first year timothy should be manured during winter or top-dressed in spring with 200 pounds of a good, high-grade commercial fertilizer analyzing 8-5-0, or 8-5-3, containing its nitrogen in an immediately available form. If a permanent pasture is put down it should be well-planned in the beginning and well-cared for after the stand is secured. Of course, such a field may be obtained by planting a mixture of seeds of the grasses and clovers in oats in spring. Such a mixture should contain various amounts of timothy, Kentucky bluegrass, meadow fescue, orchard grass, red top, red clover, alsike and white clover, according to prevailing conditions and the general adaptability of the field or farm.

WAR MEMORIALS SHOULD EXPRESS THE SPIRIT.

In selecting the form of your community war memorial too much attention cannot be given its expression and its probable effect upon future generations. The ideal memorial is one which commemorates not one single instance, or event, or the exploits of a particular person or group, so much as the motives which ruled their action, such as courage, call of duty, self-sacrifice and patriotism. It shall be so expressive as to arouse in the observer similar fundamental emotions, or inspire him to loyalty, civic consciousness and faithfulness. It thus happens that sculpture has been the generally accepted form of memorial from its ability to express not only single events but also the spirit which prompted the act. Unless statuary possesses these qualities, it becomes functionless and disappointing—becoming as have many of our well intentioned Civil War monuments, objects of ridicule and examples of poor taste.

In the present tendency to utilitarian forms of memorials, such as libraries, museums, community houses or bridges, it should be remembered that merely being useful does not comprise the ideal memorial. The tendency should be tempered with considerations of beauty, dignity, an outward expression of ideals, and thereby inspiration to the beholder and reminiscent of the spirit of the memorialized.

The building or the bridge, the park or the boulevard, must be completely artistic and fully expressive. In that way only may it qualify for a noble purpose in the service of the uplift of humanity. The greatest care and pains must be exercised in choosing a park, a building, a bridge, any utilitarian subject that thorugh art, design and purpose they become the thing in spirit, that aspires, that leads men and beckons them to do things that are above and beyond the sordid spirit and material aims of their existence. It is possible that because of inadequate art expression just as is noticed in Civil War monuments, our new community houses, halls, bridges, may utterly fail as war memorials. They will fail in the degree that they are expressionless, that their creators fail to recognize and incorporate the spirit of a memorial, the power to arouse lofty ideals in the observer or the user of the memorial. Its use and practicability do not make memorials. Art expression is a requisite. Art is not the pretty thing, not even the beautiful building; it is an expression of ideals and may be applied to a utilitarian object to make of it perfection and inspiration.—Arthur Westcott Cowell.

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Of the 172,256 men in the camps and posts of the Army on December 31, 1919, nearly 93,000 were taking instruction in educational subjects. More than 10,000 of the total enlisted strength of 13,984 in the Philippines were studying special subjects.

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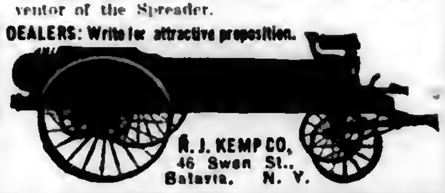

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MORE ABOUT FARM PAPERS

Some people seem to have taken exception to my Pertinent Questions. Possibly the N. Y. Farmer thinks I am not in his class but if I don't qualify as a farmer then I have no definition of the word. I was born a farmer's daughter, some time after I married a farmer, and was a farmer's wife until I became his widow, and at present I own my own little farm.

I didn't say only average and poor farm pictures should be published; I said if the best were printed these others should be printed also to avoid giving city people a wrong impression—showing only the best is essentially misleading.

I don't presume to dictate to the editors as to what constitutes the purpose of their papers—it may be anything, I know one that devotes its energy toward protecting the interests of the packers and another that evidently represents big business in general—but it should be the purpose of any farm paper published in the interests of farmers to establish right relations between producer and consumer in so far as it is capable of doing so. How shall this be accomplished if not by the press?

By far the chief source of friction today is the city man's glaringly erroneous conception of farm life. I can't believe that most city people are fundamentally full-pledged "porkers" but they see the pictures of beautiful farm residences and read the accompanying rosy-hued stories and draw the perfectly natured conclusion that farmers are all growing fabulously rich. Are they not justified in doing so if we conceal the failures and depict and show them only the glowing successes? How do they know these luxurious homes don't represent the farm profits accruing to all farmers? It might do very well if none but farmers ever read a farm paper but is it right, especially in these strenuous times, thus to increase the antagonism of the consumer?—E. M. A., Chautauqua Co., N. Y.

TRUE COOPERATION FROM A SMALL BEGINNING

(Continued from Page 5.)

farmers' association very much longer.

But the fundamental point which I think we have proved is this:—that no matter how few nor how poor are the farmers in any locality, they can advantageously organize. In fact, to be able to keep on farming nowadays, the smaller a farming community is, and the poorer, the more need is there for organizing. It is no longer a question of "can." It is a matter of "must."

Our experience has shown us that for a farmers' association to operate successfully three factors are of absolute necessity:

1.—It must not be a one-man, not even a two—or there-man concern. The poorest member must be able to buy as cheaply, and have as much voice in initiating and controlling as the richest. It must rest on a broad, firm basis.

2.—It must develop slowly. Don't bite off more than you can digest. Plant each step firmly before you take the next one.

3.—Every member must be loyal to the association. If he prefers to buy his supplies thru his old dealer, and to sell to his old commission house, let him do so, and break his connection with the association. Only by willingness to sacrifice, if necessary, for the ultimate good of his neighbors can any man hope to advance very far today. If every member of a group is prepared to consider the collective benefits rather than his own immediate gain, there is no limit to a community success which will finally bring him individual returns greater than he could have ever achieved alone.

The American Consul at Liverpool cabled under date of February 6 that after February 14 no tobacco in bales will be received at the warehouse of the Mersey Docks and Harbor Board, Liverpool.

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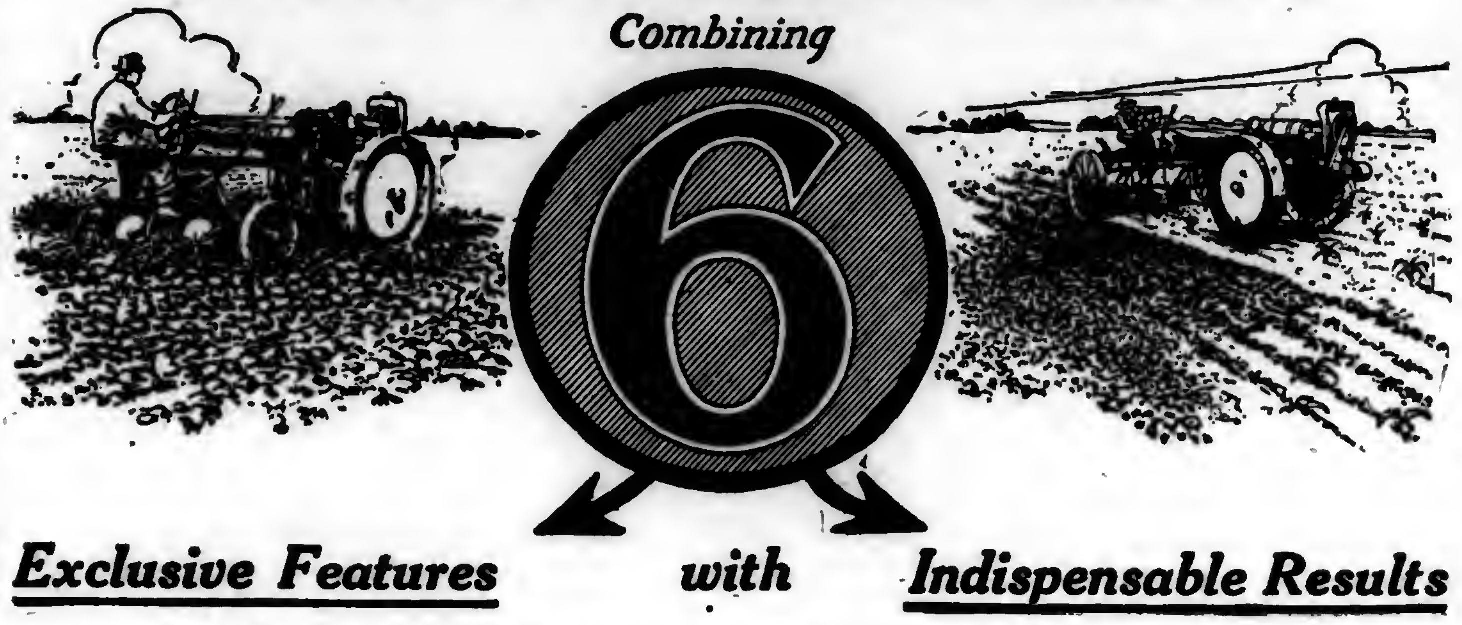

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Personally, when I order seeds, the order is given to the Dave Peck Company, for I know that I will get what I buy and a "little more." QUALITY counts with me, and should with you.

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A New Home With Old Furniture

I have been having such a perfectly wonderful time that I would like to tell the women of the Pennsylvania Farmer household about it. And I hope that some of the things I have been learning will help some women to solve some of their problems.

We bought a new farm and moved onto it last winter. The house is large, much larger than we cared for, but when we found "the place" we could not reject it because the house had a few rooms too many for our needs. Then came the question, "Shall we keep all of it in shape to use or shall we close up part of it?"

We decided to use it all. One can't very well close the kitchen and move toward the front part of the house, for woodshed, water supply and all working conveniences are usually arranged to make that impractical.

"Close a couple of those big front rooms," some one suggested. And without doubt this would have been the easier and less expensive way, but what is more dreary or less enterprising looking than having the front shades continually down, and the front door always closed?

Those Two Front Rooms

At the front of the house, facing the east and opening onto an east porch, and running parallel with the public road are "those two front rooms." The larger one, 15 by 18 feet, had been used by previous owners for a parlor. The smaller, 12 by 15 feet, had been a guest bedroom, the proverbial parlor bedroom. These rooms opened together by an archway, and the idea of having the interior of a bedroom thus public did not appeal to me.

The rooms had north, east and south exposures, so we could use almost any color scheme we chose. The woodwork was white, and a white molding had been used in the ceiling angle of the parlor, and a gilt one in the bedroom. Of course the right way to treat this finish would have been to take off all the old paint, but when time was so scarce and labor and material so costly we decided to sandpaper the old paint and apply a new finish over that.

Deciding on the Walls

I had thought that I would like to use an ivory finish, but I decided to select my paper first. When I found what I wanted, a soft gray effect, I asked the decorator, who was an artist in his line, about using ivory with this paper. He seemed rather doubtful, saying that a very light tone might do, but advised me to get a color card of paints, and try the ivory next to the paper. I did so, and the next morning, in a good light, was surprised to find that the paint lost all its soft creamery richness against that gray-toned paper, and that neither did the beauty of the paper show up so well. But when I pinned up against the paper a fresh white card, all the beautiful soft tones that I had admired in my paper magically reappeared.

Now that it was decided that the wood should again be clear white, I wondered if it would be best to use the gloss white, enamel or flat white. I do not care for a highly polished surface, but would the flat white clean nicely? I talked with several women who had rooms finished with flat white, and found that while all liked the finish, they had found it difficult to keep looking nice.

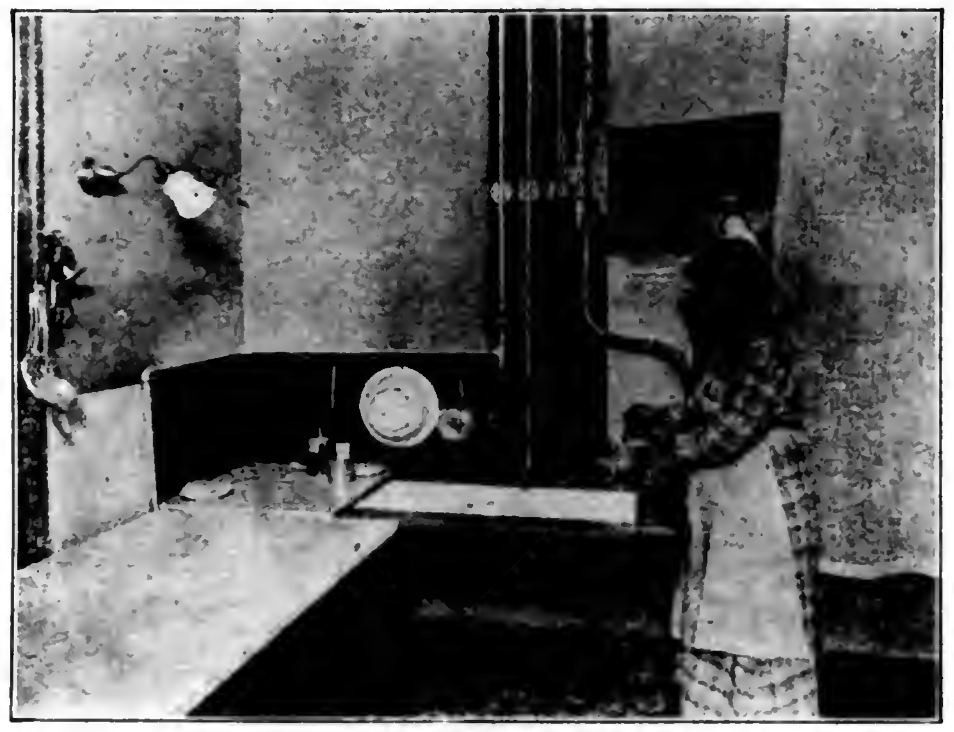
So I decided to consult with the painter. When he came I had on hand a quantity of white lead, turpentine and white varnish. He mixed a very satisfactory white with these, using a small amount of varnish in the first coats, and a little more in the finishing coat, but not enough to give a high gloss. He used a tiny bit of powder called elderberry blue in the paint, not enough to give it any shade; he said it would prevent the white from yellowing. Nearly all white paint will yellow a little when applied over old paint.

Where our painter had to paint over filler used to fill up cracks or over nail heads, he used instead of putty for the filler some whiting mixed with a little paint because the putty, being mixed up with oil, will get to showing thru the paint after awhile. And when he wanted putty for the floors he mixed whiting with the ground color and got a very pliable as well a very durable putty.

Making a Music Room

We use the larger of these rooms for the living room, and the smaller for a music room. Our fourteen-year-old daughter is very enthusiastic over this room, and if it serves to keep her interested in music, I shall feel that it had been furnished to good purpose.

Because the rooms together this way would make a large space, I wondered if it would be well to use the same paper on both. The decorator said, "No," so I bought a tapestry. paper for the living room, with the soft gray effect previously mentioned, and a faint hint of rose, green and tan in the pattern. We gave the old molding several coats of the white paint which really gave the effect of heavy, lustrous velvet, and returned it to the angle.



Water and Light Supplied by a Home Electric Plant

For the music room we used a grass cloth wall covering in the same tones of gray as in the tapestry paper on the living room walls, and gave the old gilt molding several coats of the white paint. In this room we used a banding, three inches wide, in very good flower and leaf design, with the same shades as came out in the tapestry paper. It was put on above the baseboard, and also carried around the room half way between the molding and the top of the window and door casings, which brings it 4½ inches below the molding. At the corners of the room the banding was mitered 4½ inches from the corner angle, then dropped to within 18 inches of the baseboard, and there finished by cutting out at a finished point in the design. This plain paper, with the simple molding and the bit of corner panelling indicated, give a dignity of the music room that goes well with the mahogany furnishings.

This music room is simply furnished. The piano stands between two windows and opposite the opening into the living room This, of course, brings it against an outside wall, but we have it far enough from the wall to prevent it from getting damp. The music cabinet is at the right of the piano, and a big Boston fern on a mahogany pedestal is at the other side in front of a north window. A dainty gold stand, that may support either a vase of flowers or a lamp, as the occasion demands, a mahogany chair and one in white and a sleepy hollow constitute the other big pieces in the room.

The pictures in the music room are two of good scenery, a Saint Cecilia, and two others suitable for a music room Then there is Dad's old violin in its battered old case to complete the furnishings.

A Few Words About Furniture

The living room furniture is oak. I have tried to give my rooms a comfortable, livable appearance, and yet retain a sense of spaciousness. Nothing jars me so much, when I enter a room, as the feeling that I am in a show room cluttered up with furniture and bric-a-brac which require me to move carefully least I bump into something or dislocate some treasure.

And this is far too common a way of gathering together our belongings. Mother buys a chair because she sees one that is "such a good bargain." Dad selects a couch in gorgeous colors because it looks as if he could stretch out on it. Big sister gets the craze for mission furniture, and persuades Dad to buy a big table with a roomy shelf made of slats under each end. And those same shelves are such convenient places for odds and ends and bits of paper that get to grinning from between the slats, and helping to hold the dust so fond of gathering there. And first you know nothing goes with anything else in that room, and it has an unhappy, disturbed look all the time.

When we bought our first furniture we considered the pieces that we received for wedding gifts, and chose pieces that "went well" with the best of the gifts. This started us in quartered oak, and since then we have added a few other pieces in the same wood. This is not an easy thing to do, matching furniture at long intervals. But as we started on medium dark, in a soft finish, the differences are not particularly noticeable.

In the living room we have a writing desk, bookcase and large library table, all in colonial design. The colonial roll will always be good taste, pleasing and easy to dust. There are a few oak rockers, some with plain wood seats, and some upholstered in tapestry. The divan is upholstered in tapestry, and here is where I may have made a big mistake. Would you have preferred a plain surface on the divan against the tapestry of the wall paper? That would have been more in accordance with the teachings of the artists in furnishing. But I have tried to remedy it by using plain fabrics in the pillows, rugs and curtains. In both these rooms the rugs are in very light tan shades with indistinct small figures.

A blooming plant on an oak tabourette in the south window, three non-rocking chairs, a few good pictures, and my living room is furnished What do you think of it, gentle Pennslvania Farmer reader?

The curtains in both rooms are white marquisette, with Cluny borders.

There is a large room back of the front living room, which was my greatest problem. It is lighted with only one large window and a glass door, fortunately both opening toward the south. But they are both shaded by a porch roof, and during the winter this porch is glass-enclosed, this further keeping out light. But, as if to make up for this stealing of light, there is a big fireplace, where on winter nights the fire roars up the old broad chimney, and makes one forget the blizzards raging outside.

The wood in this room is in natural finish. And we put on a plain yellow paper, nearly the color of sunlight, and the border is a cut-out design in yellow roses.

For this room I had not one new thing in furnishings except a couple of pillows and the curtains, because the curtains which I might have used were heavy ecru, and too dark. So I bought white filet in plain, very sheer pattern, to let in all the light possible.

I had a large ingrain carpet in wine and cream shades, and a not very pronounced scroll pattern, so this went down on that floor.

A big stove, which heats this, as well as the front rooms, sets a little to one side of the center of this middle room, where it is well out of the way, yet gives us a chance to gather around it when we do not have the fireplace going. A furnace and an electric lighting system are among the things we look forward to in the coming years on this place. But until they are achieved we will be as comfortable as we can with baseburners, smoky oil lamps and many other things which farmers endure.

I had some oak furniture left which just fitted into this room. In the long space at one side of the stove is the roomy davenport in oak and black leather, and when I saw that the black leather was fine with the other colors in the room I brought in a black leather upholstered chair, and hurried to put up a shelf for the old black ebony clock, a very good timekeeper and prized as a wedding gift. The shelf is just twice the length of the clock, which gives room at either end for one of a pair of simple crystal vases, which are beautiful against the sunny yellow of the paper. I made a drape for this shelf of some Persian pattern cloth in wine and gold, also a pillow of the same material, one of ruffled white and another of plain corn-flower blue for the davenport. You know, the decorators tell us that we may use three or four colors in a room, and even five if they are soft and well blended together.

An oak reading table, one of our very first purchases, fitted in well in this room. I have two very good linen covers for our library tables. One, embroidered in shades of rose and green, was perfect on the table in the front living room. The other, embroidered in yellow silk, outlined in black, was just the thing for the table in this room A magazine rack, which I endeavor to keep free of rubbish, and filled with the latest magazines and papers, is conveniently near.—Barbara Hill, Erie Co., Pa.

ELECTRICITY ON THE FARM

The changing seasons on the farm are often apt to awaken corresponding changes in the folks on the farm. Sometimes these changes merely indicate a call to increased activity. Sometimes, however, they are translated into a call to leave the farm, a different sort of activity. When they are so translated it is wise to seek a remedy that will keep on the farm, one who is there by virtue of his birth and training.

One of the finest means of creating a renewed interest in the farm is to brighten up the farm home. Change some of the old, inconvenient methods into modern, convenient ones. A modern pressure water system can be installed at a very moderate expense as prices go nowaways and will repay the outlay before one knows it. Electricity, introduced into the farm home can be warranted almost invariably to brighten up the spirit of one who is losing interest in life as it is lived in the ordinary way on the farm.

Electric power offers one of the most satisfactory methods of operating the pressure water system and the same sort of power can be employed to excellent advantage for doing many tasks about the farm house and barn.

For instance, the milking. Where there are ten or more cows, a milking machine, operated by one person will do a quicker, cleaner job of milking than can be done by two persons milking by hand. A one-half horsepower electric motor will operate several different makes of milking machine and the smooth flow of electric power makes it more satisfactory than the gas engine.

A smaller motor will run the washing machine, churn, grindstone, sheep shears, horseclippers and the like. In every instance power will change the character of these jobs from the toil of hand labor to the mere supervision of modern electrical machinery. So time is saved and, better still, a hopeful, cheerful attitude toward farm life is created—a new spirit is born into the lives of those who have to see that all these tasks are done.

The farmer or the farm boy who is enabled to supervise the operation of the motor driven milking machine instead of drudging at the job of hand milking will find less to grumble at in the round of farm work. The housewife and her daughter will lose considerable of their distaste if permitted to sweep the floors with a vacuum sweeper instead of a broom, or to have the blissful experience of starting a motor-driven washing machine on wash morning, then going ahead with the breakfast dishes or the bed making while the washing just does itself.

If electric service of the above nature is provided on the farm, in addition to the electric lights which are the first consideration where electricity is available, farm life immediately becomes a thing in which farm folks may take pride, for it compares favorably then with life anywhere.—Mrs. E. R. Sipes.

SWEET POTATO AND BEET SYRUP

Sweet Potato Syrup.—After cleaning sweet potatoes as for cooking, weigh and put them on to cook in enough water to cover them an inch or two. Boil them until they are very mushy. This takes an hour and a half to two hours.

After they are cooked, leave them in the water and mash them thoroly, and let stand until it cools to 140 degrees. Stir while testing to make it even in temperature thruout. If the mixture seems thick it should be thinned with warm water. Add about ½ oz. ground salt per each pound of raw sweet potato and raise the temperature of the mixture, stirring constantly, until it reaches 150 degrees, then remove from fire.

Let stand an hour, stirring every 15 minutes. At the end of this time it is ready to be pressed to extract the juice. Either put it in a jelly bag and press with the hands while it drains, or put it into a fruit press.

The juice extracted is not concentrated enough for use, therefore boil it until the consistency desired is obtained. The malt used for making this syrup is made from grains of barley, sprouted at 60 degrees, and treated with care so that they have not rotted, soured or molded. The sprouted grain is ground before being added to the sweet potato mash.

Beet Syrup.—Wash, cut off the tops and pare the beets. Cut them in thin slices and cover with boiling water. Cover the container and let them stand one hour. Drain the juice from these beets thru a cheese cloth, and boil until syrupy. All scum which rises to the top should be carefully skimmed off. When it becomes syrupy remove it from the stove.—Edith Allen.

A BUNCH OF NOTES

A Wall Telephone Lowered

In a recent issue of the Pennsylvania Farmer, an article deplored one's having to stand when telephoning, and advocated the installation of desk 'phones. When having a telephone placed in our home, we were advised to have a wall 'phone as it was claimed they required less attention. We did so—much to my regret—but having occasion to move the instrument into another room, we had it adjusted to meet the convenience of one when seated. We use a revolving piano stool which is pushed in under the 'phone when not in use, and we now have every advantage of the desk 'phone. Have yours lowered, you will never regret it.

The Old Fashioned Method for Warmth

One of the quickest means of furnishing heat to the chilled invalid is to place a brick over a lighted oil heater. Heat it on both sides, if but for a short time, and then place it at the feet. In the meantime water may be heating and bags or jars of hot water may supplement the heat of the brick.

Towel Bar For Newspaper

The home newspaper clipper will find a towel-bar an excellent means for preserving the papers until ready for clipping. Fold them and place them over the bar with the dates in plain view.

Initialed Friends

We Pennsylvania Farmerites are country hosts and guests of the readers of this most helpful paper. Why not then be announced by name? It is so much more social to know that "Hope Goodwill" called, than to find "X. Y. Z's." card. Initials seem frostily formal. When we once meet the friend with the outstretched hand of helpful hints, we are pleased to recognize her smiling counterance again through the medium of these columns. But initialed friends, tho contributing much to the hour of progression, are not—by me—so cordially greeted. Kindly permit the introduction to be by name.—Louise White Watson, Bucks Co., Pa.

OLD CLOTHES ARE BEST CLOTHES

The old and New Fabric Situation

At our women's conference at our farmers' institute the other day the state speaker and many others of us demonstrated that nowadays our old clothes are often our best clothes. I had known it before of course, but it had not been put up to my mental vision quite so convincingly as when we women all got together exchanging textile experiences.

The state speaker, Mrs. Call, in answering the query of a mother as to how to make old hair ribbons look as good as new, replied that it cannot be done now because there is no good new whole silk on the market. And this is because so many more women are using silk nowadays than a few years ago, so with under production, there has to be considerable adulteration in order to make the real silk go around. And the same is true of wool and to a large extent of cotton goods.

Our speaker told how a lovely old silk of her grandmother's had been made over for her mother, and that now she is herself wearing it for her state occasions, and that it is still in excellent condition, soft and shimmering. In contrast with the worth of this silk, Mrs. Call spoke of a silk for which she had paid $4 a yard two years ago, and which is already cracked and "old."

Then our home demonstration agent told the story of her two coat suits. She thought that she needed a new suit last spring, as the one she was wearing was quite old. "But now," said Miss A, "it is a question which suit, the new one or the old one of good all-wool material will stand the most wear this spring and continue to look the best. The old one shows less wear now than the one bought last spring."

Last spring I showed in The Pennsylvania Farmer photos of a suit which I had remodeled and which I then thought would not stand another refurbishing and another season, but I am having this old serge fixed over again with two yards of self-color striped satin and silk, for the new wisteria taffeta with which I made it up last spring is all cracked to pieces. The color of the serge is not of course easy to match nowadays, so an old piece of the striped silk was sold to me for much less than I could have purchased the new silks or satins in the new shades, henna or dragonfly blue. The

The History of a Word

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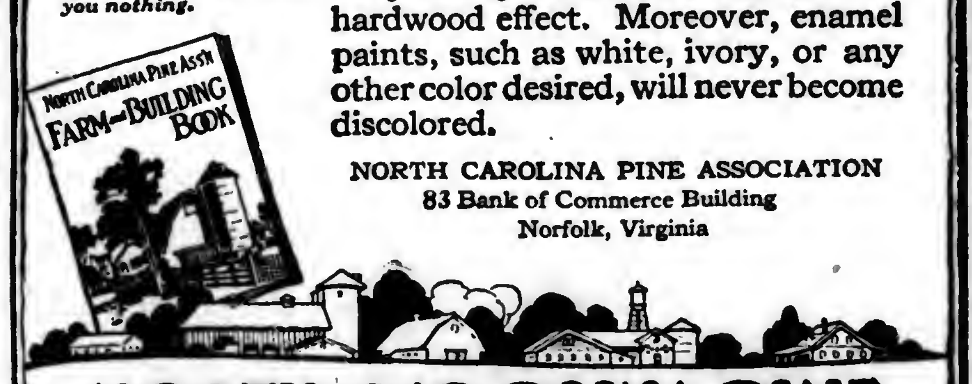

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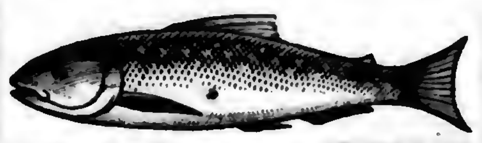

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old silk, at $2.50 a yard, is soft and very good quality, as far as I can perceive.

By all means remodel any old garments if made of material purchased several years ago, for the chances are that it will wear better than anything you can buy now. Use every last shred of whatever is all wool, all silk and honest-to-goodness linen. I read the other day of a women's club whose credentials for admission are the wearing of patched garments. And, do you know, patches can be made very attractive with perhaps a bit of braid, a tuck, a fold—this minute I'm thinking of a button in a row of buttons that covers a mended moth hole in my coat.

And thus, you will agree with me, the best clothes are those made of your old unadulterated materials, provided they can be made to do by clevely covering up some of the worn places. And it is the duty of those of us who are fortunate enough to have some of these good old materials to use them, so that production may catch up with public need, and people not be subjected to so much adulteration. I have been a "make-over" woman for a long time, and I'm glad that I acquired the habit; I like to solve these make-over problems. Can I help you with my suggestions?—The Make-Over Lady, Broome Co., N. Y.

MY FLOWERS FOR 1920

My order for asters and straw flowers is ready to mail tomorrow. It was so pleasant looking over the great list of asters. I wanted every variety, but selected only a few that I was reasonably certain would be beautiful as to form, color and free-flowering.

My customers, especially the florists, order only asters that have stiff, strong stems. Weak, thin and short stems are tabooed. However, these look lovely in bowls in our homes.

It was very late last year—early June, when I planted my seeds in rows only a few inches apart. They soon came up, altho one package of very high-priced seed treated me badly and only two seeds germinated.

When the plants were large and strong enough I transplanted them two feet apart. Then they were worked with the hoe often and vigorously. They drank water thirstily, and it was carried every evening that it did not rain. I felt that we never had rain, there was so little respite from the watering can.

Finally one royal purple flower opened fully. I looked at it with something of adoration. It was so fine, so perfect. By care of the plant this blossom had come to pass. In a week there were hundreds of these flowers, and I set about to find sale for them.

One florist agreed to give me two cents apiece for the finest, with stiff stems and large flowers with no yellow centers, if such flowers could be had. The florists' exchange paid so little that I left them with but one order, as they would give only $1.80 for sixteen dozen beauties!

Bouquets for private parties paid me best of all—three cents apiece for the pale pink ones that were feather like chrysanthemums. The white ones also were very popular; especially did my florist like these, saying that he had never seen finer ones.

Alas! While I was seeking customers, and selling pridefully with something of a conqueror's air, beetles got at my asters and began eating greedily the pale pink, lavender, white and purple faces. With vengeance in my heart and a pan of boiling water in my hand, I fared forth to the flower garden. With a spoon I gently tipped over each flower head, and into the hot water fell my tormentors, thereto struggle only a short time, then meet their just fate.

It takes hard work and persistence to overcome these beetles. Two trips a day with the hot water can and a frequent spraying with a dilute solution of arsenate of lead saved many flowers, but I lost many also.

One day during the flower season I went to the great Lexington market in Baltimore to see some women who sold asters there every summer. I asked a sweet, flowerfaced woman what she did to keep off the beetles. It was evident these women were successful, for there were hundreds of bouquets of asters on the two big stalls. She told me that from the time the plants show signs of blooming until the last flower is cut it is a continual fight with the beetles. "We have had the children out for two weeks now killing them, and we have to pay them well to keep them at it." She added that "this season (1919) is a beetle season." This was some comfart as 1920 may be a non-beetle season.

Those who have read Dickens will be familiar with Barnaby Rudge and his expression, "Never say die." And so say I; with all my last year's struggle with the beetles to save my pretty asters, I am preparing to plant asters again this spring. They were a wonderful pleasure, and I sold enough to encourage me in a business way.

The woman at the market sold me some fine fully matured blossom for seed. I brought them home, hung them up by the stems and thoroly dried them. She also gave me permission to pick up some lovely stemless heads that had fallen to the street. These I also dried for seed. I wondered while looking over my catalogs how many other farm women were getting ready their orders. The sleet is falling sharply against the window panes as I write tonight, but ere many weeks the bluebirds will be here, and then planting time. —Mrs. Elizabeth O. Jean, Baltimore Co., Md.

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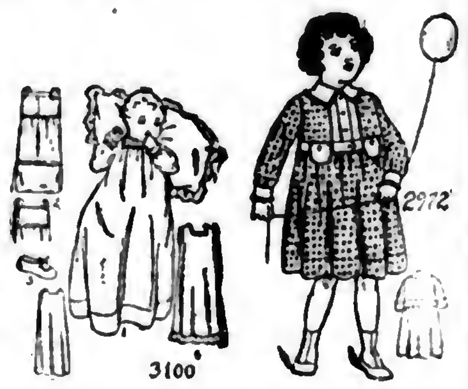
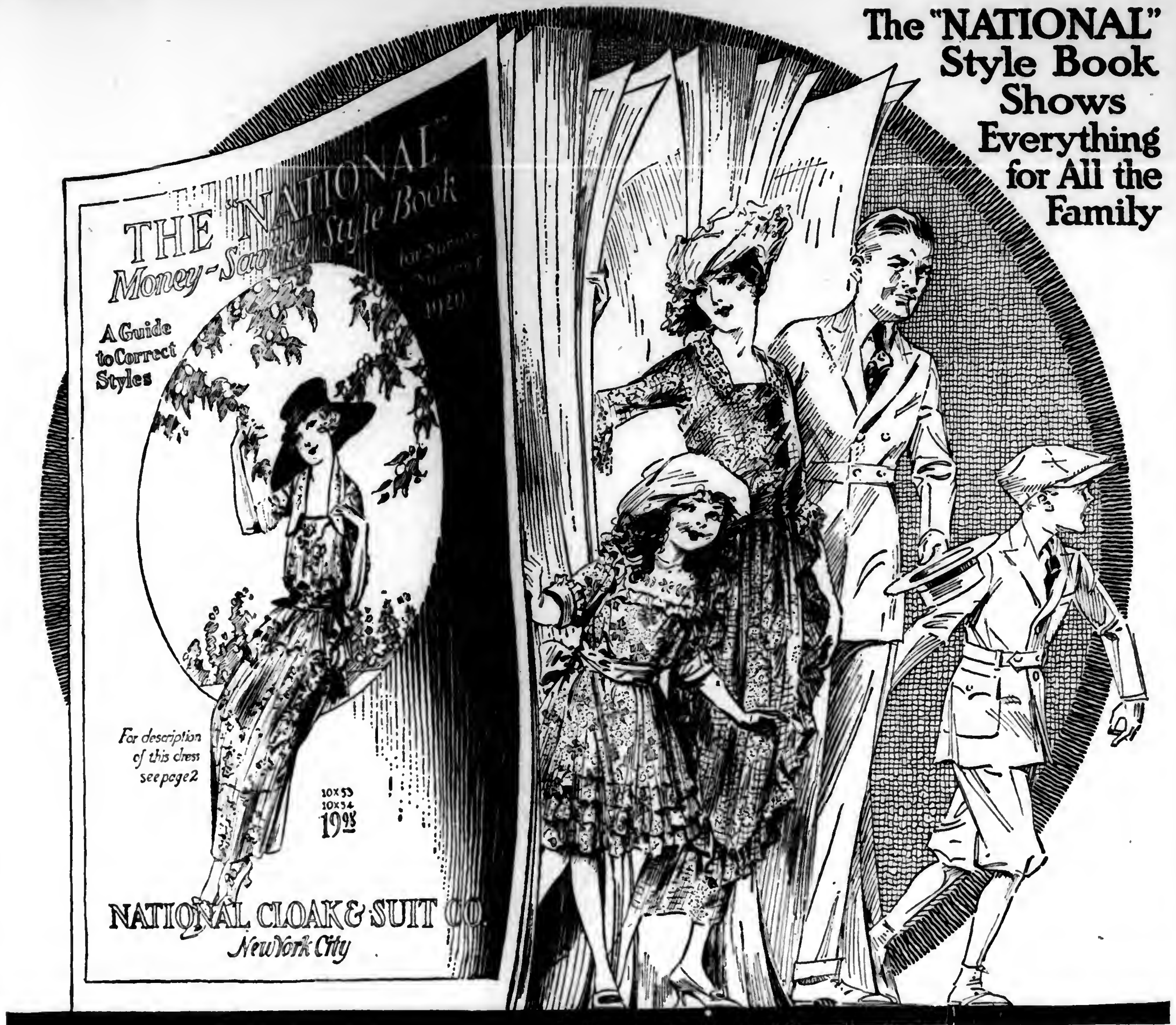


2972.—A Smart Little Frock.—The fronts open over a vest, which together with collar, belt and cuffs, may be of contrasting material. The pockets are joined to the belt. The sleeve may be finished in wrist or elbow length. Blue and white check gingham or brown and white striped galatea are good for this style. The pattern is cut in 4 sizes: 2, 4, 6 and 8 years. Size 4 requires 2¾ yards of 27-inch material. Pattern, 10 cents.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KEZIAH COFFIN

By JOSEPH C. LINCOLN

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(Continued from Last Week)

She argued and pleaded and coaxed, and, at last, when she began to think she had prevailed, Grace brought forward another objection: She had given her word to her uncle. How could she break that promise made to a dying man? She would feel like a traitor.

"Traitor to who?" demanded the housekeeper, losing patience. "Not to poor Nat, for he's gone. And don't you suppose that he and Eben understand things better now, where they are? Do you suppose that Nat wouldn't want you to be happy? I know he would, for I knew him."

It was still unsettled when the long talk was over, but Grace agreed not to leave the minister at present. She would stay where she was until he was himself again, at least. Keziah was satisfied with the preliminary skirmish. She felt confident of winning the victory, and in the prospect of happiness for others, she was almost happy herself. Yet each time the mail was brought to the shanty she dreaded to look at it, and the sight of a stranger made her shake with fear. Ansel Coffin had threatened to come to Trumet. If he came, she made up her mind what to do.

The parish committee was to meet. Captain Elkanah had announced his intention of moving that John Ellery to be expelled from the Regular Church. There was to be no compromise, no asking for a resignation; he must be discharged, thrown out in disgrace. The county papers were full of the squabble, but they merely reported the news and did not take sides. The fight was too even for that.

Captain Zeb chuckled. "It's all right, Keziah," he said. "We know what's what and who's who. The Rev. Mr. Ellery can preach here for the next hundred years, if he lives that long and wanted to, and he can marry whoever he darn pleases, besides. Elkanah's licked and he knows it. He ain't got enough backers to man a lobster dory. Let him holler; noise don't scarce grown folks."

One afternoon a few days before the date set for the meeting Elkanah and two or three of his henchmen were on the piazza of the Daniels home, discussing the situation. They were blue and downcast. Annabel was in the sitting room, shedding tears of humiliation and jealous rage on the haircloth sofa.

"Well," observed her father, "there's one thing we can do. If the vote in committee goes against us, I shall insist on the calling of a congregational meeting. Hum—ha! Yes, I shall insist on that."

"Won't be no good, cap'n," sniffed Beriah Salters dolefully. "The biggest part of the congregation's for Ellery, and you know it. They're as sot on him as if he was the angel Gabriel. If you'd only told what you knew afore this smallpox business, we'd have been able to give him and his Come-Outer woman what b'longs to 'em. But not now."

Captain Daniels shifted uneasily in his chair.

"Hum—ha!" he barked, to cover confusion. "Hum—ha! It seemed to me more—er—charitable to give the misguided young man another chance, and I did it. But— What's that?"

Some one was talking excitedly on the sidewalk beyond the lilac bushes at the border of the Daniels property. Voices answered. Didama Rogers darted out of her yard and past the house in the direction of the sounds. Salters rose and walked down to the gate.

"Hey!" he shouted. "Halloo! Ahoy there! You, Em'lous, what is it?"

Emulous Sparrow, the fish peddler, was seated in his cart, which was surrounded by men and women, neighbors of the Danielses. There was a perfect storm of questionings and ejaculations. Salters opened the gate and joined the group. A moment later he came running back, up the walk toward the piazza.

"Cap'n," he shouted. "Cap'n Elkanah, here's news! What do you think? A telegram's just come from Nat Hammond. He's safe and sound in New York, and he'll be here day after tomorrow."

They could not believe it and rushed out to hear more. Emulous, glowing with importance, affirmed that it was so. He had seen the telegram at the store. It was for Grace Van Horne and they were just going to send a boy over to the shanty with it.

"No details nor nothin'," he declared. "Just said 'Am all right. Arrived today. Will be in Trumet Thursday And 'twas signed "Nathaniel Hammond.' There!"

"Well, by thunder!" exclaimed Salters. "If that don't beat all. I wonder what's happened to him? Two year gone and give up for dead, and now— What do you cal'late it means?"

Captain Elkanah seized him by the arm and led him out of the group. The old man's face was alight with savage joy and his voice shook with exultation.

"I'll tell you one thing it means," he whispered. "It means the end of Ellery, so far as his marrying her is concerned. She gave her word to Hammond and she'll keep it. She's no liar, whatever else she is. He may be minister of the Regular Church, tho I'll never set under him, but he'll never marry her, now."

CHAPTER XIX

In Which a Reception is Called Off

Far out on the Pacific coast there are two small islands, perhaps a hundred miles distant from one another. The first of these is uninhabited. On the other is a little colony of English-speaking people, half-breed descendants of native women and the survivors of a crew from a British vessel cast away there in the latter part of the eighteeenth century.

On the first of these islands, the smaller one, the Sea Mist had been wrecked. Driven out of her course by a typhoon, she staggered thru day after day and night after night of terrific wind and storm until, at last, there was promise of fair weather. Captain Nat, nearly worn out from anxiety, care and the loss of sleep, had gone to his stateroom and the first mate was in charge. It was three o'clock, the wind still blowing and the darkness pitchy, when the forward lookout shrieked a warning, "Breakers under the lee!" Almost the next instant the ship was on a coal reef, full of water, and the seas breaking over her from stem to stern.

Morning came and showed a little patch of land, with palm trees and tropical vegetation waving in the gusts and green in the sunshine. Captain Nat ordered the boats to be lowered. Much as he hated the thought, he saw that the Sea Mist had made her last voyage and must be abandoned. He went to the cabin, collected papers and charts and prepared to leave. The ship's money, over ten thousand dollars in gold belonging to the owner and to be used in trade and speculation among the East Indies, he took with him. Then the difficult and dangerous passage thru the opening in the reef was begun.

Only the captain's boat resched the shore. The mate's was caught by a huge breaker, dashed against the reef and sunk. Captain Nat, his second mate and five of his men were all that was left of the Sea Mist's company. And on that island they remained for nearly two weeks. Provisions they had brought ashore with them. Water they found by digging. Nat hid the gold at night, burying it on the beach below high-water mark.

Then, having made sure of his location by consulting the chart, he determined to attempt a voyage to the second island, where he knew the English colony to be. Provisions were getting short, and to remain longer where they were was to risk starvation and all its horrors. So, in the longboat, which was provided with a sail, they started. Charts and papers and the gold the skipper took with them. None of the crew knew of the existence of the money; it was a secret which the captain kept to himself.

A hundred miles they sailed in the longboat and, at last, the second island was sighted. They landed and found, to their consternation and surprise, that it, too, was uninhabited. The former residents had grown tired of their isolation and, a trading vessel having touched there, had seized the opportunity to depart for Tahiti. Their houses were empty, their cattle, sheep, goats, and fowl roamed wild in the woods, and the fruit was rotting on the trees. In its way the little island was an Eveless Eden, flowing with milk and honey; but to Captain Nat, a conscientious skipper with responsibilities to his owners, it was a prison from which he determined to escape. Then, as if to make escape impossible, a sudden gale came up and the longboat was smashed by the surf.

"I guess that settles it," ruefully observed the second mate, another Cape Codder, from Hyannis. "Cal'late we'll stay here for a spell now, hey, Cap'n."

"For a spell, yes," replied Nat. "We'll stay here until we get another craft to set sail in, and no longer."

"Another craft? Another one? Where in time you goin' to get her?"

"Build her," said Captain Nat cheerfully. Then, pointing to the row of empty houses and the little deserted church, he added, "There's timber and nails—yes, and cloth, such as 'tis. If I can't build a boat out of them I'll agree to eat the whole settlement."

He did not have to eat it, for the boat was built. It took them six months to build her, and she was a curious-looking vessel when done, but, as the skipper said, "She may not be a clipper, but she'll sail anywhere, if you give her time enough." He had been the guiding spirit of the whole enterprise, planning it, laying the keel, burning buildings to obtain nails and iron, hewing trees for the largest beams, showing them how to spin ropes from cocoanut fiber, improvising sails from the longboat's canvas pierced out with blankets and odd bits of cloth from the abandoned houses. Even a strip of carpet from the church floor went into the making of those sails.

At last she was done, but Nat was not satisfied.

"I never commanded a ship where I couldn't h'ist Yankee colors," he said, "and, by the everlastin'! I won't now. We've got to have a flag."

So, from an old pair of blue overalls, a white cotton shirt, and the red hangings from the church pulpit, he made a flag and hoisted it to the truck of his queer command. They provisioned her, gave her a liberal supply of fresh water, and, one morning, she passed thru the opening of the lagoon out to the deep blue of the Pacific. And, hidden in her captain's stateroom under the head of the bunk, was the ten thousand dollars in gold. For Nat had sworn to himself, by "the everlasting," and other oaths, to deliver that money to his New York owners safe and necessary expenses deducted of course, untouched.

For seven weeks the crazy nondescript slopped across the ocean. Fair winds helped her and, at last, she entered the harbor of Nukahiva, over twelve hundred miles away. And there—"Hammond's luck," the sailors called it—was a United States man-of-war lying at anchor, the first American vessel to touch at that little French settlement for five years. The boat they built was abandoned and the survivors of the Sea Mist were taken on board the man-of-war and carried to Tahiti.

From Tahiti Captain Nat took passage on a French bark for Honolulu. Here, after a month's wait he found opportunity to leave for New York on an American ship, the Stars and Stripes. And finally, after being away from home for two years, he walked into the office of his New York owners, deposited their gold on a table, and cheerfully observed, "Well, here I am."

That was the yarn which Trumet was to hear later on. It filled columns of the city papers at the time, and those interested may read it, in all its details, in a book written by an eminent author. The tale of a Cape Cod sea captain, plucky and resourceful and adequate, as Yankee sea captains were expected to be, and were, in those days.

But Trumet did not hear the yarn immediately. All that it heard and all that it knew was contained in Captain Nat's brief telegram. "Arrived today. Will be home Thursday." That was all, but it was enough for in that dispatch was explosive sufficient to blow to atoms the doctor's plans and Keziah's, the great scheme which was to bring happiness to John Ellery and Grace Van Horne.

Dr. Parker heard it, while on his way to Mrs. Prince's, and, neglecting that old lady for the once, he turned his horse and drove as fast as possible to the shanty on the beach. Fast as he drove, Captain Zebedee Mayo got there ahead of him. Captain Zeb was hitching his white and ancient steed to the post as the doctor hove in sight.

"By mighty!" the captain exclaimed, with a sigh of relief, "I'm glad enough you've come, doctor. I hated to go in there alone. You've heard, of course."

"Yes, I've heard."

"Say, ain't it wonderful! I'm tickled all up one side and worry all down t'other. Nat's a true-blue feller, and I'm glad enough that he ain't shark bait; but what about the minister and her? She's promised to Nat, you know, and——"

"I know. Don't I know! I've been going over the affair and trying to see a way out ever since I heard of the telegram. Tut! tut! I'm like you, mighty glad Hammond is safe, but it would have spared complications if he had stayed wherever he's been for a few months longer. We would have married those two in there by that time."

"Sartin we would . But he didn't stay. Are you goin' to tell Mr. Ellery?"

"Certainly not. And I hope he hasn't been told. He's getting well fast now, but he mustn't be worried, or back he'll go again. We must see Mrs. Coffin. Keziah is our main hold. That woman has got more sense than all the rest of us put together."

But it was Grace, not Keziah, who opened the shanty door in answer to their knock. She was pale and greeted them calmly, but it was evident that her calmness was the result of sheer will power.

"Won't you come in, doctor?" she asked. "Good afternoon, Captain Mayo."

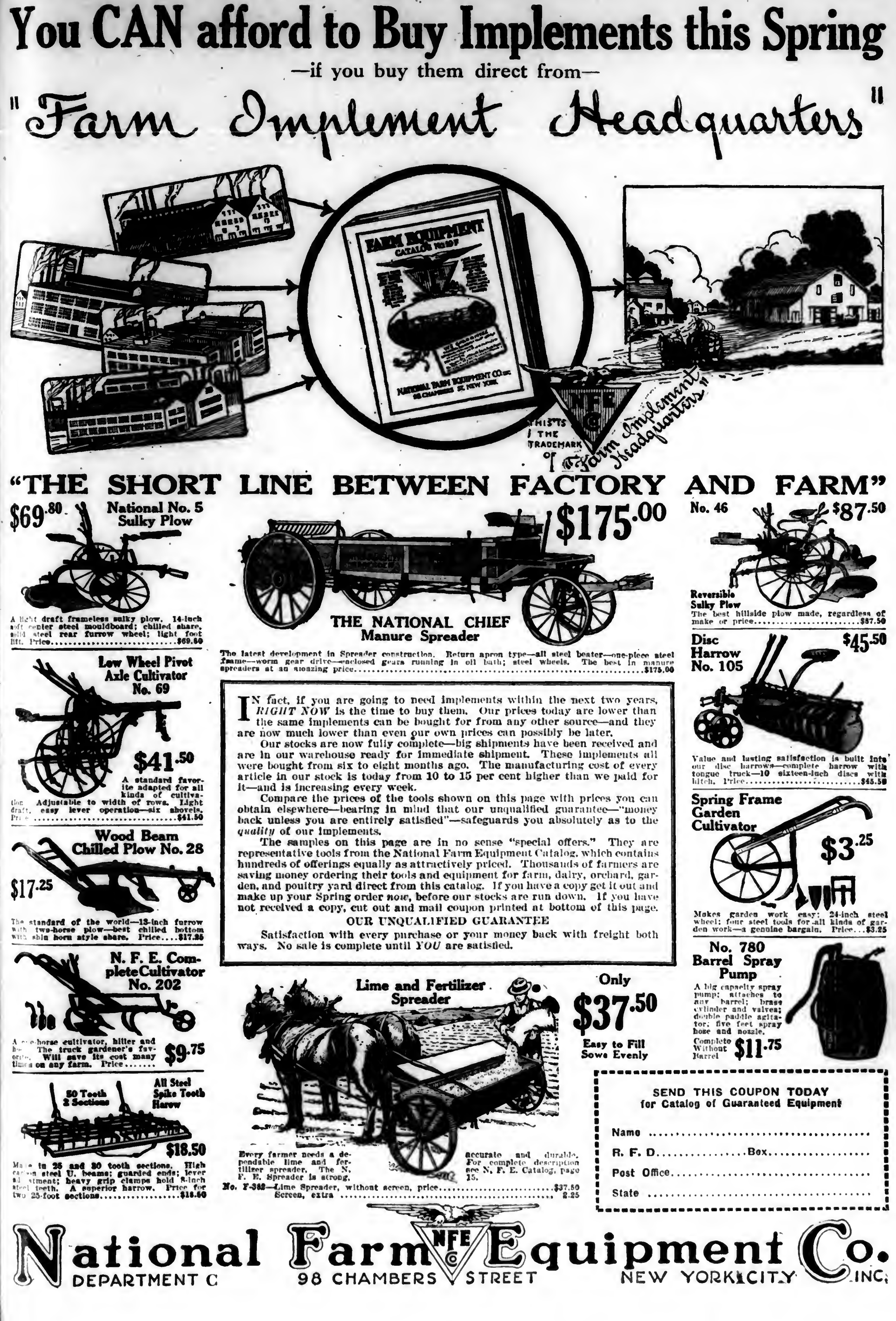
Dr. Parker entered the building but Captain Zeb remained outside, stammering that he cal'lated he'd better stay where he could keep an eye on his horse. This was such a transparent excuse that it would have been funny at any other time. No one smiled now, however.

"Is—is Mrs. Coffin—er—Keziah aboard?" the captain asked.

"No, she isn't. She went to the parsonage a few hours ago. Mr. Ellis brought the mail and there was a letter in it for her. She said it was important and that she must go home to see about some things. She'll be back pretty soon, I suppose."

The doctor whispered her name then and she went inside, closing the door after her. Captain Zebedee sat down on the step to ponder over the new and apparently insurmountable difficulty which had arisen.

(Continued Next Week.)



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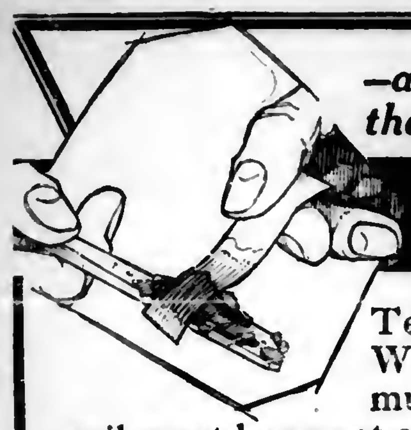

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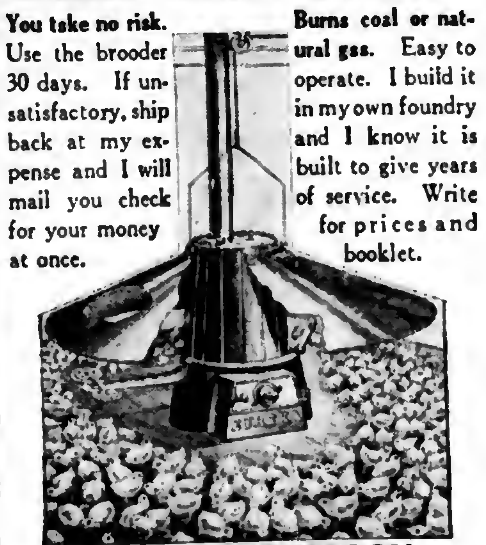

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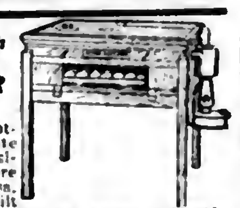

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Why let your chicks and Turkeys die, when you can secure a life saver. Just try one package and prove.

One Turn Crank Turns Every Egg

Best construction.
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Fed During Most Critical Period—First 10 Days
Saves Baby Chicks and Turkeys
Prevents Losses—Produces Quick Healthy Growth
They Thrive Wonderfully on it. Used 35 Years.
SATISFACTION OR MONEY BACK
Ask your dealer to supply you. Send to us for Booklet and Prices. Standard Baby Chick Food Since 1884
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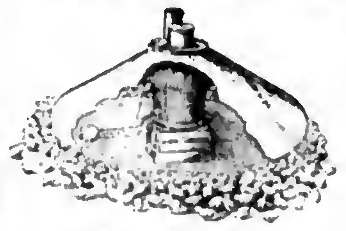

Self-regulating; dependable; gas-proof; fire-proof and chill-proof. Broods chicks better than a hen. Fully guaranteed or money refunded. Write for free catalog describing the world's best brooder, together with plans of colony and laying houses. AGENTS WANTED.

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POULTRY

A FEW DUCKS ARE PROFITABLE.

On the farm where there is plenty of range the raising of a good-sized flock of ducks is not a dangerous speculation. Ducklings are, as a rule, quite hardy and quick growing. At the age of ten or twelve weeks the young birds are in full plumage and practically have attained their full growth, yet up to that time they have required little more purchased feeds than have chickens of the same age.

After the first few weeks, ducklings on the farm glean most of their living on the range, in the way of insects and tender weeds and grass. For the reasons just mentioned, ducks are often regarded as a profitable side line by the farm poultry raiser who wants quick returns from the time and money invested in the poultry department. A large part of the success with ducks consists in getting good hatches in the spring and then cleaning up the largest part of the flock before cold weather. In this way not much money need be invested in stock or equipment and there is a chance of clearing quite a substantial sum in the early fall.

Ducklings should have access to grass right from the start, therefore they should not be hatched too early. April is early enough to set duck eggs. Inexperienced persons usually will obtain the best hatching results from setting hens, eight to ten eggs being placed under each hen. When a hatch is completed the ducklings should be removed with the hen to a clean, dry coop in a grassy yard. They should be confined rather closely at first, being fed often but not too much at a time, and always having access to drinking water. This should be furnished in such a way that the ducklings get get their heads into the water but cannot wet themselves until their feathers are well developed. Not until the weather becomes comfortably warm should they have access to a swimming pool.

Ducklings, and likewise the old birds, must be fed mainly on wet mashes. While they are able to eat such solid substances as wheat and cracked corn, ducks seldom consume enough grit to enable them to digest such solid food properly. Give cooked feeds, or corn meal, wheat bran and middlings, moistened but not wet. During the first few days of their lives stale bread soaked in milk is about the best food that can be given. After a very few feeds add chopped greens to the ration. Succulent foods comprise a large portion of the rations of both old birds and ducklings, and is necessary for their proper growth and development. Also, in order that they may be produced as cheaply as possible, the grower of ducks should be diligent in supplying his birds with an abundance of green food. Whenever grass is limited ducklings may be given lettuce, onion tops, cabbage, rape, etc. The growing birds require a large amount of suitable grit regularly; quantities of grit should always be accessible near the feeding places.

Ducks grow very rapidly under favorable conditions and hens usually will desert their broods after a few weeks. The ducks do not seem to mind this in the least. But from this time on the ducks are big nuisances if they run in the same yard with the chickens, fouling all the drinking water as soon as supplied so that the chickens will not touch it, and gobbling up the major portion of the food provided for the chickens, so that the owner will be about ready to forego future profits and dispose of the ducks as soon as possible. The proper solution of the difficulty consists in providing separate yards for the two classes of stock, so that they may be fed and watered separately. In fact, for the sake of the owner's peace of mind and for the welfare of the chickens, the ducks and chickens should not run together at any time, and arrangements to that end should be made before hatching begins. There is usually enough room on the farm for both ducks and chickens—and also for other kinds of poultry—so that a plot of ground for the exclusive use of the ducks may be fenced off from the main poultry yard. It should be remembered that shade must be available for young ducks in hot weather. Many will be lost if they are exposed continually to the sun's rays. The duck yard should therefore, contain a few trees.

If it is desired to keep a few of the best members of the flock for breeding purposes, a suitable building must be provided for the birds' winter quarters. Such a building may be simple in construction and much less expensive than one for hens. For a single breeding pen a house six feet wide and ten feet long is ample. The floor should be dry and well bedded with straw or leaves. No inside furnishings are needed. A suitable duck house may be cheaply built of old lumber on a light frame, and covered with some commercial roofing.

BROODER STOVE LESSENS MORTALITY.

We find that the brooder stove is one of the essential parts of poultry equipment particularly for caring for young chicks. With a good stove the mortality can generally be reduced from 2 to 5 per cent, whereas with hen brooding or some home-made artificial means the mortality generally runs as high as from 10 to 12 per cent.

The brooder stove, in our experience should be placed only in a good tight brooding house, so that the stove will heat the entire building easily to such a warmth that the chicks will be comfortable. The chicks will not suffer if the house gets cooler at night, so long as the stove radiates a good heat from the hover. With the brooder stove, chicks are not likely to get too much heat, because they can adjust themselves to the amount of heat that is being thrown off by moving backwards and forwards under the hover.

The brooder stove is economical. The kerosene type or the coal-burning type give good results. We have never used the kerosene-burning type long enough to determine their economy as compared with coal-burning stoves, but the coal brooding stove may be operated at a cost of about 6 to 8 cents a day for fuel in ordinary weather. A good grade of nut coal should always be used and a supply kept on hand for emergency. The stove is shaken down once in the morning and once in the evening and the fuel pot refilled. This is about the only attention that is required, but the ashes should be removed each morning.

Some people use soft coal sometimes in the stove, but we find this detrimental because it gives off considerable gas, nor will the soft coal hold fire as long or as readily as the nut coal.

There is practically no danger from fire if care is taken not to overheat the stove or to allow too much inflammable material near the fire-pot. Straw that lies next to the stove never becomes warm enough to reach the ignition point. In fact, the heat from a coal-burning stove is given out a foot or 18 inches above the floor and then made to radiate out under the hover. Some precaution, however, is necessary.—C. M. Baker.

A LARGE DIFFERENCE

"Say, Bill, you know de diffunce b'tween a prophet and a profiteer?"

"No, Sam."

"Well, when a prophet says de world was goin' ta end last Thursday at lunch time he didn't know what he was talkin' about, but when a profiteer says soap, sugar an' shoes will be higher next week he knows what he's talkin' about."—New York World.

"Occasionally," said Senator Sorghum, "a man starts as a leader and then has to go with all his might to keep at the head of his own procession."—Washington Star.

PRECAUTIONS WITH THE INCUBATOR

It has been my experience that a great deal of the trouble in artificial incubation is due to improper temperature conditions. These improper conditions are frequently caused by incorrect thermometers. Thermometers should be tested each season. An incorrect thermometer can do a great deal of damage. Last season, a man complained to me that he was having poor hatches and didn't know the cause for them. We tested his thermometers and found that most of them were two degrees low. Such a temperature from the start of the hatch to the finish will cause a poor hatch. Thermometers may be tested by placing in an incubator with one which is known to be correct—at the same level and in the same part of the machine. A better way is to compare them with a clinical thermometer, holding the clinical thermometer and the one to be tested in warm water so that the bulbs are at the same level.

Incorrect placing of the thermometer has a great deal to do, also, with improper temperature conditions. There is a difference of one degree in temperature for every inch the thermometer is raised or lowered inside the machine. Proper temperature conditions call for a temperature of 103 degrees thruout the entire hatch, with the least possible amount of variation. It should not be allowed, at any time, to get above 105 degrees nor below 100 degrees.

Moisture is another factor about which there are numerous queries. A climate that is damp or an incubator cellar that is always cool and damp does not require that so much moisture be given to the eggs as a dry climate or a cellar that is always warm and dry. The method of supplying moisture, too depends upon the type of incubator used. In machines having trays, keep them moistened from the start. With machines in which no provision is made for moisture, the eggs should be sprinkled with luke warm water once a day beginning with about the fifth day of incubation and until the eggs start to pip.

These two factors—temperatures and moisture—together with turning are the most important ones in artificial incubation. Eggs should be turned at least twice daily—better three times or four if some mechanical device is used—from the third day to the time the eggs start to pip. When the eggs begin to pip, close the machine and keep it closed until the hatch is completely over. Many a hatch has been completely ruined by opening the incubator door while the eggs are hatching—even for just a few seconds. Keep it closed.—R. R. H., New Jersey.

DETAILS WANTED

I am a farmer's wife and was very much interested in "Why Poultry on the Farm Does Not Pay" in your issue of February 7, 1920, by "Wife." Chester Co., Pa.—I would like to know the details of how "Wife's" 60 White Plymouth Rocks, hatched May 21st, started laying November 1st.

We had 100 Rhode Island Reds hatched June 1st 42 Rhode Island Reds hatched about two days later. Of these we sold 44 roosters, and of about 60 pullets only 2 or 3 laid before the second week in January, 1920.

I would be very much pleased to have the benefit of "Wife's" experiences for another year—or see the details of her experiences published. I would like to know how she does things.

I have 50 Rhode Island Red chicks ordered for April 1st and 100 for June 1st, 1920.—Mrs. R. J., New Jersey.

Will "Wife" please describe her method of growing chicks so rapidly and successfully?—Editors.

Proper housing, proper sanitation, air and sunlight, proper conveniences are absolutely essential to maximum results in city factories. The farmer's barn is his factory; his animals, his workers.

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WHEN IT PAYS
All through the blustry winter months, our WHITE WYANDOTTES lay eggs, and lots of them. We offer a limited number of carefully selected eggs from this flock at $15 per 100, $8 per 50, $2.50 per sitting of 15. Also chicks at 40c each. We advise the purchase of this stock for those who want the best from our high production, trapnested birds. Terms—cash with order. Eggs and chicks forwarded parcel post prepaid. We know you will be pleased with our stock. Book your order early. J. V. BITNER, GORDONVILLE, Lancaster Co., Pa.

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SMITH HATCHERIES, Dept B, 1629 Chestnut St., Phila., Pa.

White Leghorns; Reds, both combs; White Wyandottes; Barred and White Rocks. Best strains in country. Eggs; Chicks; Pullets. Forest Farms, Rockaway, N. J.

Nice Lot Barred Plymouth Rock Cockerels, also egg settings from special mated pens. Write for prices. EUGENE A. GROVE, Lime Kiln, Frederick Co., Md.

Baby Chicks Barred Rocks, White Rocks, White Leghorns and Reds. Circular Free. Mechanic Grove Poultry Farm, Mechanic Grove, Pa.

SHIREY'S S. C. White Leghorn Baby Chicks 14c and up according to season. They make the greatest egg producers on earth. C. P. Shirey, Stewartstown, Pa.

Hummer's Famous Baby Chicks. Big Healthy fellows. They live and grow. Six varieties. Circular free. E. R. HUMMER & CO., FRENCHTOWN, N. J.

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White Rock Chicks from good stock, $25 per 100 postpaid. Also Fawn and White Indian Runner ducklings 30 cents each. MRS. T. F. GRIFFITH, R 2, MOHNTON, PA.

Bronze, Narragansett, Bourbon Red, Black and White Holland breeding turkeys from the finest flocks in America. Write for special prices to close them out. F. A. CLARK, Xenia, Ohio, R. 5.

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Write for illustrated catalog

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Guaranteed to Burn Kerosene Successfully

This reliable tractor is a safe investment which will pay you big returns, and its excellent past performance insures satisfactory service and long life. During the six years the *Allwork* Tractor has been in actual use on thousands of farms in all parts of the country, it has retained the same sturdy design, while numerous improvements and refinements have been added from time to time, most of them being prompted by the farmers using this tractor.

ELECTRIC WHEEL COMPANY, Box 68A, Quincy, Illinois

Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., March 1, 1920

As we predicted in these columns last week the market on potatoes which at that time was ruling very high on account of the bad weather and poor hauling conditions shutting off the supplies, has shown a reaction and is not so high. At the same time the market is ruling firm at the revised quotations. Supplies are just about equal to the requirements and no material change is to be expected in the market for the next few days. Pennsylvania grown potatoes are now selling mostly at $4.75@5 per cwt., and New York State stock at $4.70@4.90 per cwt. These two states are now supplying the bulk of the supplies. There are however some Maryland Delaware potatoes coming which are selling around $6.50 per 150 pound sack for the Hoosier variety, and $7 per 150 pound sack for the round varieties. There has also been some new potatoes here from Bermuda which have been selling around $12.50@14 per barrel.

Sweet potatoes are showing no material change as the No. 1s are still selling at $2.25@2.40 per hamper and the No. 2s at $1.15@1.40 per hamper, most of which are coming from the Eastern Shore Peninsula sections. Nearby New Jersey sweet potatoes continue firm at $1.60@1.90 per ⅝-basket for the No. 1s.

Vegetables.

There are but very few artichokes on the market which rules very firm at $8@9 per box. The first shipments of asparagus from California are making their appearance and selling around $1@1.25 per bunch. Both green and wax beans continue very scarce, but there has been an extremely wide range in their quality making a very wide range in selling price. The best have been selling around $7@8 per hamper, with most sales around $5@7 per hamper, while some have been in such poor condition as to be almost worthless and some sold as low as $1 per hamper. The market on the old crop of beets from nearby Pennsylvania and New Jersey points is in a little stronger condition than it was a week ago and some beets are now selling around $3.25@3.50 per barrel with others at $2.75@3 per barrel. New beets from the south are very scarce and when here are bringing around 6@8c per bunch. There are not very many brussel sprouts arriving, altho there were a few here this morning which sold at $8@10 per drum. The market on old cabbage is very dull and is only ranging at this writing around $50@60 per ton. This decline in price is probably caused by the heavier supplies of new cabbage from the south, there being about 15 cars of new cabbage from Florida sold here this morning at $1.50@2 per hamper, and $3.50@4 per crate. The high prices which were prevailing on old carrots a few days back had the effect of bringing forward large supplies from New York State so that now the market is ruling weak and lower at $4.50@5 per barrel on the rough unwashed stock. Some fancy nearby Pennsylvania washed carrots, however, are still selling around $6@7 per barrel, but they have to be extra fancy to bring the top price. Cauliflower is in much lighter supply than it was a week ago, and prices are about 75 cents per crate higher than they were last week at this time, as good cauliflower is now selling at $2.75@3 per crate. Celery is getting more plentiful and the market is weak and lower at $2.75@3.50 per crate mostly altho some poor stock had to be sold as low as $1.75@2 per crate. The market is practically bare of cucumbers and good choice hot house stock would probably sell around $1.75@2.25 per dozen or better, also bare of egg plants, the last here selling around $5 per box. Endive and Escarole are both firmer and higher, the former selling at $7@7.50 per barrel, and the latter at $7@8 per barrel. Garlic remains almost stationary from day to day at 20@30c per pound as to quality. There has been no kale here in several days, and some good fancy Norfolk stock would undoubtedly bring some very fancy prices. Lettuce is showing a very wide range in quality and condition, and therefore selling at the very wide range of 75c@$2.50 per hamper with good stock averaging mostly around $1.75@2.25 per hamper. Some iceberg lettuce from California has been selling around $2.25@ per box. Lima beans are in very light supply and when here bring around $6@8 per hamper. Mushrooms are in good demand when fancy at $1.50@2 per three pound basket with poorer and No. 2 stock at $1@1.50 per basket. The market on onions is somewhat higher than it was last week. This morning one car sold at $6 per 100 pound sack with other sales mostly around $5.50@5.75 per sack. Onion sets have made their appearance on the market since our last report, and fancy nearby grown onion sets are selling around $5 per bushel, while western stock is selling around $3.75@4 per bushel. Parsley is lower due to the heavier supplies. Parsley is now selling at $6@8 per barrel and $1.50@2 per box. Peas are very scarce and when here readily bring $8.50@9 per crate and $3.50@5 per hamper. The market is bare of fancy peppers and such if here would readily bring $5@7 per crate. Romaine is also in light supply at $1.50@2.25 per hamper. There has been a sharp advance in hot house radishes on account of the nearby stock coming in the market and sales are now being made at $4@6 per 100 bunches. Fancy hot house rhubarb is in light supply and meeting an active demand at 75c@$1 per bundle, but there is some poor rhubarb here which is finding a dull market at 40@60c per bundle. The only spinach on the market at the present writing is coming all the way from Texas and selling around $2.25 per bushel. Scallots are in light supply at $9 per barrel. The market is firm on hard ripe tomatoes which sell at $3.50@4.50 per crate with choice at $2.50@3.50 per crate. Hot house tomatoes are in light supply and firm at 35@40c per pound for the fancy with No. 2s selling mostly around 25c per pound. Pennsylvania parsnips are meeting a good demand at mostly $5.25@5.50 per barrel. Pennsylvania and New Jersey white turnips are in moderate supply and firm at 75c@$1.10 per ⅝ basket, while the Pennsylvania yellow turnips draw the fine prices of $1.10@1.35 per ⅝ basket. Eastern Shore rutabagas are selling around $3.25@3.50 per barrel. Watercress is scarce and firm at $2.50@3.50 per 100 bunches.

Fruits.

The market on apples is showing very little change. Strictly fancy apples are in light supply and such are selling promptly at the outside range of quotations. Poor apples on the other hand continue in fairly plentiful supply but at the same time are working out daily at the lower range of quotations. Sales of the various varieties are being made at about the following range of prices as to quality: Baldwins, $4.50@9; Ben Davis, $4@7.25; Greening, $5.50@6.50; York Imperials, $4@6.75; Spys, $4@6.50; Starks, $4@6.50; Russets, $4.50@6; Winesaps, $6@8.50; Paragons, $8@9; Rome Beauty, $7@8.50; other odd varieties $4@8 as to variety and condition. Far Eastern box apples are very firm at about the following range of prices Wineaaps $2.75@4; Newtowns, $2.50@3; Spitzenbergs, $2@3.25; Pearmaines, $2.50@3.50; Rome Beauty $2.75@3.25. Cranberries continue dull and neglected by the trade but the dealers continue to hold their fancy berries firm at about former vaues and quotationa range as follows: barrels, $4@8; crates, 75c@$2.50. Strawberries are gradually increasing in supply and prices at this writing are ranging from 35@65c per quart with tendency gradually going to lower prices. A few pineapples have been on the market and sold from $5@8 per crate.

Poultry

The advance of 2 cents per pound on fancy fowls and chickens noted in these columns last week has been followed by another advance of about 2 cents per pound this week and the market is ruling firm at the revised quotations which are about as follows: Heavy fowls, 42@44c; smaller size fowls, 39@40c; fancy average soft meated chickens, 42@44c; inferiors, 39@40c; fancy nearby broiling chickens, 50@55c; roosters, 25@30c; ducks, 30@46c; geese, 30@45c; turkeys, 50@52c.

Eggs.

Our prediction in these columns last week that the tendency of the egg market would gradually be lower has been verified by the fact that the market at this writing is at least 4 cents lower than was prevailing at the time of our last report. The market today was inclined to be easy at the prices quoted and we believe that the market will go, lower before many more days. To days quotations are about as folows: Pennsylvania and other nearby current receipts 59c; firsts, 60½c; Western, firsts, 57c; extra firsts, 59c.

LANCASTER PRODUCE MARKET

Lancaster, Pa., March 1, 1920

Altho federal agents were circulating in the markets today, and Fair Price Commissioner McClain has warned that prosecution will be brought if meat prices do not drop, handlers of county dressed meat today kept their quotations at the old high levels. Dressed Fowls were scarce and higher. Eggs which were offered in abundant quantities showed a slight decline and sold as low as 58c at the cose of business. The quotations:

Butter and Eggs.—58@60c per dozen; duck eggs, 75c per dozen; goose eggs, 8c each; country butter, 70@75c per pound; creamery butter, 80@85c per pound.

Poultry.—Dressed young chickens, $1.35@1.75 each; dressed old chickens, $1.75@2.25 each; no live fowls offered.

Vegetables.—Spinach, 40c ½ pk.; turnips, 20c per ½ pk.; potatoes, 30@40c ½ peck; do., $3@3.20 per bu.; sweet potatoes, 35c per ½ pk; cabbage, 15@25c per head; cauliflower, 35c per head; lima beans, 20c per quart.

Fruit.—Apples, 35@50c per ½ peck.

Grain Market.—Wheat, $2.20 per bu.; corn, $1.25; oats, 85c. Timothy hay, $31 per ton; mixed hay, $30.

YORK PRODUCE MARKETS

York, Pa., March 1, 1920

At this season it is usual for all lines of vegetables and fruits to advance, and the present is not an exception. Yet the advance is very little greater than in other winters. Potatoes are selling rapidly at almost double what they were bringing in the fall. The home apple stock is just about exhausted. Eggs advanced several cents due to the extreme cold that has gripped the country again. Butter is still at the old mark.

Eggs.—60@65c per dozen.

Butter.—Country, 65@75c lb.; separator, 75@80c lb.; milk, 12c qt.

Poultry.—Hens, 26@30c lb.; dressed, 75c to $2 each.

Vegetables.—Potatoes, 20@35c ½ peck; $2@2.50 per bu.; cabbage, 5@15c hd.; lettuce, 8@15c hd.; radishes, 6c bunch; beets, 5c bx.; onions, 5c bch.; 25@30c ½ peck; lima beans, 30@40c quart; soup beans, 20@30c qt.; celery, 5@15c stalk; turnips, 15@20c ½ pk.; apple butter, 45@50c qt.; sausage, 32@38c lb.; pudding, 30c lb; steak, 40@45c lb; bone meat, 25@32c lb.; lard, 30@32c lb.; hogs, 20@21c lb.

Fruit.—Apples, Yorks, 30@50c ½ peck; other varieties, 40@60c ½ peck; Stayman, 60@80c ½ peck; common stock, un-colored, 40@50c ½ peck.

Retail Grain Market.—Wheat, $2.60; corn, $2; oats, $1; rye, $1.75; bran, $3 per cwt.; middlings, $3.50 per cwt.

Wholesale Grain Market.—Wheat, $2.50; corn, $1.45; oats, 90c; rye, $1.50; bran, $52@56 ton; middlings, $55@65 ton.

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NEW YORK PRODUCE

New York, March 1, 1920

Butter weak; receipts, 6,652; creamery, higher than extras, 61½@65c; creamery extras (92 score), 63½@64c; firsts (88 to 91 score), 58@63c; packing stock, current make, No. 2, 38½c.

Eggs.—Unsettled; receipts, 27,123; fresh-gathered extra firsts, 58c; firsts, 56@57c; state, Pennsylvania and nearby western hennery whites, firsts to extras, 58@62c; state, Pennsylvania and nearby hennery browns, extras, 60@61c; do., gathered browns and mixed colors, firsts to extras, 57@60c.

Cheese.—Irregular; receipts, 756; state, whole milk flats, held specials, 29½@31c; do., average run, 28@29; state whole milk twins, held specials, 29@29½; do., average run, 27½@28c.

Live Poultry.—Firm; chickens, 28@30c; fowls, 40@41c; old roosters, 20c; turkeys, [illegible]; dressed poultry, [illegible] chickens, western broilers, fresh, [illegible] chickens fresh, 31@39c; frozen, 30@40c; fowls, fresh, 30@40c; frozen, 29@40c; old roosters, fresh, 27½@28c; frozen, 28c; spring turkeys, fresh, 46@52c; frozen, 51@55c.

Vegetables.—Potatoes, Maine, $9@9.50; per 165 pounds; State, $9@9.50; Long Island, $9@10 per 165 pounds. Beets, $4.60@5.50 per barrel. Carrots, $4.50@5.50; onions, $5@6.50 per 100-pound bag.

Fruit.—Apples.—Ben Davis, $4@6.50; Winesaps, $4@10; Yorks, $3.50@6; Staymen, $4.50@8; Greenings, $5@11.

PITTSBURGH PRODUCE

Pittsburgh, Pa., March 1, 1920

Butter.—Prints, 71@71½c; Tubs, 70@70½c; cooking, 54@55½c; Ohio, 65@65½c.

Cheese.—New York full cream, 36½@37c. Ohio, 35@35½c; Wisconsin Swiss, 60@61c; Philadelphia cream, $1.00 per dozen.

Eggs.—Fresh, select, 60@61c; at mark, 57@58c.

Potatoes.—Round, $7@7.25 per 150-pound sacks. Onions, $6@7 sack. Cabbage, $6.50@7.25 barrel. Sweet potatoes, $2.65@2.75 hamper. Turnips, $2.25@2.50 bushel.

Fruit.—Apples, $3@4.50 box.

PHILADELPHIA LIVE STOCK

Philadelphia, Pa., March 1, 1920

Receipts of live stock for week ending February 28, were as follows:

	Beef Cattle	Sheep and Lambs	Hogs
Total for Week	1,911	4,921	8,364
Previous Week	2,170	3,911	8,262

Calves.—Receipts of calves last week were 1,292 head against 1,358 head week previous.

Beef Cattle.—Demand was firm and the market for steers and cows was steadily maintained. Desirable grades of veal were in fair request and steady, but offerings were largely of more or less unattractive stock, which was dull and irregular in value. Quotations: Steers, fair to good, $12@13.75; common to fair, $10.50@12; cows, per lb., good to choice, corn fed, 8@9½c; do., fair to good, 6@8c; common to fair, 4@6c; calves, extra to choice, $22.50@23; do., fair to good, $19@21; do., common, $13@17; do., heavy and rough, $8@11; do., Tennessee, choice, $18@19; other southern, $9@14.

Sheep and Lambs.—The market for both sheep and lambs of fine quality ruled firm and higher, with demand readily absorbing the offerings. Supplies were mostly of medium and under grades, which met with fair sale, but showed no change in prices. Quotations: Sheared sheep, wethers extra, $14@14.50; do., good to choice, $11@12; do., medium, $8.50@9.50; do., common, $5@6.50; heavy, fat, $11@12; lambs, spring, choice, $21.25@21.50; do.; medium grades, $18.50@20; do., culls and common, $13.50@15.50.

Hogs.—Demand was fair. Quotations; Best western, $18 per 100 pounds; hogs, nearby, good, $16@16.50.

City Dressed Stock.—Steers, heifers and cows were dull and lower, due to free offerings and increased pressure to sell. Lambs of fine quality were firm and higher. Other descriptions were in moderate supply and demand, with little change in prices. We quote: Steers, 16@23c; heifers, 15@22c; cows, 12@17c; calves, city dressed, choice, 28@30c; do., country, 24@26c; sheep, 29@31c; do., country, 24@27c; sheep, choice, 14@24c; lambs, choice, 34@36c; hogs, 23½c.

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PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., March 1, 1920

Baled Hay and Straw.—Receipts, 36 tons of hay. Scarce and market firm. We quote: Timothy hay: No. 2, $43@44; No. 3, $41@42; sample, $34@37; No grade, $30@32. Clover, mixed hay, light mixed, $43@44; No. 1 mixed, $42@42.50.

Straw.—No. 1 straight rye, $20@21; No. 2, do., $18@19; No. 1 tangled rye, $18@18.50; No. 2 do., $17@17.50; No. 1 wheat straw, $17@17.50; No. 2, do., $15@15.50; No. 1 oat straw, $17@17.50; No. 2, do., $15@15.50.

Bran.—Firmly held. We quote car-lots, to arrive including sacks. Soft winter bran, Western, in 100-lb. sacks, per ton, $51.50@52; spring bran, in 100-lb. sacks, per ton, $50.50@51.

Corn.—New, $1.58@1.68.

Oats.—No. 2 white, $1.02@1.02½; No. 3, white, $1.01@1.01½; No. 4, white, $1@1.00½.

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NEW YORK HAY AND GRAIN

New York, March 1, 1920

Feed.—The market for mill feed was very inactive with buyers indifferent. Mill offers were limited and transportation facilities interfered considerably with the movement, but there appeared to be quite liberal holdings in second hands which were available and which holders seemed anxious to sell.

Quotations: City feed, bran, $51; middlings, $55, in 100-pound sacks; red dog, $69, nominal, in 100-pound sacks; Western spring bran, $50; standard middlings, $54; flour middlings, $61; red dog, $68, all in 100 pound sacks, 30-day shipment. Oat feed, $32; rye middlings, $52; white hominy feed, $66.00, all in 100-pound sacks. Cottonseed oil meal, $77.50; linseed oil meal, $74; in 100 pound sacks.

Hay and Straw.—New invoices are still running rather light and the market is a continued firm one but receivers are becoming just a little anxious as the future course of the market and are not losing any opportunity to sell. Quotations are revised to cover late sales. Straw continues very scarce and peddling sales are reported here and there at even higher prices than quoted.

Hay.—No. 1 large bales $54@55 ton; No. 2, $51@52 ton; No. 3, $48@52; shipping $47@50 ton. Fancy light clover mixed, $50@52 ton. Clover, No. 1, mixed, $48@51; No. 2 mixed, $47@50.

Straw.—Per ton, No. 1 rye, $26; No. 1, oat, $23.

Wheat.—No. 2, red $2.36½.

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PITTSBURGH HAY AND GRAIN

Pittsburgh, Pa., March 1, 1920

Hay.—Receipts have shown a slight increase. Demand remains fairly active which readily disposes of arrivals at present market quotations. Market steady.

No. 1 Timothy, $38@38.50; Standard Timothy, $37@37.50; No. 2 Timothy, $35@36; No. 3 Timothy, $32.50@33.50; No. 1 Light Clover Mixed, $37@37.50; No. 1 Clover Mixed, $38@39; No. 2 Clover Mixed, $34@36; No. 1 Clover, $39@39.50; No. 2 Clover, $34@36.

Straw.—Receipts of oat straw are very light, while the demand is good. Wheat straw arriving a little more freely but placed at quotations. Market quiet but steady.

No. 1 oat, $15@15.50; No. 2, $14.50@15; No. 1 Wheat, $14.50@15; No. 2, $14@14.50; No. 1 Rye, $15@15.50; No. 2, $14.50@15.

Ear Corn.—Demand very poor. Arrivals, altho light are difficult to place at anything like satisfactorily figures. Market dull.

Yellow No. 2, $1.55@1.57; No. 3, $1.50@1.52; Mixed No. 2, $1.53@1.56.

Oats.—Receipts liberal. Buyers loathe to pay the present high prices. Difficult to place shipments. Market has an easier feeling.

No. 2 White, 95¾@96; No. 3 White, 94¾@95¼; No. 4 White, 91@93.

PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., March 1, 1920

Butter.—Receipts, 2,284 tubs. Offerings of strictly fine creamery were light, and the market for this description ruled firm, the demand, as usual on Saturday, was only moderate. Most of the supply consisted of medium and low grades, which continued dull and irregular in value. Quotations: Fresh, solid-packed creamery, fancy, high-scoring goods, 67@69c, the latter for jobbing sales; extra, 66c; extra firsts, 62@65c; firsts, 56@59c; seconds, 50@53c; sweet creamery, choice and fancy, 68@70c; do., fair to good, 52@67c; ladle packed, as to quality, 43@45c; packing stock, 37@40c; fancy brands of nearby prints jobbing at 74@76c; good to choice, 66@73c; fair, 63@65c.

Cheese.—Quiet and barely steady. New York, whole-milk flats, held, fancy, 31c; fair to good, 30@30½c; fancy, 31c; Wisconsin, held, fancy, 31c; fair to good, 30@30½c; jobbing sales of fancy held goods, 33@34c.

NEW YORK MILK MARKET

New York, March 1, 1920

Altho demand continues good, the surplus is heavy and most of the butter and cheese manufacturers busy. The March rate to the shipper in 200 mile zone is $3.36 per 100 pounds for 3 percent milk; add 4 cents per 100 pounds for each additional one-tenth of 1 percent butterfat.

Receipts of milk and cream in 40-quart cans for the week ending February 28th, 1920, were as follows:

Railroad	Milk	Cream
Erie	48,006	2,862
Susquehanna	8,799	128
West Shore	12,742	1,075
Lackawanna	51,100	905
N. Y. Central (long haul)	153,742	1,796
Ontario	44,818	2,875
Lehigh Valley	57,393	1,123
New Haven	7,245	22
Pennsylvania	12,414	418
Other Sources	6,500	300
Totals	402,759	11,504
Same Week last year	325,708	9,170

INTERSTATE MILK PRICES

The basic price for 3 percent milk within 10 miles of Philadelphia is $3.28 per 100 pounds, and one cent per hundred less for each 10-miles distant. Four cents per 100 pounds is paid for each one-tenth of one percent fat above 3 percent. These are prices for the basic quantity or less. Amounts exceeding the basic quantity are paid for at a less price.

CLOVERSEED

Toledo, O., March 1, 1920

Cloverseed.—Prime cash, $34.60; February, $34.60; March, $34.30; April, $33.80; October, $25.25.

Alsike.—Prime, cash $35; March, $35.

Timothy.—Prime, cash, 1917, $6.40; 1918, $6.40; 1919, $6.57½; March, $6.57½; April, $6.55; May, $6.50.

Note.—It is well to remember that these are wholesale prices per bushel paid by jobbers.

TOBACCO MARKET

A continuation of rough weather, said to be in accordance with the decree of the ground hog, was a potent hindrance to tobacco activity in all its phases. The cured plants were frozen so dry that they could not be piled for stripping, the roads were so muddy as to hinder deliveries, packers in many instances were so short of labor as to be unable to handle that which was brought to them, many were suffering from indisposition, the whole amounting to a situation the only relief of which is continued warmer weather. Owing to their congested conditions no sales are known to have been consummated during the week but it is known that a small percentage of the product remains unsold in practically all localities and a considerable percentage in some places. The most recent sales were at prices near or slightly below $25 per cwt. Most holders are asking $25 to $28 per cwt. which seems a very reasonable price.

The proximity of the new crop year resulted in the usual comment as to acreage, etc. It is predicted that not to exceed 25,000 acres will be planted in the state owing to increased interest in other products. It is assured, however, that there is no danger of the crop being adbandoned. Growers were warned by state authorities of the danger of loss from root rot fungus which exists as a parasite on the underground system of growing plants. They were told that to control the same it is necessary to thoroly sterilize beds which can only be done by the use of steam and to plant vigorous and [illegible] disease resisting strains of seed. Corresponding to its favorable reputation in so many other ways it was pointed out that the famous slaughter strain of broadleaf is without parallel as a disease resisting type and accordingly growers were advised to procure and plant the same.

Farm Products, Prices and Prospects

TRANSPORT DIFFICULTIES AFFECT AMERICAN SUPPLY OF POTASH

Since the armistice the United States has been unable to secure anything like the quantity of potash it urgently requires. This is due almost entirely to the transport crisis in France, which has continued without sensible amelioration. This fact can not be over-emphasized in connection with a study of the potash situation, since it is at the very root of the problem of getting potash to the United States. The lack of railway transport likewise tends to cut down shipments of coal necessary for the reduction of the higher grades of potash.

The most economical way to export French potash is via the Rhine from Mulhouse (Mulhausen) to Rotterdam or Antwerp. However, between Mulhouse and Strasburg the river is navigable only a few months each year, in the interval between the flood and dry seasons. During the present winter, for example, the Rhine Valley has endured inundations of a most unusual degree and destructiveness. It is therefore necessary to depend almost entirely on rail shipment to Strasburg, the potash being there loaded on barges and sent down the Rhine. Shipments may also be made by rail from the mines direct to Rotterdam or Antwerp. Considerable difficulties and delays have been experienced recently in securing the return of railway freight cars sent to those ports, as a consequence of the difficult railway transport situation.

The American agents of the Alsatian potash interests have since May, 1919, succeeded in shipping about 100,000 tons of potash of various grades to the United States. Efforts are now being made to secure more adequate railway transport facilities for potash destined for the United States, and it seems quite likely that these efforts will be successful. It is of capital interest to France to stimulate such shipments, in view of the favorable effect they will have on the present unsatisfactory French exchange situation. There is also the factor of German competition to be considered, against which the French interests will undoubtedly exert every effort. It should be remarked that the mines now in operation in Alsace are alone capable of supplying the world's needs. Otherwise expressed, it is merely a matter of stimulating production to the required level. In strict justice, these statements apply equally well to the German potash mines.

BELGIUM ATTEMPTING PRODUCTION

Belgium's efforts to restore pre-war production are indicated by some of the crops of 1919. The average rye crop of 1909-1913 was 22,675,000 bushels and the production of 1919 was 13,681,000 bushels. Wheat had a 5-year average of 14,583,000 bushels and a production of 9,895,000 bushels in 1919. For oats, the 5-year average of 40,905,000 bushels compares with a crop of 26,920,000 bushels in 1919; for barely, 4,247,000 bushels with 3,617,000 bushels; and, for potatoes, 107,621,000 bushels with 76,064,000 bushels.

INCOME REPORTS NOW DUE

The farmer who is liable to the income tax must have his report in by March 15. There is but one way to get the farmer's correct income, and that is to figure it on the inventory basis.

The inventory value of all live stock, grain, feed and supplies on hand at the beginning of the year should be added to the total farm expenses, and the total value subtracted from the total of all farm receipts and inventory value at end of year.

1.—2 to 5 percent depreciation on farm buildings.

2.—5 to 6 percent depreciation on farm fences.

3.—10 percent depreciation on farm machinery.

4.—15 to 20 percent depreciation on tractors and farm autos.

5.—The allowable deductions on account of being married, caring for dependents, etc., and in addition the total amount paid to church, charitable, educational, and scientific institutions provided the amount does not exceed 15 percent of the net income.

Every farmer expecting to make a report for 1920 should take his inventory now dated as of January 1, and also keep a record of his farm receipts and expenses. This is not as hard a task as many think. Five or ten minutes a day will keep a good record if you have a simple book for the purpose.

FEDERAL GRADES FOR WHEAT TO STAY

Federal grades for wheat will not cease to be enforced under the United States Grain Standards Act when the United States Grain Corporation ceases to function.

The Grain Corporation was created under a war emergency law. The law which empowers the Secretary of Agriculture to fix grades was approved August 11, 1916, and is a permanent measure. Federal grades for wheat had been contemplated by the Department of Agriculture for several years prior to the entry of the United States into the war, and a large amount of investigational work had been done toward establishing National wheat standards. The grades were promulgated by the Secretary of Agriculture on March 31, 1917, to become effective on July 1, 1917, for winter wheat and on August 1, 1917, for spring wheat, and were revised in their present form effective July 15, 1918.

SHIPS MADE AVAILABLE FOR IMPORTING NITRATE

Indications are that enough Chilean nitrate will reach the United States to meet the nitrate requirements of Americans farmers for this season. The limiting factor was lack of tonnage to bring the nitrate to American ports. The Department of Agriculture on February 7 placed before the Shipping Board the necessity for prompt action in making such tonnage available. A conference was held on February 11 between the Shipping Board and representatives of principal nitrate concers and an agreement was reached under which the board agrees to furnish prompt requisite tonnage covering the period from now until July 1. After that date, according to the agreement, importers will submit their sales on the first of each succeeding month and the Shipping Board will enter into further engagements to supply the required tonnage.

Deliveries will be somewhat delayed for February and March, but nitrate concerns believe that they will now be able to handle April, May and June arrivals in such way as to clear up all deliveries that are behind and to take care of the forward business in good form. Indications are that importers will make deliveries in accordance with contract, subject to some possible delay during the next few weeks.

IMPORTANCE OF FARM WOODLOT

About half of the fuel used on farms in general is furnished directly by the farm in the form of wood. The average farm family uses annually between 9 and 10 cords of wood for fuel, in addition to which about 3 tons of coal is bought. The wood, furnished almost altogether by the farm, represents a very considerable item. The farm woodlot should not be overlooked by the farmer in planning for the economical utilization of the resources of his farm.

It is estimated that ninety percent of heat supplied for baking in gas and oil stove ovens is lost thru the sides of the oven. Most ovens of this type may be insulated aceptably by means of sheet asbestos cut to fit all sides of the oven. The door will probably have to go without insulation.

Forrest's Early Wonder Silage Corn

This new corn has been specially developed for its high feeding value in the form of silage. Unusually heavy leaf growth; ears large and formed early. It will enable you to fill your silo early and with better feed than you can obtain from any other corn grown.

Forrest's Northern Wonder Oats

Extra early and give heavier yield than ordinary varieties. We have seen our Northern Wonder Oats make a fair crop in dry weather that seriously injured other oats.

Northern Grown Seed Potatoes

Our stock is smooth, sound, and has come through the winter in perfect condition. Positively free from any of the potato diseases sometimes affecting seed. Lowest market prices on application.

Forrest's Timothy and Alsike Mixture

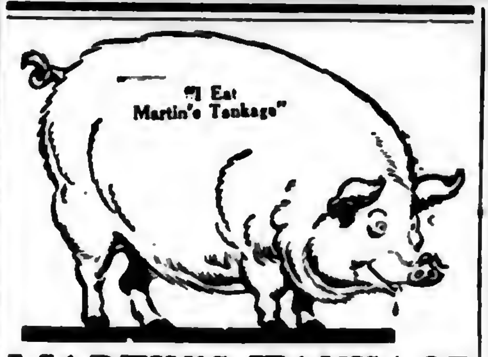
A valuable forage combination, much higher in feeding value than Timothy alone.

Send for Catalogue of Forrest's Fertile Seeds for Farm and Garden

Our 22 years experience in growing seed for market gardeners has enabled us to eliminate the less desirable varieties of vegetables and list only the best for you to choose from. Thus our catalogue gives you double protection—only fertile seeds and only the best varieties.

We also list special seed collections for the home garden which you may rely upon to give you the best possible yield in any locality. These collections, sent postpaid for 25c, 50c and $1.00 are fully described in our catalogue. Write for it today.

Forrest Seed Company
Box 39, Cortland, N. Y.



MARTIN'S TANKAGE
Produces the Big Ones

It takes just as much time to feed good, wholesome tankage as it does the poor kind. And it costs *less* in the end. You can always depend on Martin's Tankage. Only the best of meat scraps, carefully sterilized, are used. Sold with a guarantee. Write for feeding directions and prices.

D. B. MARTIN CO.
36th and Grays Ferry Ave., PHILA.

MEAT MEAL
Manufactured From
Beef, Blood and Bone
A properly proportioned
Concentrated Ration
Better Than Tankage
For Poultry and Hogs
GUARANTEED ANALYSIS

Protein	65%
Fat	5%
Bone Phosphate of Lime	16½%
Crude Fibre (Maximum)	2%

THE FOOD TO FEED TO FORCE THE EARLY BROILER
INCREASE YOUR EGG YIELD AND ADD WEIGHT TO YOUR HOGS
Write For Circular and Sample
RICHMOND ABATTOIR, Dept. C
Office S. E. Cor. 6th and Cary Sts.,
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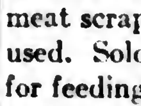

I will condition a horse or cow in twelve days.
Put flesh on its bones. Give it life and vigor. Can add 50 percent to looks and value. Satisfaction guaranteed or no pay. Send postal for free offer.
P. V. FAUST, BRYN MAWR, PA.

Buy a Farm Tractor
Farm Tractors for sale—All makes—some new, exhibited at Fairs; others little used at demonstrations—guaranteed. Lowest cash prices, or on installments. Write for tractor and engine bulletin.
FARMERS' EQUIPMENT CO., Jersey Shore, Pa.

For Sale Registered O. I. C. Boars, six months old. Good breeding.
J. W. SNYDER, WHITEFORD, MD.

STRAWBERRY Plants, 100 early to late $1 postpaid. Catalog of plants and trees free. L. G. Tingle, Box 77, Pittsville, Md.

Cow Beets Wanted

One carload of beets for cow-feeding purposes at once. Telegraph at our expense price per ton and when shipment can be made.

BENNETT & LATZER, Wellsboro, Pa.

The Perfect Salt for All Purposes on the Farm.

For use in salting meats—salting butter, stock feeding, cooking for the table and for all other purposes where salt is used on the farm.

COLONIAL
SPECIAL FARMER'S
SALT

is the quickest dissolving and highest grade salt produced.
If it should happen that your dealer is not handling our salt, write us.

THE COLONIAL SALT COMPANY
AKRON, OHIO
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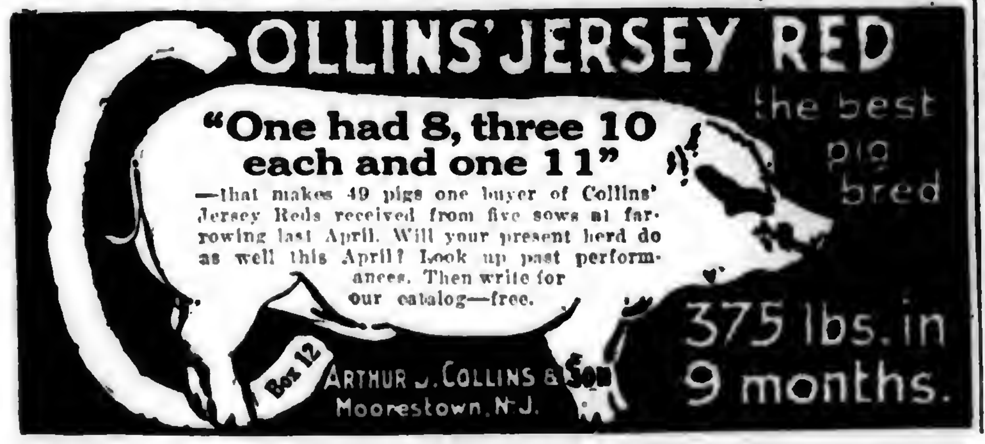
NEWTON'S FOR HORSES, CATTLE, HOGS.
25 YEARS SALE
HEAVES, COUGHS, COLDS, DISTEMPER, INDIGESTION
Cures Heaves by correcting the cause—indigestion. Prevents Colic, Staggers, etc. Best Conditioner and Worm Expeller. Three large cans guaranteed to cure Heaves or money refunded. .60 and $1.15 per can. (This includes War Tax.) At dealers' or prepaid by parcel post. Booklet free.
THE NEWTON REMEDY COMPANY, Toledo, Ohio

Lump Jaw
The farmer's old reliable treatment for Lump Jaw in cattle.
Fleming's Actinoform
Sold for $2.60 (war tax paid) a bottle under a positive guarantee since 1896—your *money refunded if it fails.* Write today for FLEMING'S VEST-POCKET VETERINARY ADVISER A book of 197 pages and 67 illustrations. It is FREE.
FLEMING BROS., Chemists, 252 Union Stock Yards, Chicago

COMPLETE DISPERSAL SALE
50 Head High-Class Pure-Bred Holsteins

King Korndyke Sadie Vale 6th heads the herd. He is a 34-lb. bull, one of the best sons of King Korndyke Sadie Vale and out of a daughter of Sir Veeman Hengerveld (Stella Veeman Hengerveld.)
27 Cows of milking age, all heavy producers milking from 50 to 81 lbs. per day.
12 Cows with A. R. O. records, most of them above 21-lbs. of butter in 7 days.
SPECIAL FEATURES: A 24-lb. cow with her heifer calf.
A 23-lb. cow and 2 of her daughters.
A 21.50 lb. Show Cow and 8 of her daughters.
A 2-year-old daughter of a 30-lb. cow. This heifer has 2 30-lb. sisters.
17 Head of heifers from 2-year-old to calves, most of them by my herd sire.
6 Bulls and bull calves.
A yearling son of Spring Farm King. His 3 nearest dams average 30-lb.
For breeding and individuality this herd is undoubtedly the best ever offered in this part of the State. Entire herd for sale.
SALE MARCH 17, 1920 At 12.30 P. M. sharp at my farm close to Lebanon, Pa. Easton and Lebanon trolley from Lebanon passes thru the farm.
F. W. FERNSLER, Ferndale Farm, R. 1, Lebanon, Pa.

It Does More and Goes Farther Than Any Product Known
100% Medicinal Tix-Ton-Mix Keeps away Worms, Germs and Ticks
Wise Stockmen Everywhere are TIX-TON Users
Tix-Ton ANTISEPTICS
the year around keep stock healthy and free from disease germs, worms, and ticks. A $7.50 Drum makes $60.00 worth of medicated salt, or stock conditioner—saves you big money.
Send $3.00 for a box of "TIX TON-MIX" by parcel post. It will medicate a barrel of salt. For hogs, sheep, cattle, horses, and poultry.
PARSONS CHEMICAL WORKS, Grand Ledge, Michigan
Write for Club Offer Leona Park Farms Experiment Station



COLLINS' JERSEY RED
the best pig bred
"One had 8, three 10 each and one 11"
—that makes 49 pigs one buyer of Collins' Jersey Reds received from five sows at farrowing last April. Will your present herd do as well this April? Look up past performances. Then write for our catalog—free.
Box 12
ARTHUR J. COLLINS & SON
Moorestown, N.J.
375 lbs. in 9 months.

FOR SCHOOL IMPROVEMENT

Having read with great interest the various suggestions and comments concerning rural schools and education in the Pennsylvania Farmer during the past few weeks I could not resist the temptation, as an ex-teacher with five years of rural educational experience, to add a few remarks bearing on this much discussed topic.

For one thing, I can not see why the Grange and most farmers are opposed to consolidated schools. They surely can see how the "little red school house" has failed in its mission and is woefully inefficient today.

Consolidation of schools is the only practical remedy for this state of affairs. Every teacher knows that two or three grades can be taught much more efficiently than a collection of pupils grading from kindergarten to high school. The sanitary environments, modern heating, lighting, plumbing, etc., arrangements of the present day consolidated school are admittedly much to be preferred to those of the insanitary, dark, damp, cold, one room rural school. The consolidated school also offers social advantages not found in the rural school. Numbers make for competition and that in turn tends to develop keen, eager scholars and seekers of knowledge, a condition that is so often lacking in the sparsely attended rural school.

The most important factor in education, however, is the teacher. Without efficient, faithful teachers no system of education will be successful. There is an alarming shortage of teachers in the United States. Our Pennsylvania schools are handicapped for the same reason. In this case nothing else can be done but to increase salaries and increase them immediately and sufficiently. Half-way measures will not do. The Literary Digest recently published a list of trades with the average daily wage paid in each case. The plumber heads the list with $6.50 per day; the dog catcher is second last with $2.46 per day; and the school teacher brings up the rear with $2.36 per day. With unskilled laborers earning not far from $2,000 per annum it stands to reason that a profession, with duties and qualifications so arduous and exacting as the teaching profession demands, be rewarded at least as liberally as other professions. A minimum salary of $1800 per year for duly qualified, trained and equipped instructors would be a great step forward in solving the school, and especially the rural school, problem.

Such teachers could feel successful and could therefore, with enthusiasm, teach efficient and successful living to their young and impressionable charges. They could teach agriculture and country life as it should be taught, inspiring their pupils to elevate agriculture to its rightful plane, that of a great business carried on and operated with business-like and scientific processes. A united rural population must accomplish that and it is no easy task. Farming, like teaching, must be made attractive and profitable if our young people are to be induced to make it their life work. And "Young America" will not work for its health. It demands, and rightly too, its just share of the rewards and bounties of this rich country.

Probably many and great things could be accomplished in education if the education system of the entire country were under Federal control with a Commissioner of Education sitting in the Cabinet. Salaries, methods and practices of teaching would be standardized and I am sure that a great deal of progress in the evolution of our antiquated school systems would be accomplished.—L. F. S., Lebanon Co., Pa.

NEW YORK FARMERS' WEEK

The program for Cornell's Thirteenth Annual Farmers' Week comprised over 400 events. Over 70 lecturers from all parts of the country besides the college staff cooperated on a program unequalled heretofore. Great strides have been made in the plan of a great farmers' event at the college, where instruction is given the rural residents.

This is the occasion among other events, of great state wide conferences along special lines. It is a mid-year get together to discuss leading and timely problems.

One of the big conferences was held on Wednesday, that of the State Federation of Farm Bureaus. State President S. L. Strivings announced that both state and national farm bureau federations stand for aggressive policies of progress, not only for agriculture itself but for the presentation of programs agreeable to the cities as well. For a get-together movement he said the federation has decided to appear if desired before a conference of labor organizations, who, in turn, will be asked to appear before the several farmers' organizations in order that an interchange of views may occur.

The state federation's special committee on transportation and marketing held a lively meeting. Reports were considered which showed serious car shortage for freight in Western New York due to congestion in eastern terminals. One limestone company reports a shortage of 700 cars others made similar reports. A representative of the Montgomery County Hog Growing Association stated that they are 128 cars behind. Fruit growers from Medina and Stockport districts are having much trouble. Apples have had to be sent to cider mills because they could not be shipped.

Samuel Frazer special investigator of these things for several state organizations reported that the federal railroad administration has proposed new freight tariffs for refrigerator cars which in some cases will make the ice cost more than the fruit.

The department of farms and markets agreed to work for more cars, as a first aid to crop production in 1920. Mr. Fraser reported stagnation today in the handling of farm produce with coal moving most fully.

His report was of general interest in stating that records show that freight cars in use are moving 9 percent of the time, are being unloaded 11 percent of the time, and the same in loading, and stand idle 68 percent of the time. The average miles a day for a box car is 22. The average refrigerator car moves 45 miles a day, while packer owned cars travel 50 miles a day. Tank cars travel twice as far each day as box cars.

The Dairymen's League at its conference offered silver cups to the owners of grade and pure bred cows that in 1920 shall make the best producing records, as an inducement to more efficient breeding.

The farmers special road committee reported 35 counties now building improved roads for feeders for county and state highways. These roads are costing $5,000 to $7,000 a mile, against the $40,000 a mile spent on state roads. They are not intended for heavy traffic. The federation of farm bureaus will support a proposed law to get state aid for building these roads to replace the old impassable cross roads.—M. G. F., New York.

WAYNE COUNTY, PA., TESTING REPORT.

Six Cow Testing Associations have been started in Wayne County since July 1, 1919, and they are meeting a long felt need of the dairymen here in the county.

In January these associations tested 140 herds and over 1600 cows. One hundred twenty-three cows produced over 40 pounds of butterfat for the month and 27 cows produced over 50 pounds of fat. Honor roll cows were distributed as follows: Clinton, 28; Tyler Hill, 17; Lakewood, 10; Mount Pleasant, 15; Calkins, 12, and Starruca, 41.

J. H. Moase and son have a purebred Holstein that produced 69.7 pounds of butterfat for the month. Harry G. Vail of Damascus was second with 63.1 pounds from a four-year-old purebred Holstein.

Our associations are working toward a purebred sire, a balanced ration, and a silo for every member. —R. E. Wakeley, County Agent.

Look into the silo question now. Few dairy farms in New York state have sufficient silo capacity. Good silage pays big dividends.

HEREFORD BREEDERS' ASSOCIATION

On Saturday, Feb. 21, 1920, a number of Hereford Cattle Breeders met in Somerset, Pa. The object of the meeting was to discuss ways and means whereby the breeding of Hereford Cattle should be promoted in Somerset County. The promotion is the breed thru new breeders has always been a problem.

Before the meeting adjourned it was unanimously decided that a Hereford Association should be formed and as a result the "Somerset County Hereford Breeders' Association" was effected with the following objects: (1) to establish new breeders; (2) to secure breeding females as foundation stock; (3) to advertise the breed thru Fairs, local shows and newspapers.

The men at this meeting, who have been previously raising purebred Hereford Cattle, have only had in their herds one and two individuals and it was quite expensive for one farmer to handle a purebred sire of good breeding. Therefore, one of the plans to be worked out thru this organization is to promote the breed cooperatively. For example, purebred sires will be handled by two or three men, thus cutting down the expense. Another phase of cooperation will be to buy females in carload lots. When we have four or five men who want to buy two or three individuals, instead of going out separately into different communities, they will appoint one man to go to a certain place and buy the cattle in carload lots.

So far the main lines of breeding practiced by these men are traceable to the Perfection and Beau Donald families. It was unanimously agreed that members of this association when securing additional animals to their herds will make it a point to buy animals of this breeding. The motto of the Association adopted is, "Breeders of the Famous Beau Donald and Perfection Herefords."

The following men are members of the Association: President, W. C. Beyleg; Vice President, Ed. Barclay; Secretary-Treasurer, E. V. Heffley.

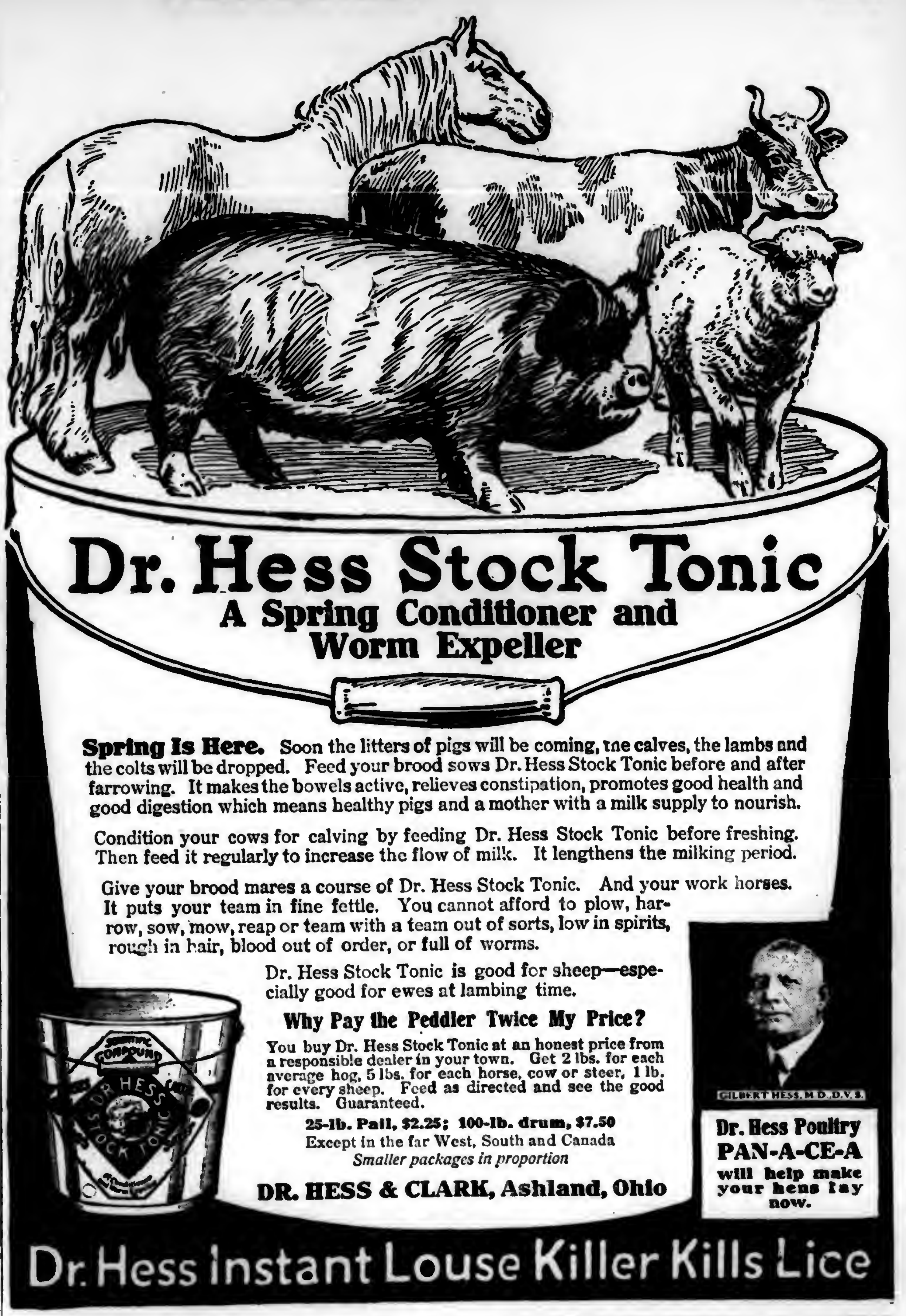
THE BUCKS COUNTY BERKSHIRE BREEDERS' CONSIGNMENT SALE

The best thing that the Berkshire Breeders of Bucks County ever did for the county was to hold a consignment sale of well-bred, typy animals. Not the cast off material of the various herds, but the "honest to goodness" stuff. The highest price received for an animal on February the 14th, at the sale stables in Doylestown, Pa., was $400 for an aged boar belonging to R. E. Atkinson. This boar, May Belle's Masterpiece 20th, has been in Mr. Atkinson's herd for quite some time and he had to get other breeding lines. This boar was bought by the Hardlea Farms, New Hope, Pa. The highest price bred sow, Neshaminy Artful Belle, brought $205. She was owned by a thirteen year old girl, who was a member of the Bucks County Pig Club in 1919. This sow was sired by the $400 boar and bred to Fearnaught of Meadowsweet.

The hogs for the sale were all well selected and the poor stuff culled out before the sale day. A committee of five was appointed to pass on the animals before the sale and to this committee belongs the credit for building up the great demand for the animals at the sale. At one place three animals were dejected and the owner promptly said that if any others were offered it would be taking his best stuff. "What are you doing, taking only good animals for the sale."

The sale of 41 hogs amounted to $4300, a little over $103 each. A thing that Bucks County is proud of is that 17 of the animals remained in the county. Plans are being made now for another sale in 1921. The entire sale was managed locally. W. W. Blake Arkcoll, manager of the Herdlea Farms, and E. Newlin Brown, both members of the Berkshire Association, were responsible for the good management and the auctioneering of the sale.—N. E. Garber, County Agent.

It's all in knowing how. Milking by machine does not harm the herd nor reduce the milk flow, experiments show.



Dr. Hess Stock Tonic
A Spring Conditioner and Worm Expeller

Spring Is Here. Soon the litters of pigs will be coming, the calves, the lambs and the colts will be dropped. Feed your brood sows Dr. Hess Stock Tonic before and after farrowing. It makes the bowels active, relieves constipation, promotes good health and good digestion which means healthy pigs and a mother with a milk supply to nourish.

Condition your cows for calving by feeding Dr. Hess Stock Tonic before freshing. Then feed it regularly to increase the flow of milk. It lengthens the milking period.

Give your brood mares a course of Dr. Hess Stock Tonic. And your work horses. It puts your team in fine fettle. You cannot afford to plow, harrow, sow, mow, reap or team with a team out of sorts, low in spirits, rough in hair, blood out of order, or full of worms.

Dr. Hess Stock Tonic is good for sheep—especially good for ewes at lambing time.

Why Pay the Peddler Twice My Price?

You buy Dr. Hess Stock Tonic at an honest price from a responsible dealer in your town. Get 2 lbs. for each average hog, 5 lbs. for each horse, cow or steer, 1 lb. for every sheep. Feed as directed and see the good results. Guaranteed.

25-lb. Pail, $2.25; 100-lb. drum, $7.50
Except in the far West, South and Canada
Smaller packages in proportion

DR. HESS & CLARK, Ashland, Ohio

GILBERT HESS, M.D., D.V.S.

Dr. Hess Poultry PAN-A-CE-A will help make your hens lay now.

Dr. Hess Instant Louse Killer Kills Lice

Farms

$1250 Down Secures 208 Acres, 3 Horses and 8 cows, 4 two-year-olds, 6 calves, bull, sheep, hogs, poultry, hay, wagons, harness, grain drill, long list implements; family affairs forcing quick sale. $5500 gets all. $1250 down cash not covering value of equipment alone; in densely populated, big market section, 2 miles hustling R. R. town. Dark loam soil tillage, wire-fenced pasture, profitable 150-tree apple orchard, much other fruit; 7-room house, large barns, &c. Details page 27 Strout's Spring Catalog Bargains 33 States, just out; copy free. STROUT FARM AGENCY, 1122 B E. Land Title Bldg., Phila.

NORTHERN OHIO FARMS
We have over 300 fine farm homes close to the great markets of Cleveland and Akron, very reasonably priced. Write for our Spring Catalogue. Address all communications to our Medina Office.
THE CODDING-BAGLEY-CASE COMPANY
Akron, Ohio. Medina, Ohio.

120 Acre DAIRY FARM at railway and milk station on state road (macadam) 10 miles from Ithaca; 8 room house with running water, also water in basement barn, large silo; 6 room tenant house; well watered pastures. Near school and church. G. Wilcox, West Danby, N. Y.

The Best Farms for the money, all sizes $50 to $100 per acre, good buildings. Cent. Schools, good soil. List free.
F. H. STEWART. ESPYVILLE, PA.

Will Sell Cheap If sold at once my farm 150 A. near Washington State Roads. REED POSEY Bryantown, Md.

For Sale: 200 ACRES or want farmer on half shares, good producer.
A. L. LUTMAN, OXFORD, PA.

Miscellaneous

PENNS VALLEY STOCK FARM
Percherons Berkshires Holsteins
Ready for service, High Class Boars. 12 sows and gilts bred for March and April farrow.
W. F. BISHEL, CENTRE HALL, PA.

REG. BERKSHIRES Longfellow, Masterpiece, King Lonis and Delchester Artful Lady blood lines. Special offerings, bred gilts, Fall pigs. Priced right. Nearby Stock Farm, J. A. McMahan, Pottsgrove, Pa.

REG. P. CHINAS, BERKSHIRES, C. WHITES, large strains, all ages, mated not akin; 8-wk. pigs, br. sows, service boars, Beagles and Collies. Write for circ. P. F. HAMILTON, COCHRANVILLE, PA.

FOR SALE: COLLIE DOGS 1 to 3 years old broken on stock. Beagle Pups wanted two to three months old.
I. B. TANGER. YORK SPRINGS, PA.

Percheron stallion for sale. Baron Loudoun No. 151627, by Insensible 2yrs. old next June. Price reasonable. John W. Houston, Ventosa Place, Lewes, Del.

For Sale: Registered C. W. gilts and serviceable boars and pigs. Also Jersey Bulls, all ages. J. A. BOAK, NEW CASTLE, PA. R. 4.

Chester Whites and HAMPSHIRE SHEEP. Write your wants. We can please you. TWIN BROOK FARM, Noxen, Pa.

LARGE ENGLISH YORKSHIRES, purebred. The bacon hog. Good feeders, gentle and prolific. J. Homer Beams, Luthersburg, Pa.

HAY AND POTATOES
Poultry and all produce wanted at market prices. Good, steady, active demand. GIBBS & BRO., 325 N. FRONT STREET, PHILADELPHIA, PA.

Best Breeds Poultry, Ducks, Geese, Turkeys, Guineas, Hares, Cavies, Pigs and Holstein Calves. Stock for sale. Hatching Eggs in season. Write your wants. Catalogue Free.
H. A. SOUDER, BOX P, Sellersville, Pa.

Highland Stock Farm Belgian Horses, Jersey Cattle, Large Berkshires, and Indian Runner Ducks. Stock for sale at reas. prices. Anselm B. Kirsch, Nicktown, Pa.

100 Shetland and larger Ponies. Colts $50 to $75; broken ponies $75 to $150. List for stamp.
F. H. STEWART, ESPYVILLE, PA.

BARRED ROCK COCKERELS; Moscovy Ducks; Eggs for hatching. 12 varieties; Duroc Jersey Hogs, all ages. Free list. Kahler & Son, Hughesville, Pa.

FOR SALE—O. I. C. PIGS, ALSO RABBITS, Pigeons, Owls, and Bluerocks. Write for prices.
FRANCIS SCHEIB, GRATZ, PA.

Chester White Hogs, All Ages
Shorthorn Bulls. R. L. MUNCE, Canonsburg, Pa.

HAY Ship To The Old Reliable House
Daniel McCaffrey's Sons
623-625 Wabash Bldg., Pittsburgh, Pa.

Please Mention Pennsylvania Farmer When Writing to Advertisers

DISPERSAL SALE MARCH 23, 1920
—OF—
40 Head Registered Holstein Friesian Cattle

consisting of fifteen cows; four two-year olds; ten yearlings; balance calves, male and female, from dams with official records up to 22 lbs. butter and 561 lbs. milk in 7 days, and yearly records from 9,000 to 14,000 lbs. milk; one two-year-old having 9,000 lbs. her first year (she will be fresh by day of sale); and my herd sire, Allamuchy K. A. Posch, No. 168189; whose dam was Minnie De Kol Posch No. 116655, 161.7 lbs. milk, 22.57 lbs. butter in 7 days, his sire Korndyke Abbekerk No. 31502, with 30 A. R. O. daughters and 6 A. R. O. sons and a brother to King of the Pontiacs; his grandsire was Pontiac Korndyke No. 25982, 117 A. R. O. D., 110 A. R. O. sons, one of the best bulls of the breed.

My entire herd will be sold and I know that any one interested in Holsteins will do well by coming to this sale. Trolley service direct to the farm. Catalogs sent anywhere on request.

J. A. RAUDABAUGH, R. No. 9, Carlisle, Pa.

GUERNSEYS

$546

was the average price paid for all Guernseys sold at public auction in 1919. This figure indicates the buyers' high estimation of the value of the breed. Let us tell you why Guernseys lead in popular favor.

The American Guernsey Cattle Club
Box M 41 Peterboro, N. H.

QUALITY ECONOMY QUANTITY

Public Sale of 25 Head Registered Holsteins
Monday, March 29, 1920

We will sell our entire herd of Registered Holsteins. An opportunity of a lifetime to buy members of the DeKol, Ragapple, Korndyke, Pontiac and other famous Holstein families.

S. G. WALKER, Prop.,
Penn Spring Farm, Spring Mills, Pa.
R R Station, Rising Springs, Pa.

REAL BARGAIN

Pure Bred Ayrshire Bull Calves. We offer four handsome bull calves. Large, heavy boned and of show caliber. Big A. R. Records on both sides or now in the making. We can refer you to our satisfied customers. It will pay to get our prices.

CRESTMONT FARM. SUNBURY, PA.

STEVENS' HOLSTEIN FARM
OF CORTLAND, N. Y.

King Korndyke Sadie Vale Jr., No. 20391, two nearest dams averaging 36 pounds of butter in 7 days, heads my herd. Butter records from 17 pounds two-year olds to 34 pounds at full age. Also high grade Holstein calves either sex, $15.00 each. Write your wants. PAUL H. STEVENS, Prop.

COUNT PONTIAC IT (281956) from a 33 lb. sire and from a 20 lb. 5 yr. old cow. 1. 4th months old, nearly all white, good individual and thrifty. Price $125. THE OAKS DAIRY FARM, Wyalusing, Pa.

HOLSTEIN FRIESIAN Heifer and Bull Calves. High Grade and Purebred Beautifully marked, splendid individuals. Also Durocs, pigs, bred gilts, and service boars. BROWNCROFT FARMS, McGraw, N. Y.

Jerseys For Sale. Herd bulls. Champion Torono's [illegible] Sophie 19th Torment. [illegible] Good breed [illegible] GEO. P. BEVAN, Towanda, Pa. R. 3.

Registered Holstein and Guernsey bulls from calves to serviceable age. 250 animals in the herd. BONNYMEADS FARMS, R. D. 1, Harrisburg, Pa.

MILKING SHORTHORN BULL CALVES of the best breeding. Also a few females for sale. C. M. KENNEDY & SONS, ULSTER, PA.

For Sale: Reg. Guernsey Bulls—May Rose, Jessie [illegible] Reasonable HAYES & TAYLOR [illegible], Pa.

M&P HEALTHY HOLSTEINS
FEDERAL TUBERCULIN TESTED HERD

Young bull about ready for light service. Healthy, well grown, practically all white in color and an excellent individual. Sire's ten nearest dams average 29 lbs. butter in seven days. Dam has a seven-day record of 543.7 lbs. of milk, 24.43 lbs. of butter and is a most persistent producer.

Price $250.00

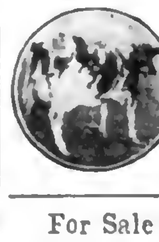
Markham & Puffer, Avon, N. Y.

Announcing the Webster Styer and Twin Brook Herd Dispersal Sale
At Ivins C. Walker's Sales Bazaar,
East Main Street, Norristown, Pa.
March 15, 1920, at 10 A. M.

75 Head Registered Holstein-Friesian Cattle Including the Herd Sires, KING KORNDYKE REBA VEEMAN, No. 116541, and TWIN BROOK KING MASTER, No. 158864, two show boys.
20 Granddaughters of KING KORNDYKE SADIE VALE.
12 Granddaughters of KING of the SADIE VALES.
2 Granddaughters of KING HENGERVELD AAGIE FAYNE.
4 Daughters of SIR KORNDYKE PONTIAC ARTIS, 3d including TWIN BROOK LASS, Senior 2-year-old Champion Butter Cow of Pennsylvania for two years. A. R. O. 7 days 546.3 lbs. milk, 24.75 lbs. butter.

W. B. DEVANEY, Malvern, Pa.
WEBSTER STYER, Spring City, Pa.

MAPLE LAWN HOLSTEINS



BEST in High grades and Registered Holsteins. Elegant high grade calves $25 each. With ten calves will give choice registered bull free. Will accept Liberty Bonds and W. S. S. at par. Guarantee safe arrival and gladly ship C. O. D. Write your wants. C. W. ELLIS, JR., Cortland, N. Y.

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Registered Holstein Friesian Cattle Sons of the great Finderne Sir Valdessa, a 37 lb. bull, for sale. MILLARD E. BASEHOAR, Littlestown, Pa.

Reg. Holstein Heifer Calves, from officially tested dams and a 30 lb. sire. Write for prices, pictures and peds. Walter M. Cruttenden, Wilkes-Barre, Pa.

Ayrshire Bull Calves From high record A. R. Dams
ROBERT TEMPLETON & SON, ULSTER, PA.

Holstein Bull Calves $25 each, 5 days old, unregistered. $30 each with papers. High producing reg. dams and sires. L. C. TOMKINS, ELLENTON, PA.

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Sale will be held **TUESDAY, MARCH 23, 1920**

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D. K. SLOAN, Secretary, BRADFORD COUNTY LIVESTOCK BREEDERS' ASS'N.
Office with County Farm Bureau, Towanda, Pa.

Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and [illegible] readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Shy Breeder — Chronic Nasal Catarrh.—We have a cow 4 years old that is due to come fresh in the early part of April, but she is now milking well and judging from her appearance she is perhaps not with calf. If not pregnant, will skipping one year make any particular difference about her getting with calf? I also have an old ewe that has discharge of yellow mucus from nose. Her bowels are too loose. She is with lamb. Have been feeding her cows milk which she seems to be fond of, but she refuses to eat other kind of feed. W. F. M., Muncy, Pa. Doubtless your cow is not with calf, if pregnant she would show considerable prominence in right flank with enlarged abdomen; however it is rather strange that she does not come in heat every 21 days. Continue milking her twice daily. Breed her when she comes in heat and she will perhaps get with calf. As you do not know ewes age I am inclined to suspect she may be aged. Give her 5 grains powdered sulphate of iron, 8 grains ground nux vomica, 20 grains powdered gentian at dose three times a day. Dissolve 1 oz. bicarbonate of soda in one pine tepid water and wash off nostrils twice a day. Give her plenty milk with some oat meal added. Try her with some well cured clover.

Wart on Belly.—I have a 10-year-old horse with wart on belly. Can he be cured? T. F. A., Perry, N. Y.—Either cut or tie it off, then paint sore with tincture of iodine, or apply equal parts powdered alum, oxide of zinc and boric acid daily. Give him a dessert spoonful Fowler's Solution in feed twice a day.

Indigestion Colic. — Occasionally one of my horses has sick spell, his bowels act too freely, he paws, looks around at his side, lays down, rolls, and acts as if in pain. He is in good condition. Had veterinarian float teeth. When eating he frequently holds head to one side. He has no decayed teeth. A. L., Savannah, N. Y. Regular daily exercise, change of feed, and give him a tablespoonful of the following compound powder in feed 3 times a day. Ginger, gentian, cinchona, bicarbonate of soda equal parts by weight.

Impaction.—My cow had been giving 8 quarts of milk at each milking and suddenly dropped off to about one quart. This occurred about one month ago. She is only four years old and is now in seemingly good health. L. G. Monroeville, N. Y. Doubtless she suffered from an attack of acute indigestion, had you promptly given her one pound of epsom salts to clean her out, then followed with one ounce doses of bicarbonate of soda and same quantity of powdered wood charcoal in each feed she would have soon recovered. She will, with good care and careful feeding, gradually get well. Give her a tablespoonful cooking soda in feed 3 times a day. Give her walking exercise twice daily.

Partial Paralysis.—Have a mare that I found down in stable one morning, could not raise her hind parts from stable floor, besides both hind legs were some swollen. After being down ½ day she refused to eat or drink and the upper part of body swelled some. I am advised to apply sharp blister. Her hind quarters are sore, when pressed a crackling sound is heard. H. J. Huntington, Long Island, N. Y. Your mare may have met with injury to back, or she may have attack of lumbago, causing loss of power of hind quarters. give her two drams acetate of potash in feed or water 2 or 3 times a day until her kidneys act freely. Apply equal parts turpentine, aqua ammonia and raw linseed oil to back 3 times a week. Give her one dram doses of ground nux vomica in feed twice a day.

Facts in BLACK & WHITE

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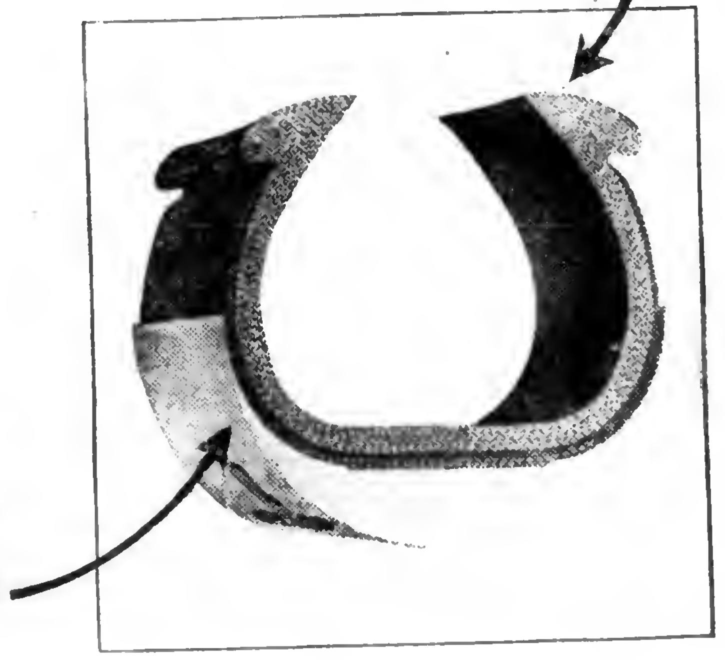

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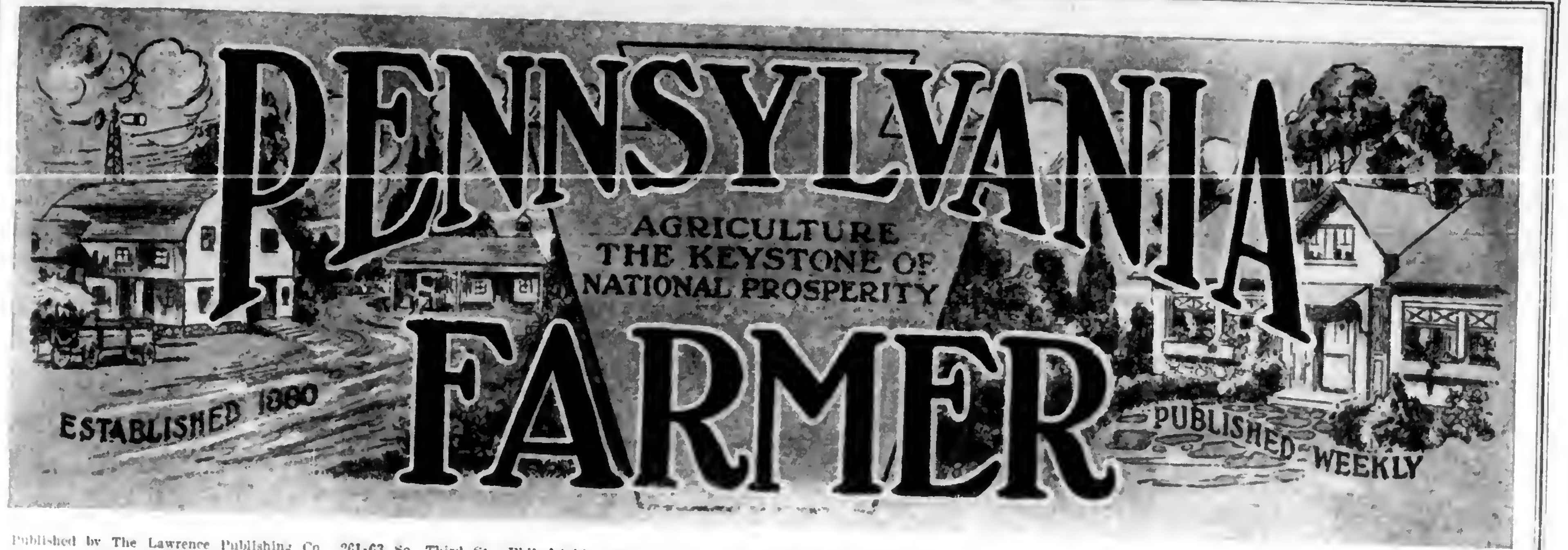
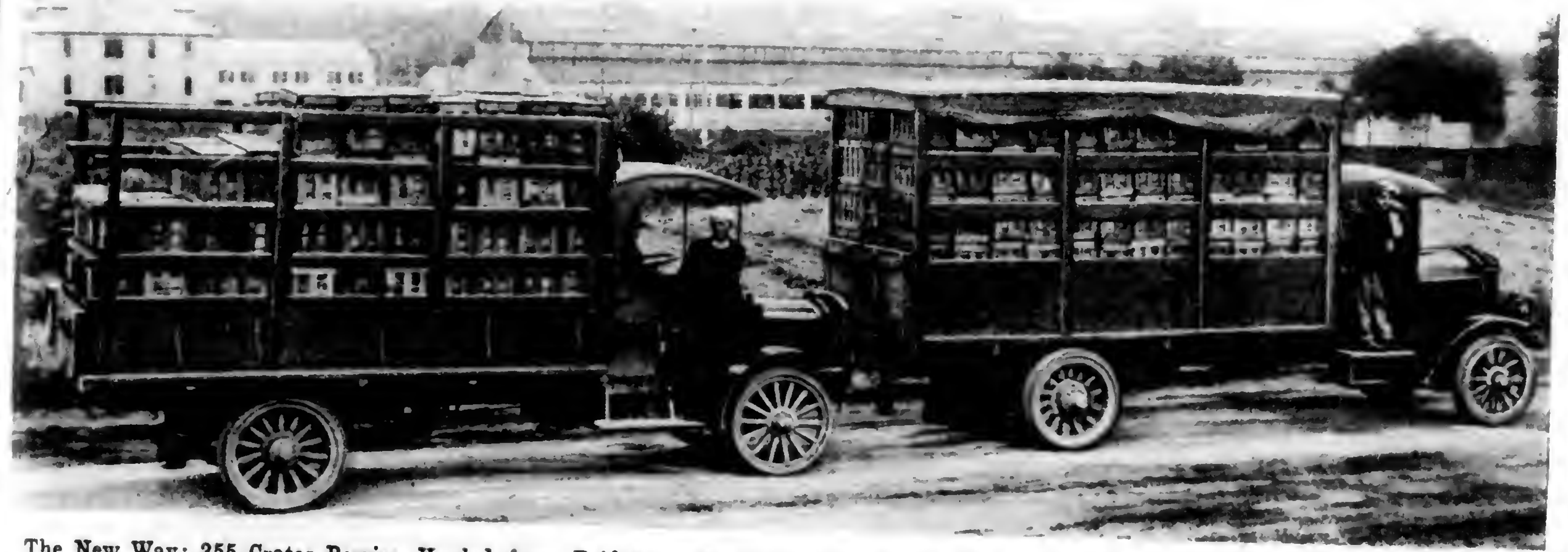


PENNSYLVANIA FARMER

Published by The Lawrence Publishing Co., 261-63 So. Third St., Philadelphia, Pa

Entered as Second-Class Matter, at the Post Office at Philadelphia, Pa., under the Act of March 3, 1879

Volume 47 PHILADELPHIA, PA., SATURDAY, MARCH 13, 1920 Number 11



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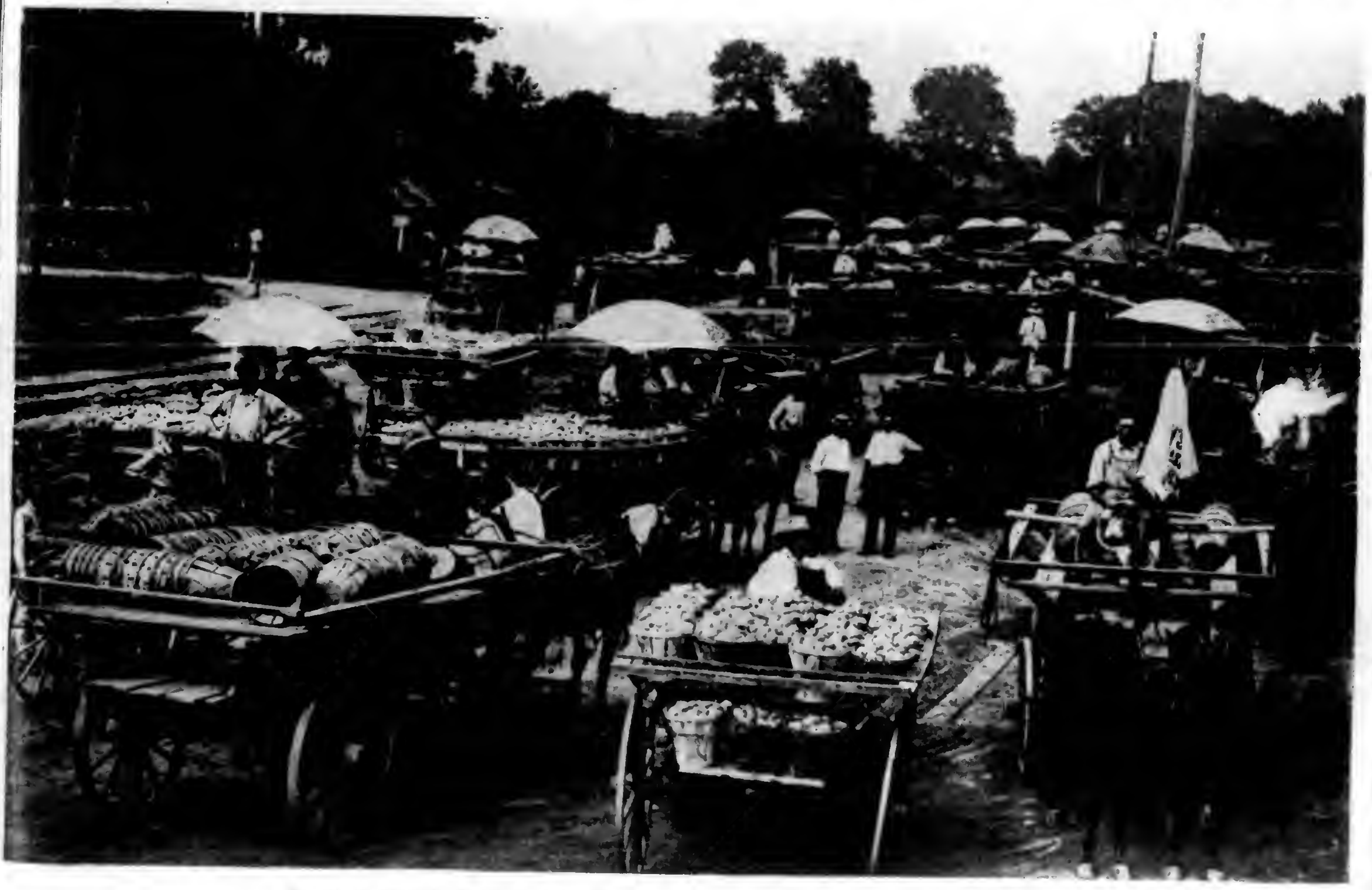

Scene at Shiloh, N. J. Freight Station, When Produce Was Hauled in Wagons.

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At Present are Either Entirely or Partially

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CO-OPERATION IS NOW ABSOLUTELY ESSENTIAL

Between Agricultural Dealers and FARMER BUYERS and also with Shippers, TO HELP OVERCOME THE DIFFICULTIES IN THE SITUATION which are further increased by the unusually hard winter and late spring.

FIRST: Cars must be loaded as near as possible to capacity.

SECOND: Cars must be un-loaded promptly on arrival.

THIRD: Buyers should take earliest possible shipment, so that advantages of good hard roads for hauling be not lost and so that the "rush order" period (which shippers face because of the extra late winter) will be lengthened all possible for shippers.

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PENNSYLVANIA FARMER
AGRICULTURE THE KEYSTONE OF NATIONAL PROSPERITY
ESTABLISHED 1880 PUBLISHED WEEKLY

The Lawrence
Publishing Company
Philadelphia

Vol. 47—No. 11 PHILADELPHIA, PA., SATURDAY, MARCH 13, 1920 75 Cents per Year

Why the Farm Truck is Profitable

Articles by Farm Users of Trucks Which Show Them to be Economical

FARM TRUCK SAVES TIME AND MONEY

By W. E. VEACH, York Co., Pa.

(First Prize Article)

The most valued and indispensable article on my farm today, in many respects, is my motor truck. Two years of unfaltering service has made it almost as necessary a part of my farm equipment, as my reaper, plows, and other machinery.

When I think of the part it has played in my work during these two years, I wonder why more farmers do not realize how practical they are on the farm.

One of the features which I like best in my truck is the time it saves. This ought to appeal to those living, as I do, some distance from a city market. My nearest market is twenty miles away. Previous to the advent of the truck, I arose early, loaded my wagon, and started on my long, tiresome journey, with the aid of a lantern. I would reach the city just as people were rising. Then I had to rush at breakneck speed, in order to reach home in fairly decent time, which was nearly always after dark.

Now all is changed. I rise at my usual hour and with a little effort on my part, I make two trips to the city and back in a day. Besides eliminating a long, tiresome journey by night, I am disposing of more porduce in considerably less time than is required with a wagon?

The time saved in this way means a great deal to the busy farmer or to the man who is interested along other lines besides "turning the sod." I know from my own personal experience that my truck is responsible for much of the time which I can profitably devote to my stock.

In connection with the time saved, we must also take into consideration the ability to handle more farm products and handle it better. Of course, the more trips that can be made to market daily, the more you can market, and the better the condition, as in the case of perishable fruits and vegetables which must receive immediate attention upon reaching their prime. How many bushels of tomatoes, for instance, have gone to waste, simply because there was no way to dispose of them fast enough? A truck would have solved the problem in a little while?

Another feature about a truck not to be overlooked is that of comfort. You will all agree that there is not much real comfort in being perched up on top of a jolting wagon when a sudden shower comes up, whereas, you can close a truck so securely that you almost forget you are out in a storm. You are protected from the rays of the sun in summer and from the cold in winter.

Observations in recent years lead me to believe that the truck is becoming an important factor in improving the farmer's markets. Distance no longer daunts him when a market quotes a tempting figure. The dealers are beginning to realize this, and competition is becoming keen. The home markets must pay the price or the farmer goes elsewhere. I have hauled produce to markets this past summer, which would have been out of the question, had I not had my truck. Did it pay? It certinly did, and paid well.

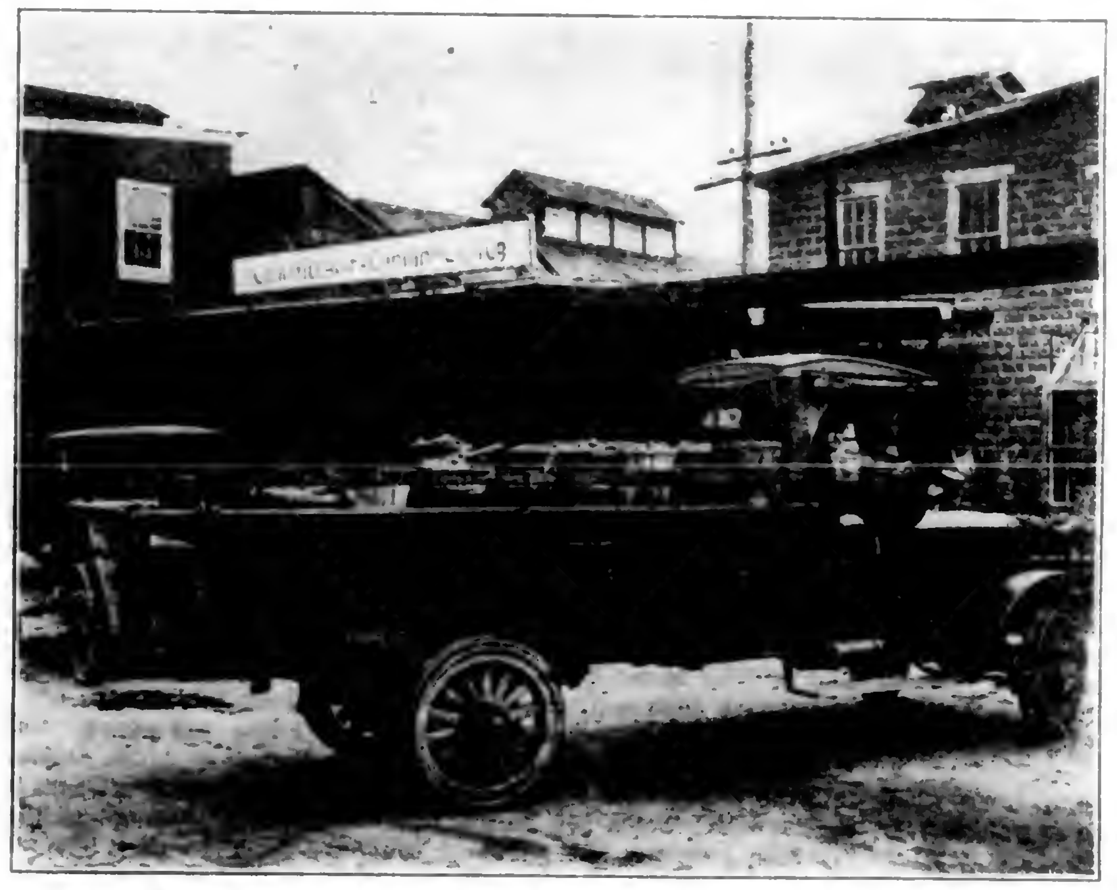
Another distinct benefit, which I must mention in regard to trucks is their relation to good roads. They are bound to hasten the good roads movement and to bring good roads to those who do not yet enjoy this advantage. It is a well-known fact that more and more of our farmers, realizing the practicability of the truck, are boosting the good roads movement and doing their utmost to improve our country roads. Let the good work continue, and in a few years we shall have fine roads.

I also find that the truck lightens the burden of my horses considerably. While the truck and I are on the road, my horses are being rested for work in the field. It is surprising how much more can be accomplished with horses thus rested.

So far, we have considered the advantages and benefits of a truck. Now let us consider the expense and cost of upkeep.

I have kept a record during the past two years of the number of miles covered and of repairs, upkeep, etc., my records show that it has covered a distance of more than 7,000 miles the past summer and that repairs amounted to less than $4. Furthermore, the cost of upkeep is remarkably low, even with the increase in the cost of gasoline, oil, etc.

In closing, I wish to say that my truck has more than fulfilled my highest expectations. I shall never regret the money invested in it. It pays big dividends on your investment. Certainly no farmer can make a mistake in buying a truck if he has sufficient use for one.



Truck From Farm of Watson Bros., New Jersey, Hauling Pears to Cannery

A REAL BUSINESS PROPOSITION

H. A. CAUM, Montgomery Co., Pa.

(Second Prize Article)

Last Spring we had fourteen tons of fertilizer to haul from the freight station three and a half miles away. We could haul two tons to the load and make three trips a day so it can be readily figured that one team would be engaged two and a third days.

We hired a neighbor, who owns a two-ton truck, to haul it. We hauled one load with the team and the truck hauled the remaining twelve tons in six hours, counting time of loading and unloading. That experience convinced us of the practical utility of the truck for farm hauling and accordingly we purchased a one-and-one-half ton truck of a standard make.

It is a "rebuilt' 'truck bought direct from a sales corporation in Philadelphia dealing in this make of truck and I wish to state here that these gentlemen have stood back of their agreement to see that the truck made good and we have not the slightest hesitation in saying that in event of buying a new truck it would be the same make. They have been very courteous and have provided the best of service, when ever needed.

The main work of our truck is to deliver farm produce to a commission house near 30th and Market Sts., Philadelphia and it makes the round trip in about two hours whereas in the old days, with a team it required about eight hours to complete the trip.

However, the first work of our truck was to deliver our crop of wheat to a mill in the vicinity of The West Philadelphia station of the Pennsylvania Railroad. And here, incidentally, we made our first saving with the truck.

Our local dealers offered us $2.17 a bushel of 62 pounds. By hauling to the city we obtained $2.20 for a 60-pound bushel, a difference of ten and one-third cents a bushel in favor of the city mills, and an increase of $39.99 on our total production of 387 bushels sold.

Again, after the nearly two weeks of continuous rainfall last July, a four acre field of sweet corn looked like the proverbial "thirty cents." Nitrate of soda was the only thing that could be depended upon to put the necessary "pep" into the soil to make a crop and no time for delay. In Philadelphia it was $120 a ton. We located some in Camden, N. J., and made a quick trip across the river and brought back 800 pounds at $80 a ton, a direct saving of $16 and immediate delivery. The next day we broadcasted about 500 pounds on the sweet corn, and you could fairly see it "jump."

At school I was always taught to save the strongest "argument" for the last. A "something" to drive home the facts of the case, as it were. Well here is the proof of the "pudding."

Credit

To 700 hours man labor saved at $0.50	$350.00
900 hours team labor saved at $0.30	270.00
Higher price on wheat	39.99
Increased value of sweet corn (50% of $200.00)	100.00
Saved on nitrate of soda	16.00
	$775.99

Debit

By interest 5% on $1600.00	$ 80.00
Depreciation 20% on $1600.00	320.00
Operating expenses	185.00
	$585.00
Balance in favor of truck	$190.99

Insurance for the first year was carried by the truck agency. Also there are the intangible values of increased respect for ones business and the increased value of ones reputation. I find the truck an economical investment.

TRUCK SUPERIOR TO FOUR MULE TEAM

IRA HARTZ, Chester Co., Pa.

(Third Prize Article)

When referring to labor saving machinery we must not forget the motor truck. We have used a one ton truck seventeen months, have run it over 4,000 miles, have paid about $30 for miner repairs.

We have found that on a four mile haul one man with the truck will haul 10 to 12 tons of sacked feed a day, while a man with a four mule team will haul 6 to 8 tons a day.

We now deliver our hay and other farm products to the city markets within two hours after leaving home. Formerly it required five hours. If we did not haul direct we were obliged to load cars at the station, but now we can deliver potatoes or anything in a few hours and the trip is no longer dreaded with its early and late hours. We haul 3,000 pounds loose hay as easily as so much hailed.

We do all our hauling in one half the time that was required with horses such as delivering milk to cooling station every morning. While you harness and hitch a pair of horses you can be at your destination with a truck.

If you go to pick cherries or repair a fence, haul your material on the truck, it will stand quiet, the flies will not disturb it and make it restless like they do a horse.

If you are twenty miles from home when darkness falls, it is all the same to you, simply turn the electric lights on.

If you have something which must be delivered you can do it in the evening as well as in daytime. It is not unusual to start for a point fifteen miles distant at five in the evening and return the same night. On one occasion I started at a point sixty miles from home at 5 o'clock in the evening and reached home before bed time.

The truck is also used to tow wagons from one point to another, to haul implements and machinery to and from fields. You can back into any corner in less than one fourth the time required by a team of horses. I have seen it pulling the grain binder for cutting soy beans when no other power was available. It is also used for hauling live stock or anything you can load onto it. The truck like the tractor will do almost anything you ask it to do.

Any one can save half his time by hauling with a truck. Why haul with horses in these days when time is so valuable?

FARM MOTOR TRUCK A NECESSITY

By E. L. WEIKERT, Montgomery Co., Md.

The motor truck for the farm is not only an economical investment but it is a money maker for the farmer. I have been using a two ton truck for the past two years, and I do not see how I got along without it before.

The time has come when a motor truck on a farm is a necessity. It saves both time and labor. It gives me a chance to sell my vegetables, fruit, farm produce and hogs quickly. I have a truck patch which consists of about five acres. I raise all kinds of vegetables, and with my motor truck I can load my vegetables or produce in the evening and the next morning get an early start and sell of my load at our closest market which is Washington at a distance of 35 miles.

Hog raising is the chief industry on my farm. I have about 300 head of thoro-bred Duroc Jerseys. When they are ready for market they are loaded on my motor truck and taken to market. This saves time and freight charges which I would have to pay to the railroad company and if I had the old way of hauling them on the wagon with my six horse team to our railroad station I would still be wasting time and the time of my men.

I only have 105 acres of land which does not produce enough feed for my hogs. I buy lots of feed, so that when I take a load of hogs or a load of produce to market, I came back with my truck loaded with feed or anything that I may need from the city. In our spare time we do hauling for our neighbors who do not have motor trucks, and in this way we are able to make some extra money which in returns pays for our gas and oil which we use.

If good care is taken of the motor truck it will give satisfaction. There are not very many things to get out of order and the average farmer can keep his own truck in repair. I would recommend to those who buy a truck to get solid tires; they will be found to be more serviceable.

I have done and am doing a lot of concrete work on my farm, such as building a large reservoir with valve chambers and a large tunnel into the veins of the spring, also a large concrete cistern which holds 200 barrels of water. I have my barn which is 206 feet long concreted from end to end. My dairy of course is all concreted and equipped with lantern fixtures, so using the amount of concrete that I do on my place, my motor truck comes in very handy for hauling cement from the freight cars to my farm. Previously with my six horse team I could haul three loads of cement or phosphate in a day from the railroad station, now with my motor truck I can make eight trips a day.

It is not always the large farms that need a motor truck. They will be found very useful on an 80 to 100 acre farm as well as a 500 acre farm.

A motor truck will be found to have a place on the farm just as well as electricity, hot and cold water, and furnace or any other modern equipment.

Seabrook Farm Truck Delivering 5¾ Tons Rhubarb

RELATIVE VALUE OF NITROGENOUS MATERIALS

Nitrogen is very often the chief limiting factor in crop production for the coastal plain soils. In soils where this element is deficient, crops turn a pale yellow and make a slow and stunted growth. With a reasonable supply of nitrogenous fertilizer, other conditions being favorable, the plant presents a healthy green appearance and grows rapidly.

There are many nitrogenous fertilizer materials on the market. Nitrate of soda and sulphate of ammonia are soluble in water and therefore, quickly available. For this reason it is believed by some that there is considerable loss from leaching. On the other hand, organic nitrogen must undergo decomposition in the soil brought about by bacteria in order that the nitrogen may be converted into a soluble form.

Nitrogen is the most expensive fertilizer element and, unfortunately it is the most easily lost. There is, therefore, at this time, a very widespread interest in nitrogenous materials which may be used as fertilizer. The World War has more than ever emphasized the importance of food production. This has led the agricultural investigator and fertilizer manufacturer to attack the nitrogen problem with renewed zeal.

For more than 20 years, the New Jersey Experiment Station has been studying, by means of field and cylinder experiments, the relative availability of nitrate nitrogen and nitrogen from organic sources. The work has been conducted on two types of loam soil and also on a loam with varying admixtures of coarse white sand, to represent soils varying in texture.

For all of these soils, except those containing 80 percent or more of sand, the nitrates have stood first in yield of dry matter and in percentage of nitrogen recovered in the crop.

Under the most favorable conditions, only a little over 60 percent of the applied nitrogen has been recovered in the crop. That is, out of 100 pounds of nitrogen applied to the soil, only about 60 lbs. are won back in the crop. Under less favorable conditions, the percentage recovery is much lower, often amounting to only ⅓ of the amount applied.

In the cylinder experiments including both series, only about 38 to 45 percent of the applied organic nitrogen was recovered. In the loam soil, the 20-year average shows a recovery of about 62 percent of the nitrate nitrogen that was applied. The average recovery of the nitrate nitrogen in the field experiment was 37 percent and of the organic nitrogen 26½ percent. When two crops were grown in the cylinders in the same season, there was recovered nearly 60 percent of the nitrate nitrogen applied to soil mixtures containing from 40 to 70 percent of sand. This would indicate that nitrate nitrogen is not leached out in the drainage waters so readily as many have supposed if crops are kept growing on the land thruout the season.

The reason for the larger return from nitrate nitrogen than from organic nitrogen may be found in the immediate availability of the former. The plant is thus given a good start and on account of the rapid growth which it makes, is able to utilize the nitrogen more fully than the plant which must wait for a supply of available nitrogen, until the organic matter has gone thru the process of decomposition. In the latter case, much of the nitrogen is probably dissipated after it is too late to fully benefit the crop for which it was applied, and before the second or residual crop is ready for it. Furthermore, the good start which the nitrate gives the plant, enables it to utilize soil moisture and the mineral constituents of the soil to better advantage than the plant which starts more slowly.

The loss of this element should be an incentive to secure more by leguminous crops.—Blair.

Buying the Season's Fertilizer Supply

A Review of Conditions and Prices From a User's Standpoint

By SHELDON W. FUNK

BERKS COUNTY, PA.

When the armistice was signed and the war ended practically if not officially, we were led to believe that there would be a reduction in the price of fertilizer materials this spring. The time has now come for us to buy our fertilizers for 1920 but instead of a settled market at lower levels, we find much disturbance pointing toward higher prices. This seems to be due to a number of conditions, the most important of which are strikes at the phosphate rock mines and heavy buying of accumulated materials by European countries.

This condition emphasizes one point which I have always found to be rather important, namely, the early buying of fertilizer materials. Prices are almost always just as low in January and February, and in many cases, a little lower, than in March or April. I have always found it to be good policy to have all my supplies on hand as early in the season as possible as they are then at my command when I need them, and in the case of fertilizers, we can do all of the mixing before the rush of spring work comes on. Again, it is much easier to get more prompt shipment of your goods in February than in April, and frequently the fertilizer companies offer some inducement to the man who is willing to buy early because it eases up their rush season.

Altho there is constant fluctuation in the prices of some ingredients, the mixed carload prices on our standard fertilizer materials at the present time, are about as follows:

Nitrate of Soda, 18-19 percent ammonia, $71 per ton.

Animal Tankage, 7 percent ammonia, $68 per ton.

Dried Blood, 10 percent ammonia, $95 per ton.

Acid Rock, or Acid Phosphate, 16 percent phosphoric acid, $24.25 per ton.

Bone Meal, 3 percent ammonia, 22 percent phosphoric acid, $48 per ton.

Murate of Potash, 50 percent potash, $175 per ton.

Figuring on the unit basis of twenty pounds or one percent, we have ammonia in the form of nitrate of soda costing about $3.85 a unit, ammonia in the form of tankage, $9.70, and in the form of dried blood about $9.50 a unit. In sixteen percent acid rock, our phosphoric acid costs $1.52 a unit, while in bone meal, by figuring the ammonia at $7.50 a unit, which I think is a fair valuation, the phosphoric acid will cost about $1.16 a unit In murate of potash, the unit price will run about $3.50 a unit.

From these figures, it is very easy to see that when no potash is needed, the cheapest mixture carrying ammonia and phosphoric acid can be made from nitrate of soda and bone meal. On some crops this is not only the cheapest mixture, but in my estimation, one of the best that we can use. On the other hand, there are quite a number of crops on which I would not think of using it alone. In fertilizing all kinds of deciduous fruit trees, I have found nitrate and bone to be a splendid combination, altho I think it can be improved somewhat by carrying half of the phosphoric acid in the form of bone and the remainder in the form of acid rock. At present prices, it is a question whether many of us in Pennsylvania can afford to use potash, except on certain crops, such as potatoes for instance.

If we are to use fertilizers intelligently we must understand the different materials. For instance, ammonia from nitrate costs but $3.85 a unit but it is immediately available and is not supposed to last more than six or eight weeks in the soil. For this reason it must be used on a growing crop. I have gotten splendid results by not using this material until the trees come into leaf as I desire my wood growth as early in the season as possible.

Tankage and blood on the other hand, cost from $9.50 to $9.70 a unit but here we have the ammonia in the organic form, a form in which it will last practically thruout the entire season. Therefore, on crops in which we desire a steady growth thruout the season, we need some organic ammonia to carry the crop after the nitrate has been used up. Even on this kind of crop, potatoes for instance, we could use all of our ammonia in the form of nitrate but it would be necessary to make two or three applications and the cost of these extra applications would usually amount to more than the extra cost of the ammonia in the organic form. For that reason, on crops of this kind, I prefer to carry one third to one half of my ammonia in the form of nitrate and the remainder of it in the form of blood or tankage, and in that way furnish available ammonia thruout the entire season.

We can compare bone meal and acid rock in the same way. As stated before, phosphoric acid in acid rock costs about $1.52 a unit, while in bone we can buy it for $1.16, a difference of from 35 to 40 cents. Here, we must remember however, that in acid rock, the phosphoric acid is mostly available whereas in bone, it is not available and cannot be taken up by the plant until it has decayed. Therefore, on crops where available phosphoric acid is needed early in the season, we can afford to pay the extra amount to secure it from the acid rock. This would apply in the growing of timothy hay, this crop makes most of it's growth early and we need to furnish it with available materials, the best of which are nitrate of soda and acid rock. These two materials will give much greater results on this crop than the same amount of fertility applied in the form of tankage and bone. As long as prices remain as they are today, I think you will find it well to carry always in your complete fertilizer about half of your phosphoric acid from acid rock and the other half from bone meal.

Home Made Body, H. L. DuBois Truck, Bridgeton, N. J.

You may reason that because available ammonia should be used only on growing crops, the same thing would apply to available phosphoric acid. We have different conditions here, however. The ammonia in nitrate is not only available to the plant but it is water soluble and will leach from the soil. Much of the available phosphoric acid in acid rock is also water soluble but when it is placed in the soil, it changes very quickly from the soluble form to the reverted form when it is still available to the plants but no longer water soluble, and therefore, does not leach from the soil as it would if it remained in the soluble form.

After we have selected our materials and they are bought and delivered, we are ready for the mixing. This is done on wet and disagreeable days when it is unfit to work out of doors. The barn floor or a good hard ground floor is a splendid place to do this work. We put down the desired amounts of the different materials in thin layers, one on top of the other. Two men usually do the shoveling and a third uses an ordinary garden rake. In this way it is shoveled and raked twice, after which it is run over a sand screen. This removes all of the lumps so that the fertilizer is in good condition for drilling.

Some men will reason that materials mixed in this way are not as well mixed as when they are put thru mixing machinery This is undoubtedly true, but we must not forget that there is a vast difference between fertilizer at the factory and fertilizer at your farm, three or four hundred miles away I can illustrate this best possibly, with a load of potatoes which you are hauling to town. When they leave the farm the different sizes are pretty well mixed, but you will notice that after hauling them eight or ten miles, the large potatoes have worked to the top (where you want them). The same thing happens in a fertilizer bag. We must let the plants do the judging and when our fertilizer is sufficiently mixed to meet their needs we are satisfied.

Farm Truck of Jacob Raff, New Jersey, Equipped With Pneumatic Tires

When you are mixing your materials any length of time before they are to be applied in the field, it is well to remember not to mix lime or any carrier of lime (such as wood ashes) with any form of organic ammonia, such as tankage or blood; neither should lime or any carrier or lime be mixed with acid rock. In the first case, there will be a tendency to drive off the ammonia in the form of ammonia gas, and in the second case, you will cause the reversion of some of the available phosphoric acid to an insoluble form.

After our materials are mixed, we are ready for the application. We now come to the place where it is necessary for each man to use his own judgment. The only way to use fertilizers judiciously on your farm is to experiment with them

(Continued on Page 13.)

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VOLUME 47 NUMBER 11

Our job is to serve our readers. Whenever and wherever we can help you, write us.—The Editors.

Farm Trucks

WE ARE devoting considerable space this week to a consideration of the motor truck and its value as a part of the farm equipment. We do this because so many inquiries are coming to this office asking about their efficiency and economy. As usual, we went to the source of information for answers—the farmer users of trucks. We are unable to advise a particular farmer whether a truck, tractor, threshing machine or any other implement will be a good investment in his individual case. Each must decide this for himself since he best knows his circumstances, opportunities and capacity better than anyone else. But by reading the experiences of others a farmer can compare his own conditions with theirs and thus be better able to judge rightly.

The Wheat Prospects

REPORTS from different sections of the country do not permit an optomistic estimate on the coming wheat crop. In the first place, the acreage was reduced from that of the year before because of weather conditions and the scarcity of farm help. Then the fly seemed more than usually prevalent west of the Mississippi River and great damage is expected to result. Added to these factors, the severity of the winter has greatly injured the growing crop. Conditions seem better in the eastern states than in most other sections because the snow protected the young plants. Where the stand is good it will no doubt pay farmers to give their wheat a top-dressing of manure while the ground is frozen, or of fertilizer later in the season.

The Steel Trust Decision

THE Supreme Court of the United States by a vote of four to three decided that the United States Steel Corporation is not a "trust" or that it is a combination in restraint of trade, violating the spirit of the Sherman Anti-Trust Law. Thus the government loses its suit and the corporation is permitted to continue as heretofore. Two of the judges were barred from acting upon it because they had previously been engaged as counsel in prosecution, else the decision would probably have been the reverse.

This brings again the whole question of trusts and combinations and their control up for solution. It has been realized for a number of years that the Sherman Law does not perform the work for which it was intended, and that the so-called trust-busting engaged in has resulted only in changing appearances and not facts. It is very doubtful whether the spirit of the Sherman Law is in harmony with the law of progress except as to restraint of trade. Every other class of men are preaching, and many practicing, cooperation and organization for the purpose of economy and greater efficiency. But the public is distrustful of great combinations of capital, and there is a good and sufficient reason for this fear. Experience has taught us that big corporations of men and capital may become autocratic and burdensome unless restricted by some superior power or circumstance.

Since cooperation for efficiency and economy as a general principle seems to be the natural evolutionary tendency, whether considered with reference to labor, farmers, or capital, how may society secure the benefits of cooperative action without being subjected to injury by the misuse of power? To us the logical answer is: First, restrict the activities of all corporations to a designated field; second, provide for full and complete governmental regulation and control; third, make all corporations legally responsible for the fulfillment of contracts These principles should be applied to labor unions and federations as well as to combinations of capital and associations of capitalists.

The underlying principle of our government is that the best good of the public is of first consideration and that the will of the majority must be the supreme power in the land. It is inconsistent to permit the development of a minority into a position in which it will have a strangle hold upon the majority. Governmental guidance and restriction for the protection of the public is more effective and satisfactory than waiting until after a thing has become a menace and then trying to "unscramble" it, or to equalize matters by injunctions or excess profits taxes.

Our Washington Letter

Hearings on the meat packer legislation before the House Agriculture Committee have been largely attended. The packer representatives are shrewd, intelligent men, always on their job and ready to take advantage of every opportunity to defend their clients, and they have an able helper in Congressman John W. Rainey of the Fourth Illinois, the packing house district in Chicago. If the packers fail in their efforts to defeat government regulation of their business it will be owing to their case being hopelessly bad, not thru any lack of talent on the part of their representatives.

And it is equally true that the friends of packer legislation have staunch supporters in Congress and other departments of the government. Those Western representatives who are promoting the packer control bill are men who have rubbed up against many serious propositions, and the man who can worst Federal Trade Commissioner Colver in a debate or inquiry hasn't made his appearance at any of these hearings.

In connection with the present hearings on the Anderson bill, which is the same as the Kenyon bill, the Institute of American Meat Packers, having an office in Washington, issued a summary of the testimony on the Kenyon-Kendrick bill showing that 195 persons appeared before the Senate Committee, of whom farmers or ranchmen were represented more numerously than any other group, eighty-two being present, and all except twelve testified on the side of the packers.

Commissioner Colver brought out the fact that most of these witnesses appearing in defense of the packers, testified that they did not know how much their tickets that brought them to Washington cost, or what their hotel expenses were. When they came to Washington they were directed to the office of the Institute of American Meat Packers, and it is alleged by Mr. Colver that the testimony they gave was handed out to the press before it was heard by the committee. These men were referred to by Mr. Colver as "mimeograph witnesses."

* * *

Thomas C. Atkeson, Washington representative of the National Grange, testified before the committee as to the attitude of the grangers on packer legislation. He said he represented the solid, sane producing farmers. His arguments were based on these two legislative recommendations of the National Grange.

"The right of government control of all trusts and corporations is fundamental and the Grange demands that such organizations shall be subordinated to the interest of the public and operated without extortion or discrimination. We insist that profiteers, speculators, and corporations unjustly controlling prices and supply of necessities of life, should be severely punished, not by fine alone but by imprisonment as well.

"The instrumentalities for the distribution of food are matters of public concern. The Grange demands that they shall be brought under government registration and be made subject to government control with means provided to judicially investigate all operations and to correct abuses by such legally enforceable rules and regulations as public interest may dictate."

* * *

The President has signed the rail bill turning the railroads back to their owners, but the railroad problem is far from being settled. The railroad employes are going to continue their demand for increased wages. If they do not get it, indications are that they will be more persistent than ever in their advocacy of government operation. If they are successful in having their demands granted, it means a marked increase in transportation rates, which will bear heavily upon both producer and consumer, and the resultant dissatisfaction fanned by the propaganda of certain radical farm leaders and parlor socialists will develop into a widespread demand for government ownership.

Judging from the attitude of their representatives in Washington the farmers sentiment is divided on rail control. The National Grange is emphatically opposed to government ownership. The International Farm Congress, American Farm Bureau Federation, National Grange, National Farmers' Union, Farmers' National Congress, National Milk Producers' Federation, American Cotton Association and the Dairymen's League signed a letter to the President,, asking his approval of the bill to return the railroads to their owners. The Farmers' National Council and American Society of Equity representatives called on the President for the purpose of voicing their opposition to the bill and in favor of continued government operation of railroads. And the spokesman for these organizations told Mr. Tumulty that he represented four times as many farmers as the men who represented the other farm organizations.

Whether these radical farm leaders are misrepresenting the farmers or not, it is evident that the railroad managers will find it best as a matter of policy and for their own interest, to exercise great wisdom and care for the public welfare in operating the roads. If they use the clause in the new law which asesrts that security holders are entitled to 5½ percent on the aggregate valuation of the properties as an excuse for gouging the public they will be efficient aids of the radical propagandists in developing a public sentiment in this country which may lead to an irrepressible demand for government ownership.

Considering the railway situation as it appears from a Washington viewpoint I am inclined to the opinion that farmers will do well to keep their heads pretty level on this particular matter during the coming twelve months, basing their conclusions on a broad and liberal standpoint, and above all insisting that the men at the National capital who claim to be their representatives shall actually represent them. This is no time for wild, irresponsible radicalism or narrow minded selfishness in the handling of questions of great public concern.

* * *

The Federal grand jury at Spokane, Washington, has created quite a stir in Congress by its report on the grain situation, in which it charges high officials of the United States Grain Corporation with being involved in the forming of a big wheat pool which has used the credit of the nation to profiteer in wheat. The grand jury asserts that the speculators, aided by the United States Grain Corporation, have been able to boost the price of hard wheat from around $2.07 received by the growers to $3.30 per bushel; that these speculators and the mills they control are demanding exorbitant prices for the by-products or flour used in cattle feed and are thereby crippling the dairy industry.

The attitude of Congress is such that we may expect a thoro investigation of the United States Grain Corporation activities to be made soon.—Elmer E. Reynolds, Washington, D. C.

HARRISBURG LETTER

Rural School Plans.—Dr. L. L. Driver, the chief of the bureau in charge of the rural schools, has been making a series of inquiries in agricultural counties and his recommendations will be laid before Dr. Thomas E. Finegan, the State superintendent of public instruction, this week. It is probable that some districts will be chosen in which to try certain plans and the results studied for adaptation and recommendation. Dr. L. A. Dennis, the chief of vocational education, has been organizing the various counties to push along this branch of special training and has reported numerous districts which wish to expand and to introduce agricultural courses. The county supervisors of agricultural education have been named in a dozen counties and in conjunction with farm bureaus and various agencies will soon begin various meetings to stimulate interest. Reports of the various committees named at the educational conference last fall are commencing to be made and those on rural matters will be the subject of further conferencs.

State Health Moves.—Arrangements were made at the Capitol for meetings to organize health educational campaigns in every county and the first of the sessions will be held in various county towns in the next two weeks. In these meetings special attention is to be given to rural conditions, especially in regard to influenza and similar epidemics. The prime object, says Col. Edward Martin, the State Commissioner of Health, is to get people aroused to the importance of disease prevention and the campaign will be brought home in every way.

New Road Aid System.—The new system of payments to second class townships for work actually done on their roads was launched by the State Highway Department on March 1 and $1,000,000 will be distributed this year upon reports by the State Highway Department that certain work has been accomplished and in a way called for and that the township is complying with the law. The new aid is known as the reward system and takes the place of the bonus for the payment of road tax, which caused much stir several years ago and got the state's bookkeepers working overtime. Lancaster will get the most money as it has the largets mileage of township roads, while Cameron has the smallest. The agricultural counties of Bradford and York also receive large sums. The basis is $13.35 a mile.

Institutes Close.—The state farmers' institutes closed with a record of attendance better than expected considering weather and the shortening of the time for meetings. In most of the counties the greatest interest was shown in fertilizer propositions and statements indicated extensive use of lime with some anxiety as to supply. The plan of having the speakers familiar with the specialties of the district where they spoke was a means to success in many sections, it is stated.

Getting After Seed.—State attention is being given to the securing of seed corn, potatoes and other vegetables which will be free from suspicion. The quantity in sight is being looked up as well as the varieties. Director J. G. Sanders, of the State Bureau of Plant Industry, hopes for big things from his experiments with varieties of potatoes secured in England and found to be free from danger of wart, blight and other pests. The raising of seed potatoes will be undertaken extensively and distribution made as soon as necessary arrangements can be made next year.

Oleo Licenses Climb.—The number of licenses for the sale of oleomargerine thus far in 1920 is greater than during the whole of 1919 according to Director James Foust, of the Bureau of Foods. The retail licenses in effect the end of the year have been renewed and the number of applicants appears to be increasing continually.—Hamilton, Harrisburg, March 8.

NEW YORK LETTER

Agricultural Legislation. — It is thought that the state daylight saving law will be repealed—or if not that it can be proved unconstitutional, as conflicting with the federal law. This may also be proved of state non-ratification of the federal prohibition amendment. The Master of State Grange, W. W. Giles is in Albany, with others interested in the milk bills that are to have a hearing today. It is believed that these bills which are political measures that would operate very harmfully for the milk industry will not be reported out of the committee favorably.

Youthful Cow Testers. — Otsego County has five youthful cow testers. One ten year old boy, Donald Cossart tested 20 Jersey cows that produced 100,000 pounds of milk last year. Others made splendid records in testing both Jerseys and Holsteins, winning the first five places in this work from Nassau county.

To Revise Fair Lists.—The Home Bureaus of the state after consulting on best suggestions for improving and standardizing fair exhibits for the state, sent Mrs. Yawger of Auburn to Albany to consult with a committee from the Farm Bureaus of the State on the matter. It is hoped that very definite improvement in the exhibits may be incorporated in the premium lists for 1920. In the case of the State fair a generous increase in the size of the prizes offered in the women's departments and in maple syrup and sugar exhibits has been suggested and that the rest room accommodations, be considerably amplified, also that definite directions to the main parts of the fairs be posted at entrances, with names to be plainly placed on the main buildings.

County Work.—A third department of county agricultural work is coming into recognition in this state. The Farm Bureau is practically complete in every agricultural county of the state. The Home Bureau is now in nearly half the counties and its organization is expanding rapidly. But so far junior work has not had the recognition it deserves. Lack of funds and unreadiness of counties to co-operate are given as the reasons this equally important work has not grown so rapidly as the others. Supervisors or other local organizations must contribute about $1,000 for this work in order to secure the state and Smith-Lever funds. About 12 men and two women project leaders worked in the counties last year and it is hoped more may this year. Twelve projects are recognized: gardening, potato growing, pig raising, corn growing, bean growing, calf raising, poultry work, rabbits, sheep, cow testing and record keeping, foods and canning and clothing. In Syracuse four churches are fostering home-making projects with 43 girls enrolled. The City Home Bureau gives the instruction. In Cortland County an individual pays the salary of a Home Bureau assistant who is expected to do Americanzation work among the foreigners of the city, and to devote any spare time to county junior project work. Over a dozen projects have already been started here with much interest.

Field Assistants.—Eight counties have applied for field assitsants to help against plant diseases and insects. Last year the college paid $100 a month towards the salary of such asistants, but this year can pay only $50. Tho the cost to the counties will be doubled the farmers are making more requests for trained help than last year. Every county needs the help, but there will be difficulty to find the right men.

Permanent Basis.—Nassau county has placed junior work on a permanent basis with the farm and Home Bureaus. The supervisors this year appropriated $4,600, making $6,400 available for the work. Last year 1100 boys and girls in that county completed the projects they undertook, making the county the leader in that work in this state. —F.

NEW JERSEY NEWS

For Better Corn.—Pupils in the public schools of New Jersey can aid the farmers in producing good corn for exhibit and other purposes by testing the corn, so it is believed by Dr. Calvin N. Kendall, State Commissioner of Education, who has called to the attention of the teachers in all of the schools that the State Corn Show staged in Trenton last January showed a great deal of frozen and consequently dead or injured corn in New Jersey. The commissioner said that the testing can be done even by the pupils of the lower grades, and besides being a help to the farmers and possibly preventing many poor stands of corn next summer in the state, it provides excellent seat work for the pupils. He stated that the equipment costs practically nothing, while the Department of Public Instruction would supply to the pupils complete instructions for the testing of seed corn.

Farm Wages High.—Despite the fact that wages being paid to the help on the farms in this state are high there is still a scarcity of workers. The following figures will show the rise in the incomes of male farm labor from 1910 to 1919: Average wage per month with board, 1919, $46; 1918, $40; 1917, $33 and 1916, $19.50; average wage per month without board, 1919, $67, 1918, $60; 1917, $51, and 1916, $31.50; average wage per day for harvest work with board, 1919, $3.40; 1918, $3.09; 1917, $2.25, and 1916, $1.70; average wage per day for harvest work without board 1919, $4.20; 1918, $364; 1917, $3, and 1916, $2.15; average wage per day for labor other than harvest work with board, 1919, $2.60; 1918, $2.30; 1917, $1.90, and 1916, $1.11; average wage per day for labor other than harvest work without board, 1919, $3.36; 1918, $3.15; 1917, $2.50, and 1916, $1.46.

Valuable Cows Arrive.—Ninety-six cows valued at $72,000 from the Island of Jersey have arrived for W. R. Spann, who made a personal selection of them. They were held at the quarantine station at Athenia in Bergen County for a month after being imported into this state. In the herd are a number of prize winners. Notable among these are Mistletoe, winner of the first prize on the Isle of Jersey in 1917 for butter production, and Honeysuckle, winner of the first prize on the island in 1918. Seven of the cows were the offspring of Golden Fern Noble, which Spann sold two ears ago in this country. One of the cows captured the grand championship in Jersey and won the national championship of the United States the year he was imported. There are also five offspring in the lot from Sybila Gamboge, another prize winner on the island.

Great Sale of Holsteins.—Plans are now under way for a great sale of registered Holstein cattle under the direction of the Somerset-Hunterdon County Holstein-Friesian Breeders Association. It will be conducted at the sales pavilion of the New Jersey Agricultural College at the State College Farm near New Brunswick on March 19 next.

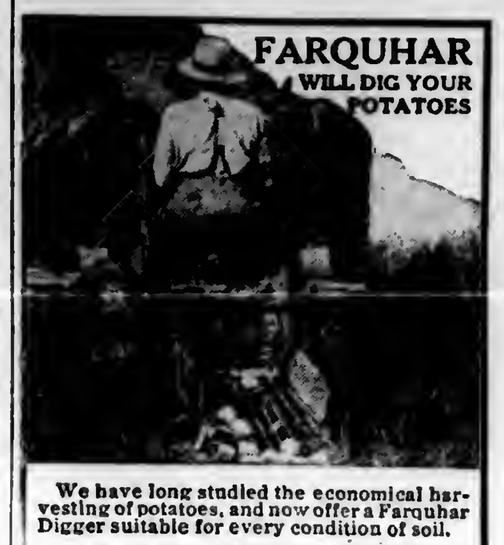
Penn Alumni Dine.—Alumni and former students of the Pennsylvania State College participated in a banquet at the Trenton House during the week, that was a most enjoyable affair and which aided in bringing the "boys" together W. S. Barnhart, Mercer County Farm Agent, assisted largely in the plans for the affair from the office of the count farm demonstrator at the court house in Trenton.

Farm Lands Advance.—The average value of farm lands in New Jersey has been advancing from 1918 to 1920. The average value per acre of all farm lands with improvements was as follows: 1920, $140; 1919, $120, and 1918, $106, while the average value of all farm lands per acre without improvements was as follows: 1920, $80; 1919, $74, and 1918, $65.—Kelly, Trenton, N. J.

LETTERHEADS GOOD BUSINESS

A. W. Hopkins of the Wisconsin college of agriculture believes that a neat, well-worded letterhead is good kind of advertising for the progressive farmer. "The name of the farm" he says, "is the big feature of the well-planned letterhead, the product second, and the farmer's name third in importance. A short, snappy, easily remembered slogan often adds to the force of this letter advertisement."

DON'T MISS OUR SPECIAL POTATO NUMBER NEXT WEEK, MARCH 20



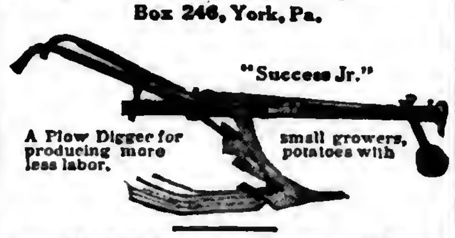
We have long studied the economical harvesting of potatoes, and now offer a Farquhar Digger suitable for every condition of soil.

The No. 1 Elevator Digger shown above is a general favorite, built to stand the strain of hard continuous usage. Rigid tongue construction, and the choice of Cross Bottom or Angle Bucket type of Elevator. It digs clean, and leaves the potatoes convenient for picking. Large Nos. 2 and 3 Elevator Diggers for deep digging and bad conditions. Engine drive, if desired.

Our Success Jr. Plow Digger gets more potatoes in one trip over the row than a turn plow in three. Price so low it is within reach of the half acre grower. For those who prefer a more elaborate Walking Digger, we have the renowned Gilt Edge.

If you grow potatoes for the market, you can't afford to be without a Digger. Illustrated Catalogue explaining why that Digger should be a Farquhar mailed free on request. Write for copy today.

A. B. FARQUHAR CO., Ltd.
Box 246, York, Pa.


"Success Jr."
A Plow Digger for small growers, producing more potatoes with less labor.

Other Farquhar products are Engines and Boilers, Steam and Gas Tractors, Sawmills, Threshers, Grain Drills, Hydraulic Cider Presses. Ask for literature.

Facts in BLACK & WHITE

Paid in milk for Purebred Holsteins

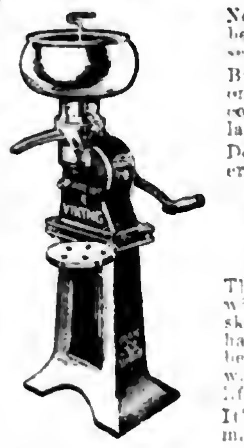
The Reveille, Bellingham, Wash., reports that the Pacific Condensary Co., sells high-grade Holsteins to the ranchers at cost, taking payment in milk.

The company needs more milk and by introducing Holsteins expects to make dairying a profitable industry, thus increasing the acreage in dairy farms as well as the milk output per average cow. Just another instance of the standing of Holsteins among business men.

Send for free Illustrated Booklets. They contain valuable information for any Dairyman.

THE HOLSTEIN-FRIESIAN ASSOCIATION
218 Hudson Street
Brattleboro, Vermont

Protect Your Dairy Profits



No farmer can afford to be without a good cream separator—

Buy the Viking and not only save in the first cost, but save time and labor in operation.

Do your skimming faster and better.

Guaranteed for 10 Years

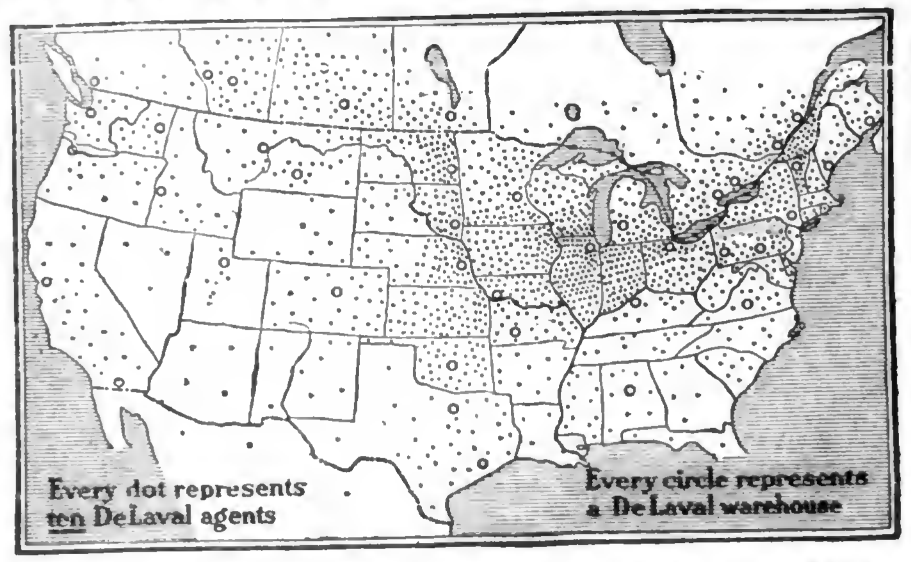
The Viking is made with the Straight Disc skimming device which has proven to be the best. It is easier to wash — insures longer life.

It's a proved profit maker for the farmer.

Write for illustrated catalog and further particulars.

Dept. V.
Swedish Separator Company
261 Broadway, N. Y.

For Sale Cow Peas Soy Beans, Crimson Clover Seed, Cracked Peas
JOSEPH E. HOLLAND, MILFORD, DEL.



De Laval Service covers the continent

Every dot represents ten DeLaval agents

Every circle represents a De Laval warehouse

This map shows how completely the service of the De Laval organization reaches every community

Every separator user realizes the importance of having his separator in use every day. Delays waiting for parts, with a separator out of use, mean great inconvenience and loss of product.

Every dot on the map represents ten De Laval agents, and every De Laval agent is individually trained to assist his customers in setting up and operating their machines, to furnish and put in place repair parts, and to insure prompt service and satisfaction to De Laval users.

Not only is the De Laval Cream Separator superior in all points of separator efficiency, but every user of a De Laval is assured of prompt and competent service for all the years to come.

It is therefore not surprising that there are more De Laval Separators in use than all other makes combined. Now is a good time to begin saving time and product by securing a De Laval.

The nearest De Laval agent will be glad to demonstrate a De Laval. If you do not know his name, write to nearest De Laval office

THE DE LAVAL SEPARATOR CO.

165 Broadway
NEW YORK

29 East Madison Street
CHICAGO

61 Beale Street
SAN FRANCISCO

50,000 Branches and Local Agencies the World Over

THE FRONT THAT GAVE THE GRIFFIN SILO FAME

An unobstructed Continuous opening. Doors absolutely tight but will not swell. Permanent steel Ladder attached to Front. Everything first class and prices right. Prices on application.

GRIFFIN LUMBER CO.
Box 9 Hudson Falls, N. Y.

Next Year's Crop

Prepare for a better crop next year by shearing this season with a machine. Work is much easier. You not only get longer, better wool without scarring the sheep, but leave a smooth stubble that will increase next year's growth.

Use a Stewart No. 9 Ball Bearing Shearing Machine. Price $13.25. If your dealer can't supply you send us his name. Write for catalogue.—

CHICAGO FLEXIBLE SHAFT COMPANY
Dept. B 149, 12th St. and Central Ave., Chicago, Ill.

Always the same Pure, Rich, Milk-Producing Feed

THE formula and balance which years ago made Union Grains the foremost dairy feed for high milk production, has never been changed. Consequently dairymen find it produces a uniformly dependable yield month after month.

Union Grains contains only materials of the first quality—Corn Distillers Grains, Cottonseed Meal, Linseed Meal, Winter Wheat Bran and Middlings, Hominy Meal, Corn Germ Meal, Corn Gluten Feed, Barley Malt Sprouts and Salt.

Its moisture content is only 8 percent, most of the ingredients being kiln-dried.

The protein content is 24 percent; that of carbohydrates 52 percent; fat 5 per cent; fibre 10 percent.

Union Grains is the standard of the well managed dairy. It is remarkable for its resultfulness and digestibility.

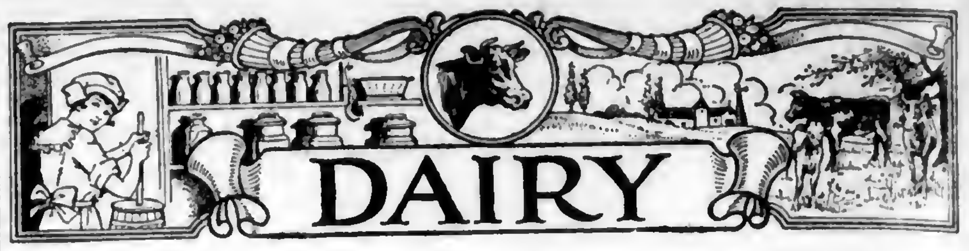
Write for a Union Grains cost sheet and know what dairy feed actually is costing you.

Union Grains is made by the manufacturers of Ubiko Stock Feed, Ubiko Buttermilk Egg Mash, Ubiko Buttermilk Growing Mash and Ubiko Pig Meal.

THE UBIKO MILLING CO. Dept. P CINCINNATI, OHIO

UBIKO
BALANCED RATIONS
For All Farm Stock

UNION GRAINS



DAIRY

Contagious Abortion of Cattle

Contagious or infectious abortion is a disease that is of importance. It has been recognized in Europeon countries for many years, but it was not until 1897 that the cause was discovered by Dr. Bang and named the abortion bacillus of Bang. It has only been within the last few years that American veterinarians have realized what this will eventually cause in the way of losses to the cattle industry if it is not given the attention, and means taken to prevent it. From experiments conducted in the District of Columbia, it is known that there are now 7 cases of contagious abortion where there was but one case eighteen years ago.

While we know that this bacillus of Bang causes abortion in cows yet we find it only in the udder and in the pregnant uterus of cows. It may remain in the udder of a cow for years and contaminate her milk and yet do no appreciable injury to the health of the cow. It may remain n the uterus and vagina of the cow after an abortion for as long as seven or eight weeks, but commonly no longer than thirty days.

There is a very reliable test for determining whether a cow is infected with the abortion bacillus of Bang known as the agglutination test. This test does not prove that the cow has aborted or is going to abort, but that she is or is not infected with the bacillus. Cows that are affected have this infection in the milk and also in the blood. They may not hurt themselves, but they may be the cause by which this condition is transmitted to other healthy animals.

This class of animals is called "virus carriers." It is good policy to quarantine a new cow before placing her in the herd and subject her to this agglutination test. This test is not applicable to bulls. Bulls that serve infected cows may transmit the disease to healthy cows. This is sound argument why a bull should not be allowed to serve cows other than those of his own herd in regions where this disease is known to exist or is even suspected.

This disease is spread by our present method of selling cows, and also by our method of showing cows at the various shows and fairs. We make no effort to ascertain whether the cows that are shown are free from this disease or not. This disease may also be transmitted by the discharge on the straw or bedding, or from the soiled hands, or clothing of the attendants, or the utensils that are employed about the stable. It is not commonly found in cows more than ten years of age.

This disease develops very rapidly. It shows itself by a swelling, a redness, streakiness, and a few hours later a number of small swellings of the vulva over the surface about the size of millet seed. At this time a discharge appears which gradually increases in amount. The general health is not disturbed, but the symptoms cause some local disturbances. This discharge and local inflammation usually lasts about three or four weeks and gradually disappears. Cows that have been so affected conceive again with difficulty in the majority of instances, and some of them not at all.

It sometimes runs a short course of from two to four weeks but more often it develops into a chronic condition that lasts two or three months or even longer. The swelling and redness and the small nodules gradually disappear and if the animals become pregnant it seems that this favors the rapid healing of these lesions. If proper treatment and care are pursued from the first it is possible in most cases to bring about a favorable termination inside of one month. Repeated copulation or parturition may cause reinfection to occur very readily.

It is sometimes very difficult to diagnose this condition with certainty. If it is occurring in several of the cows of a herd and the small nodules do not break down and form ulcers, and there is a discharge from the vulva it is well to auspect contagious abortion. There is an exanthema that affects cows that is very similar, but the nodules develop into ulcers and there is a fever with this condition. It is not infectious and the duration of the disease is from two to four weeks.

The treatment of this condition resolves itself into rigid cleanliness, disinfection and good care of the stables and utensils that are used this condition requires careful and about the stable. The treatment of persistent application of anyone of several agents if good results are to be obtained. It is unnecessary to mention any particular antiseptic as almost any of them will be good for this condition if they are properly applied. It is usually best to apply douches every day until the discharge ceases when they may be used ever second or third day. The coal tar disinfectants, such as lysol or creolin may be employed in from one-half to two per cent solutions. Of late, methylene blue internally has been credited with very excellent results.

The irrigation of the vagina is accomplished with a rather stiff rubber tube several inches in length, in one end of which should be inserted a fairly large funnel, which may be elevated to allow the fluid to gravitate to the depths of the vagina. To promote conception in the cow which has recovered it is well to irrigate the vagina with a two per cent solution of luke warm sodium bicarbonate a short time before copulation.

It is advisable to separate infected animals from the well ones, to prohibit copulation, and thoroly disinfect the stables and stalls and gutters repeatedly. Newly bought cows should be carefully examined and should be apart from the rest of the herd for some time.—G. H. Conn.

CLINTON OOUNTY COW TESTING ASSOCIATION.

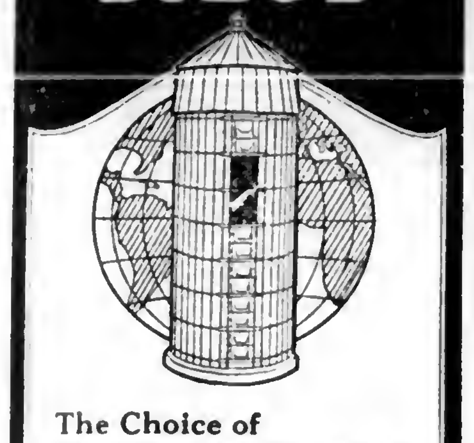
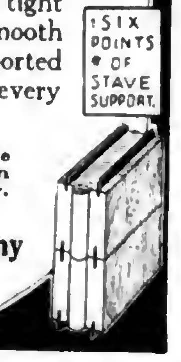
There were 342 cows on test during the month and of this number 57 produced over 1000 pounds of milk and 40 produced over 40 pounds of butterfat.

So far this is the best month the association has had, but, from present indications, the reports from now on will be just as good, if not better, because the interest in better cows in the county is increasing.

It is quite probable that Sugar Valley will have a separate association in the spring. More interest is being manifested in cattle in that locality at present than ever before. Several purebred cows have been brought into the valley to help raise the standard of the cows there. The meetings which were to have been held in order to create interest in a purebred bull association were postponed on account of the heavy snowfall, which made traveling almost an impossibility. However, these meetings will be held later on and it is hoped that the organization of a bull association will be effected.

On February 2d, the Clinton Stock Farm sold their large herd of purebred Holsteins, several of which were purchased by Clinton County farmers. A number of other sales are scheduled for early spring when several good cows will be on the market. The association will lose members as a result of these sales, but it is quite probable that another association will be formed in time to start work as soon as the year in this association expires on May 5th, 1920.

Several boarder cows, meaning those cows which have not measured up to the degree in production and profit, as is shown by their low testing records, have been disposed of, and others of the same type will follow.—Samuel A. Hamil.

GLOBE SILOS

The Choice of Dairymen and Stockmen Who Investigate

Because the Globe Silo with its nearly straight side extension roof insures a silo full and packed to capacity.

Because it has a continuous opening adjustable door front, with handy doors that fit tight and open easily.

Because its door fasteners form a convenient ladder making use of the silo and tightening hoops safe and easy.

Because the double steel spline and cementing method of fastening stave sections to each other, makes an air tight silo, with strong, smooth joints that are supported in every direction, at every point.

SIX POINTS OF STAVE SUPPORT.

Other real, desirable features described in illustrated Catalog. Write TODAY.

Globe Silo Company
3-13 Willow St.
Sidney, N. Y.

The United "SEE-THRU" Teat Cup
It's Clear
It's Clean
It's Strong

This patented Teat Cup is an exclusive United feature. Clear as glass—you always know which teats are milking. Simple and sanitary—easiest to clean. Lowest upkeep cost. The only transparent cup on the market. The only cup that massages the udder.

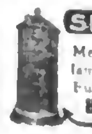
You should know about the United's many other exclusive features. Tell us how many cows you milk and we will send valuable information and prices.

Write today to—

C. L. SPRINKLE, President
United Engine Company
Dept. P.4 Lansing Michigan

OTHER UNITED PRODUCTS
Gasolene Engines Kerosene Engines Feed Mills Light Plants Cream Separators Saw Frames Washing Machines

UNITED MILKING SYSTEM



SILO USER AGENTS WANTED

Men wanted in every locality to own, show and sell famous Cincinnati Silos. Liberal spare-time profits. Full details free with special introductory offer.
Hauser-Stander Tank Co. Dept. F Cincinnati, Ohio

INFORMATION FOR INTER-STATE MEMBERS

To our Members:

After many conferences both with and without the dealers, the final decision is to continue the present basic price for milk (9c. for 4 per cent. milk, f. o. b. Philadelphia or $3.61 for 4 per cent. milk in the 50 mile zone) until July 1st—unless there is a decided change in the price of butter and condensed milk. The present prices in the outlying districts will also remain the same until July 1st.

The price of surplus milk for January has been figured according to agreement described in a previous letter, and we find this to be $3.12 for 4 per cent. milk at all receiving stations with a 4c. differential up or down according to butterfat test. The surplus price on direct shipped milk is 7.9c. per quart with the same butterfat differentials.

This makes the surplus milk price about 1c. per quart below the basic price. The dealers report that the increase in production in January did not exceed 10 per cent. over the previous three months. If members will only continue with an even production during 1920 they will secure a far better price for their milk than during the past year.

The letter sent out asking for commission from those who have not paid during the year has brought in about $2000 during the past month. This is a most gratifying result and we hope that the others will respond also. The amount of service we can render our members depends entirely on the amount of funds at our disposal.

The organization has been able to secure a concession from the Reading Railroad, by which farmers on the Pottsville division will have their milk cans returned regularly on Sunday. This has never been done before in that section and meant that those farmers had to have two sets of milk cans on hand. This service is still needed on some of the branch roads out of Pottsville, where so far no Sunday trains are available for the can delivery. We are now trying to arrange with the same railroad that milk cars in that district be regularly iced during the summer months.

The Association has been called on several times recently to settle disputes between members and dealers regarding charges for hauling milk to railroad or receiving station. Where the charge seems excessive the only alternative is for the farmers to make some other arrangement and carry the responsibility themselves, and often when all the difficulties are known this does not prove a wise move. At Doe Run, Chester Co., the farmers are making a success of it, as they found a man willing to do the hauling for 20c. per 100 instead of 25c. per 100 lbs. —the former rate.—Inter-State Milk Producers' Association.

MACHINE MILKING IS VINDICATED.

The results obtained in machine milking by the Geneva Experiment Station, Geneva, N. Y., and by many farmers who have consistently produced milk low in bacteria count show that a high grade milk is within reach of all who handle the machines properly.

Ten of the principal concerns selling mechanical milkers recently sent representatives to a conference held at the station at Geneva. These experts listened to the results of experiments which members of the station staff have carried on in their own dairy and elsewhere where milking machines are used.

The experience of the station for the past twelve years indicates that with proper care and intelligence, cows can be milked by machine without affecting the herd yield or without injury to the cows. The quality of the milk which has come under the station's observation as indicated by bacteria counts has not generally been as good as in the case of hand drawn milk. However this need not be the case.

It was demonstrated that the successful method of washing the rubber tubes and pails was not especially complicated or laborious. The company representatives were much interested in the discoveries of the

DAIRY FEED

When Your Silage Gives Out

The grain ration must be changed to combine with the available roughage so that the amounts of digestible protein, carbohydrates and other nutrients are supplied in the same quantities, if shrinkage in milk is to be avoided.

Through **TI-O-GA Feed Service** normal milk production is maintained when changes in roughage are necessary and the required nutrients are furnished at lowest cost without unbalancing the ration.

The home grown roughages are classified and feeds prepared to be used with each class; changes from one kind of roughage to another kind can be made and the nutritive standard maintained by making use of the feed which is adapted to the roughage being fed:

Red Brand TI-O-GA Dairy Feed to be fed with ensilage, pasturage, green fodder or low protein roughage.

White Brand TI-O-GA Dairy Feed to be fed with medium protein dry roughage.

Blue Brand TI-O-GA Dairy Feed to be fed with high protein dry roughage.

Full feeding instructions and classification of roughage will be found with every bag of **TI-O-GA Feed**. Every bag is guaranteed satisfactory when fed as intended.

Inquire of your dealer. Book on **TI-O-GA Feed Service** containing valuable information on feeding and conservation of home-grown feeds sent free on request.

The same careful service is furnished in the preparation of:
- TI-O-GA Brood Sow and Pig Feed.
- TI-O-GA Growing Shoat Feed.
- TI-O-GA Fattening Hog Feed.
- TI-O-GA Chick Feed.
- TI-O-GA Growing Mash.
- TI-O-GA Growing Grains.
- TI-O-GA Laying Food.
- TI-O-GA Poultry Grains.
- TI-O-GA Calf Food.
- TI-O-GA Horse Feed.
- Colonel's Ration (Full feed for Horses)

Tioga Mill & Elevator Co.
Waverly, N. Y.

TI-O-GA
FEED SERVICE

TI-O-GA
DAIRY FEED

GET THIS $27.00 Cream Separator without Paying One Cent

30 Days' Free Trial
Send no money
A year to pay

YOU pay absolutely nothing until you have used it for 30 days, until you have tried it—tested it—made sure it is the Separator you want. And then you can take a whole year to pay. This is the little Separator you have been looking for—the Premier No. 2. It is built especially for the man who has only a few cows, or for the woman who wants to separate enough cream for the family table and for home butter. Every farmer who keeps cows should have a separator. Even if you have only two or three cows, the butter fat wasted by the old skimming method would more than pay for this machine the first year—for the cost is only about ten cents a day. If you keep a large dairy and sell milk, you want cream and butter for your own table, and perhaps to sell. This wonderful little machine can be screwed to the kitchen table or set in an out-of-the-way corner.

200 pounds per Hour Capacity

Just right for the Farm with 3 to 5 cows. And a handy size for the big Dairy Farm to furnish butter and cream for the home.

Easy to Clean

The Premier bowl is especially sanitary. It is easy to take apart and as easy to clean as a teacup. It can be taken apart, washed and put together again in a few minutes. A convenient rust-proof disc-holder and two cleaning brushes are furnished with every machine.

Gets the Cream

The Premier bowl has a patented device that distributes the milk evenly over the discs, insuring a steady, constant flow and preventing any of the cream from escaping by mixing with the skim milk.

Easy to Turn

The light, strong bowl of the Premier and its simple, smooth-running mechanism make it easy to turn and almost noiseless. A child can operate it.

Bell Indicator

A bell, attached to the handle, indicates to the operator when the machine is running too fast or too slow. This unique device is very convenient and valuable.

Automatic Oiling

The oiling system requires attention only once a week. After the oil is placed in the reservoir, the machine oils itself.

Capacity

Although the Premier No. 2 is rated at 200 lbs. per hour, it will actually handle fully 300 lbs. and in an emergency would care for the milk from a large herd.

Order To-day
You Risk No Money

We believe so thoroughly in the ability of Premier No. 2 to please you, that we are willing to ship it to you without a cent of money in advance. You don't risk a penny, for besides our Thirty Days' Free Trial Offer, you have a full year to pay and

Our Binding Guarantee
that goes with all the machinery and equipment we sell.

Think of it—30 days' free trial without paying a cent. A year to pay, in twelve monthly payments. If, after 30 days you are not fully satisfied that it is worth all we ask and more, just return it to us at our expense. The full price of the Premier No. 2 is $27.00, which you pay in twelve monthly payments of $2.25 each, starting at the end of 30 days' trial. With a four-legged steel Stand, the price is $33.00. If you prefer to pay cash in full, there is a discount of five per cent. Write to-day. You lose money every day you do not have this separator.

National Farm Equipment Co. INC.
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We told this dairyman that the action of the Empire Teat Cup simulated exactly the action of the calf's mouth. Being a "doubting Thomas" he had to be shown, so he visited a neighboring dairy. The camera got his expression as we got his remark. Testing the action of the Empire Teat Cup is one way of proving to yourself the superiority of the Empire milker. It explains why the Empire makes such remarkable records on fine herds. To find out all of the Empire advantages write for catalog 25-M—or see our nearest dealer.

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EMPIRE CREAM SEPARATOR CO.
150 Nassau Street, New York
Chicago, Denver, Atlanta, Toledo, Syracuse, Minneapolis, San Francisco, Montreal and Toronto

EMPIRE MILKING MACHINES

Also manufacturers of the Separator with the MILLION DOLLAR BOWL

station, especially in regard to the solution for disinfecting the milk tubes and the proper method of rinsing the tubes. Some of the representatives made practical suggestions of how this information could be put before farmers, and themselves agreed to assist in spreading knowledge of the correct methods by which milk low in bacteria count can be produced by mechanical milkers.

Printed directions for care of milking machines can be had free from the state experiment station at Geneva, or from the dairy department at the state college at Ithaca.

BUFFALO VALLEY COW TESTING ASSOCIATION.

This is the first report of the Buffalo Valley Cow Testing Association which was organized November 26, 1919, and began active work December 29, 1919.

During the month of January 296 cows were tested. Quality cows 44. Highest cow, Lena Cornucopia Korndyke: Registered Holstein, owned by A. C. Slifer. Record 2279.2 pounds milk and 75.2 pounds fat.

The following men had cows producing over 40 pounds of butterfat: A. C. Slifer, 3; W. J. Erdley, 1; J. Shackenburg, 1; J. L. Reitz, 5; A. F. Rishel, 2; C. E. Erdley, 1; J. M. Erdley, 2; W. E. Gast,, 2; Wm. Stahl, 3; C. L. Miller, 1; G. B. Frederick, 1; C. C. Dyer, 1; J. S. Wehr, 1.

The following men had cows producing over 1000 pounds of milk: W. J. Erdley, 3; J. S. Hackenburg, 3; C. E. Erdley, 2; J. M. Erdley, 3; W. E. Gast, 2; A. F. Rishel, 2; Wm. Stahl, 3; M. E. Keiser, 1; J. S. Zeigler, 1; Clem Miller, 3; J. A. Roush, 2; J. L. Reitz, 4; A. C. Slifer, 5; G. B. Frederick, 3; C. C. Dyer, 1; J. S. Wehr, 3.

There are 28 different herds in the association and in about two-thirds of these herds purebred sires are used.—Lester Ruhl, Tester.

MILK SITUATION IN NEW YORK.

The seriousness of the milk situation in New York State was one of the important things discussed at farmers' week at Cornell.

Fred Rasmussen, secretary of agriculture of Pennsylvania, was one who emphasized the seriousness of the milk situation. He said that the dairy industry of New York state today is confronted by a real crisis, and "the next few months will tell whether or not this great industry is to continue to flourish or whether the great impetus given by war conditions and needs is to be lost."

Milk and the War

He began his address by showing how before the war America's imports of dairy products were rapidly increasing. The war stopped this and the exports increased enormously. Now importation has again been resumed and with the drop in the European exchange rate, the American market has become extremely attractive to the European farmer.

But foreign competition is only one of the problems confronting the dairyman, said the speaker. Others he named were cost of feed stuffs, cost of labor, advance in transportation rates, and the like.

Mr. Rasmussen urged the farmers to help meet the problems of feed costs by raising more feed crops. He spoke especially of the value of alfalfa, as well as corn.

Other Problems Named.

Other fundamental problems which need the attention of the dairy farmer he enumerated as increased production per cow, decreased cost of production, increased consumption of milk and dairy products, a close study of the markets of the world, and the formation of cooperative selling organizations.

The use of milk may be greatly increased, he thought, by a campaign of advertising on the food value of milk. This would not only "relieve the industry from a surplus in case of a too sudden reduction in the exports, but also would bring forcibly to the attention of the public milk as an indispensable food."

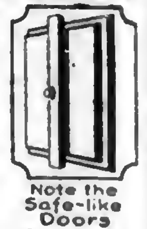
If the milk industry is allowed to suffer a slump, all agriculture and every other industry will suffer.

GREEN MOUNTAIN SILOS

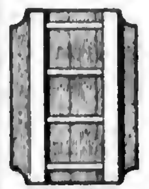
The Green Mountain silo with the new hip roof does credit to any group of farm buildings, no matter how pretentious. With its nut-brown creosoted staves and bright red cedar shingled roof, it is a beauty.

Just as good as it is good looking, too. Each part that has to stand a strain and in a silo that means almost every part—is built extra staunch and heavy.

Green Mountain staves are of extra-heavy, clean, well-fitted lumber—creosoted to weather-proof and preserve the wood. The hoops are of extra-heavy steel with easy-fitting, rolled (not cut) threads.



Note the Safe-like Doors



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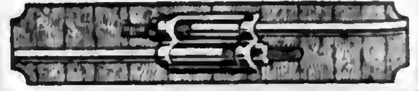

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Franklin Color Works, Dept. 16 Franklin, Ind.

EASTERN DAIRY CONDITIONS

With warehouses piled high with cases of condensed milk that cannot be marketed, due to the condition of foreign exchange, and the lessened demand for their goods, milk condensaries of Northern New York have discontinued manufacture, and are refusing part of their normal supply of milk, making that accepted into butter. One big plant at Burke, the Noble Farms Inc., has discontinued the acceptance of milk shipments from smaller companies, including those operating in Canada, which have offered their product at any terms that could be secured.

The butter market is dull, and promises to be worse if so many companies engage in its manufacture.

Nevertheless, work is being pushed at the League plant at Auburn, with the idea of making condensed milk as soon as the large boiler shop containing two boilers of 200 horse-power each is completed, so as to furnish power for condensing machinery. The directors are confident that there will be a good demand for League brands of butter, powdered and condensed milks, as they will be in a position to offer them at reasonable prices, not the ones asked the past year by the average manufacturer who is shown by state figures to have made about 176 per cent. profit on powdered milk and over 150 per cent. on condensed milks. The Auburn plant is accepting cream from all parts of its territory, only members of the League being allowed to ship. Apparently the only drawback to this new plan is the fact that checks are sent each month on the 20th for cream received the previous month. Dairymen need to get their checks weekly or after each shipment. However the industry is new and dairymen should be patient, as a new business needs more tolerance on the part of its patrons. Perhaps after a little the League will not need to do business on the money of its members.

The new March price for milk testing 3 per cent butterfat is $3.36 in the 210 mile freight zone, a reduction of one-quarter of a cent a quart from the February price of $3.48. Dairymen consider winter milk, under these prices to be less profitable than summer milk a sthe price is relatively lower, cost of production considered.

Eastern dairy experts consider that the next few months will determine the rise or fall of the dairy industry. If destructive legislation now being pushed at Albany is passed, utter rout of the industry is assured.

There is a noticeable let up in efforts to popularize the use of milk by some agencies—a great pity when the good of mankind is considered. Farmers and all others heartily agree with one statement made by the recent report of the "fair price milk committee," which says, "To deprive a child of milk is equivalent to opening its veins and letting its life blood escape" or words to that effect.

A. L. Brockway, of Syracuse, as president of the New York State Dairymen's Association, tells of asking Loton Horton, manager of Sheffield Farms Co., a big firm of milk dealers in New York why he did not devote the money he spent in fighting the League to advertising the value of milk as a food to the people of New York. "People do not care to know," he said. He was told that people do care to know and that if he had only spent money that way the people would have responded willingly to the increase in price and dealers could have paid the farmer a price that means a living to him.

A few weeks later he was in New York and saw a full page advertisement of this company's, saying if people would come to one of their various stores they could get milk quite a few cents less than that for which it was delivered. A few weeks after that Mr. Brockway met Mr Horton and told of seeing the advertisement. He asked how it worked and if they ran it long.

"Heavens, no!" was the reply; "No, we ran it once. We could not supply the demand."

The money wasted in attacking dairymen, and in repulsing these unjust attacks, if spent in a campaign of education for consumers and for producers, would make all investigators unnecessary. The industry would be relieved of all surplus in every kind of by-product.—F.

READ AND PROFIT BY THIS ADVICE Mr. DAIRYMAN

Mr. J. M. Hackney, owner and developer of several World's Champion cows, three of which are shown on this page, has proven the *importance of feeding a ration which will furnish cows adequate maintenance, without which no cow can produce maximum flow.*

Mr. Hackney has found out by experience that too much protein is injurious—that to secure maximum milk production cows must be kept at top-notch physical condition—the ration must be a health builder, strength and vitality giver. That's why Mr. Hackney likes his cows to have

SCHUMACHER FEED AND BIG "Q" DAIRY RATION

ARDEN FARMS
J. M. Hackney, Owner

St. Paul, Minnesota
The Quaker Oats Co. January Third, 1920

Gentlemen—I must say to you frankly that in my letter to you concerning feeding of Holstein Friesian Cows on my Arden Farms, I overlooked the most important factor, which I wished to bring out. I do not believe in a high protein ration. After the experience I have had, it is my judgment that breeders do not place enough importance upon the maintenance part of the ration of a cow. To secure a maximum yearly production means that a cow must be kept in good physical condition, nothing must be done to tear down the structure. It is my judgment that too much protein is injurious. There is good chance for argument as to just how much protein a cow should have, but I do not wish to engage in a discussion of the fine points, but I believe that a small amount of protein is better than too much, if one expects to have cows go on year after year and maintain their good health and produce their maximum of butter and milk. We mix most of our feed ourselves with the exception of SCHUMACHER FEED and BIG "Q" DAIRY RATION, with which we have been very successful.

Yours very sincerely,
(Signed) J. M. HACKNEY.

Owners of cows holding world's records, as well as owners of grade cows, alike endorse the merits of SCHUMACHER FEED, the great maintenance ration. 36 World's Champion Cows have been helped to make their world's records with SCHUMACHER as a part of their maintenance ration.

BIG "Q" DAIRY RATION is a *Quality* protein ration—when fed in conjunction with SCHUMACHER it supplies just the right amount of protein to stimulate milk production without "burning out" or tearing down the cows' physical condition.

The ideal SCHUMACHER BIG "Q" combination will keep your cows "going strong" month after month, and it's the cow that maintains maximum production over long milking periods that is the profit-producer. Feed dealers everywhere can supply you with these big result-producing feeds. Give them a trial. The best time to start is NOW.

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Beauty Beets Walker Segis
World's Champion Sr. 2-Yr.-Old Holstein. In 365 days produced 1060.64 lbs. Butter, 26843.20 lbs. Milk. This heifer broke 20 world's records.

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World's Champion Sr.—8-Year-Old Holstein—In 365 days produced 1171.15 lbs. Butter, 27005 lbs. Milk.

(D-2)

Beauty Girl Pontiac Segis
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Safe, easy—any boy can operate.
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The Silo, usually the highest building on the farm, must withstand wind pressure from without and silage pressure from within. For many years, and on thousands of farms, Natco Silos have stood the strain. The double shell tile insures strength and durability. Bands of the best reinforcing steel are laid in every tier of tile and doubled in the bottom courses, where the silage pressure is greatest. The extra-large channels in the tile provide wide, deep beds for mortar, in which the reinforcing steel is laid.

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Devoe insecticides are guaranteed strictly pure and full strength, deadly effective and safe.

A promising harvest is too valuable for you to take chances with anything but the most reliable brand. Don't take chances—use Devoe and be sure.

Ask your dealer for booklets and our Spray Calendar. They contain helpful and valuable information. If he can't supply you, write to our New York office 101 Fulton St. Five booklets are yours for the asking.

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by planting varieties grown where success has ruled 50 years. Collins' Fruit Guide is a valuable record of our experiences—free. Lists proved varieties of apple, pear, plum, cherry, and peach trees, small fruits, etc.
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BE PROTECTED. BUY YOUR SEEDS IN OHIO
From
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Nobody Wants
WORMY APPLES

If you grow apples to eat, you want sound, clean appetizing fruit. If you grow apples to sell, it is foolish to try to sell wormy, diseased apples at a worth while price. There is no mystery about good apples. How to eliminate worms, specks and spots is no secret. You can secure sound, clean fruit, free from insect damage and disease blemish, by spraying with

Pyrox

It kills the codling moth and other chewing insects—prevents rot, and other fungous disease. It keeps the fruit clean and sound, gives it good finish and color, and helps it to stick on until harvested, in spite of even heavy wind storms.

Pyrox is a smooth, creamy paste, easy to use—simply mix it with cold water, and spray. It sticks like paint, and gives lasting protection.

See your local Pyrox dealer and have him reserve enough for you. Write today for your copy of the new Pyrox book.

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HORTICULTURE

THE MOST IMPORTANT THING IN STARTING THE YOUNG ORCHARD

The proper location of the young orchard is, I believe, the most important step in orcharding. When we make mistakes along other lines of orchard work they can usually be corrected, but once we have located the orchard it can never be changed. Surely we must consider it a serious mistake to have placed an orchard in a location where we cannot count on more than about three crops out of five. Where much time and money must be spent each year to prevent various diseases, all of which could have been prevented by a proper location.

If you do not own a farm or wish to buy a new one to engage in the fruit business, be careful where you locate. If possible locate in a fruit section, so that you have the great advantage of being near to other men engaged in the same line of work. This will mean a great deal to you in many ways. First of all, it will help to solve the marketing problem by hinging buyers to your door instead of you being compelled to go out and hunt them. Again you have a much better chance of organizing and working together, not only as far as marketing is concerned, but also for the purpose of eradicating insects, disease and other obnoxious pests which may make their appearance from time to time.

Locate as near the railroad station as possible, or if this is impossible be sure to have a good road at your door. This is no longer as great an advantage as it was ten years ago because of the motor truck, but nevertheless it is a very important question and should not be overlooked. The extra cost of transporting supplies and produce over a few additional miles will soon exceed the difference in the price of land close to a railroad and that which is isolated and on fine roads.

Another very important point, in my estimation, in selecting an orchard site in Pennsylvania is to keep as far away as possible from a range of mountains. In this state we find that much of our fruit is grown on the foothills between two parallel ranges of mountains. Under these conditions the orchard is sure to be affected by the cold air coming down from the mountains above. With the result that the orchard is not only in danger of being caught by late spring frosts, but it will also be more subject to practically all of the fungous diseases. On the other hand we have thousands of acres of the very best orchard land in Pennsylvania which lies from ten to fifty miles from a mountain range. This land is not flat but rolling, the hills are not so large and steep but that they can be easily cultivated. At the same time they are high enough to be above the frost line under most conditions and thereby almost immune from the late spring frosts which are so disastrous. This rolling land or diversified hill country as you may call it has the additional advantage of being much less conducive to the development of fungous diseases. You will understand that by planting on top of the hills you are on top of everything. There are no mountains in back to throw in cold and moist air with the results that an orchardist under such conditions can frequently eliminate from two to four summer sprayings. He does not have many of the fungous diseases to contend with, which are found in lower and more moist locations. To illustrate more fully we might cite the apple crop this last year. In many sections, apple scab was unusually serious, even though sprayings were made to control it, some men lost practically their entire crop, while others lost heavily because of the disease. In my own orchard I have never yet made a scab application and although I found an occasional scab mark on my apples this fall they were few and far between. In a large orchard this means a great saving in both time and money.

If you already have your own farm then it is very important to select the most suitable location on the farm. Be sure to locate the orchard as high as possible so as to stay out of the cold moist air of the valleys. Remember that it isn't so much your elevation above sea level as your elevation above the surrounding country, which is so very important. Occasionally, we find what might be called a wind swept hill top, a place where the wind seems to be blowing a gale almost all the time. This is not a good orchard location because there is a tendency for the trees to be blown over time and again. We should also avoid pockets on a hillside; that is, a place, because of its peculiar construction, the cold air settles and cannot escape even tho it is far up the hillside.

As far as my own experience is concerned, I have never seen much difference in exposure. We have tried all of them with equally good results. There are undoubtedly places where a northern slope would retard the development in spring to a certain extent but I do not believe we need pay much attention to exposure in this state. I think if the hill is sufficiently steep to cause a difference in bud development it is too steep for a good orchard location.

After you have paid careful attention to your air drainage the next step to be considered is the soil itself. This is very important and I have quite frequently seen orchards in this state which were doomed to failure because they were on soil which was not adapted to fruit growing. In some cases by merely going across the street the very best of soil could have been secured, while usually by going two or three miles away, suitable fruit land could have been found. We should always avoid wet, springy land, also land in which the slate rock comes to the surface and land underlaid with a stiff hard pan. The best indication as to whether or not a particular soil is adapted to fruit-growing is the type of fruit trees found upon the soil. If the chestnut and the sweet cherry thrive well we can feel certain that we have a good fruit soil. For apples the soil should be loose, friable and deep, while peaches, on the other hand, will thrive very well on a thin soil if they are well cultivated and well fertilized. Some fine soils are fairly well adapted to fruit-growing, but here we can usually expect an abundance of apple borers, because the pine seems to be the native crop of the apple borer.

Bear these points in mind and you will seldom go wrong in about the most important step in starting the young orchard. A good location is not only the best insurance against frost and fungous diseases, but it is also usually indicative of better color and better quality.—Sheldon W. Funk.

SOME THOUGHTS ON CELERY

Probably the first celery grown commercially in New York State was in 1870. Culture as far as land preparation was much the same as the present time. Manure that was thoroly decomposed was placed in the bottom of a furrow. Each row was raked over before planting and the plants were arranged systematically.

In early fall the lower leaves were removed and a furrow of earth was plowed up to the plants. The banking was then done by hand and even the loose soil that was thrown up later was done by hand. At the time of harvest a shallow running, one horse, plow was used to remove the earth that had been thrown against the plants for blanching. More hand labor was then employed when each stalk was dug separately.

It was not until 1883 when Peter Henderson introduced the White Plume and in 1886 when the Vilmorin Golden Self Blanching was introduced from France that the labor element began to be reduced.

When once a good self-blanching variety such as Paris Golden Heart has been selected, three prime factors must be considered, viz.: cultivation, moisture and fertilizer. The first of these two might well be linked together because they are closely allied.

Cultivation should be deep and as close to the plant as is justifiable with safety. The sod mulch created from cultivation is the best moisture regulator that can be secured. Most celery growers plant their celery 40 inches apart and 5 inches in the row.

Probably no factor is so important in the growing of celery as fertilizer because celery to have good selling qualities must be uniform, tender and mild, all of which comes from unretarded growth. Good stable manure is often used for rapid growth but when not available nitrate of soda is as good as any unbalanced fertilizer. This is used during the growing season at the rate of from 200 to 300 pounds to the acre at each application. Most growers use three applications each year.

On most muck soil a mixture of 350-500 pounds of nitrate of soda and 1200-1400 pounds of acid phosphate gives good results. Sometimes the phosphoric acid in part is secured by the use of bone meal; which contains 22 per cent of phosphoric acid. The mixture of nitrate of soda, and phosphate and bone meal when used is broad-casted on the piece to be planted to celery, clear nitrate of soda being supplied during the growing season by casting it along the rows. Sometimes a wheelbarrow drill can be used to good effect. The soil moisture which has been created serves us good stead by absorbing the nitrate and making it quickly available. While animal tankage contains 6½ per cent of ammonia it is not quickly available and should not be used for selery.

Pink rot and celery blight are practically the only two diseases known to celery.

Pink rot is the same disease that attacks carrots and can be recognized by the white mold and hard black bodies. Crop rotation, the removal of decayed plants from the field and celery trench and soil ventilation will reduce this disease.

Leaf Blight, if detected on plants early in the season, can be controlled by home made bordeaux mixture of 4-4-50 strength. Use sprayer no less than 100 pounds pressure. Top and side spraying has given best results.

Follow the maxim, "start early" with spraying because spraying is of little account when once the disease has gained headway.—E. A. Flansburgh, Mt. Morris, N. Y.

BUYING THE SEASON'S FERTILIZER SUPPLY

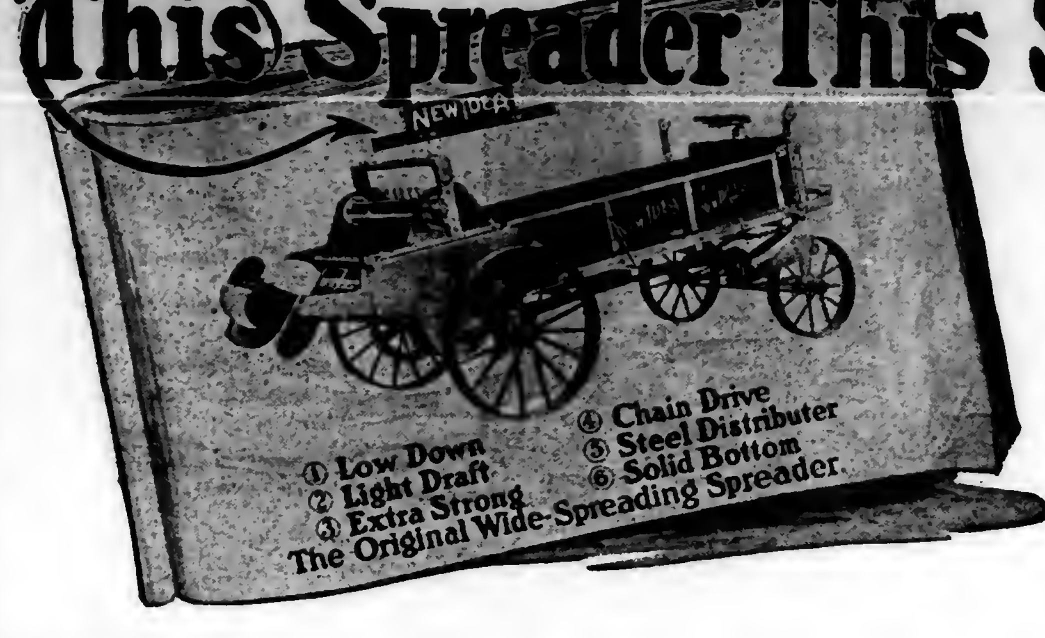
(Continued from Page 5.)

on your crops. Use different amounts of different mixtures at first, watch your plants and the results carefully and you will learn to use fertilizers judiciously and economically. Remember that a soil analysis may tell us what element is most lacking in our soil but it cannot tell us what analysis will give us the best results on potatoes or any other crop.

The fertilizer question is becoming more and more important each day because of the diminishing supply of stable manure. This is particularly true of the gardener and the fruit grower. Men who produce very little manure and have been depending upon the large cities to furnish manure will have to depend eventually almost entirely upon commercial fertilizers and cover crops to supply their fertility and organic matter.

Note.—The availability of nitrogen and phosphoric acid in bone meal depends largely on the fineness of division of the material. It is an organic material. Experiments show that approximately one-third of the phosphoric acid becomes available the first year, and the results of the remaining two-thirds may be noted in the second and third years after application. In view of the fact that the phosphoric acid in acid phosphate becomes fixed in the soil and is not leached away, there is a question whether bone-meal or any form of bone is an economical material to buy and use. Notes on practical experience with these two materials will be appreciated.—Editors.

"I Am Going To Buy This Spreader This Spring!"



Say this to yourself—*and then do it.* Decide to pay up your debt to your soil. Decide *now* to spread with the New Idea—*this* year—*this spring!*

MAKE this statement—and *plan now* to carry it out. At least, get all the facts at once. Not next year, but *this* year—*this spring!* For now is the time to prepare for heavier crops this year. And regular, even spreading with the New Idea will do this. It will put new blood—*new life*—into your land. It will ripen your soil for this spring's seed.

Why The New Idea?

Not simply because the New Idea is the original wide-spreading spreader do we urge you to buy it, *now*. Yet that leadership does mean much to you. It gives you valuable patented features that can be had *only in this machine.*

And not because it is the best known and the largest-selling spreader in the world today. Though this fact protects you. It confirms your judgment—backs it with approval of thousands.

The real big reason is this: *You want the New Idea because it spreads manure, straw and lime most quickly, most thoroughly and most profitably.*

You want it because of the labor it saves—because of the extra years it lasts—and because of the light haul it gives with a heaped-up load.

NEW IDEA
The Original Wide Spreading Spreader
(Known as NISCO in the West)

Spread Straw, Lime, Manure With One Machine

The New Idea is strongly built. It has no gears to break. No complicated parts to get out of order. A simple, low-cost attachment makes it a big-capacity straw spreader. This and its wide spread, its perfect shredding and its adaptability to every type of farm everywhere, mark it *the spreader for you—this spring.*

A network of New Idea branches covers the country. If needed, spare parts service is given quickly. And in every community there is a progressive dealer who handles New Idea Spreaders and has machines on hand for early spring delivery.

To make certain of bigger crops through better soil fertility, order a New Idea. To make certain of getting your New Idea this spring, order it now—today.

Built by Spreader Specialists

The New Idea Spreader was not built on the spur of the moment to meet competition. It is the result of 20 years constant improvement by Spreader Specialists. Untiring effort on the part of the men who have specialized on this one vitally important farm implement for a business lifetime—accounts for the present prestige of the New Idea.

Be sure to ask your dealer for a free copy of our valuable book, "Feeding the Farm." It is filled with vital facts on fertilizing that you will want to know.

The New Idea Spreader Co. "Spreader Specialists" COLDWATER, O.

Branches in:
Harrisburg Pa. Indianapolis, Ind. Chicago, Ill. Minneapolis, Minn. Omaha, Neb. Peoria, Ill. Syracuse, N. Y. Columbus, Ohio Kansas City, Mo. Jackson, Mich. Waterloo, Ia. St. Louis, Mo.

"High Analysis" FERTILIZER
Unfertilized
Fertilized
Corn that starts off quickly has a longer season in which to grow. Fertilizer gives corn a quick start.

Fertilize Corn for a Quick Start

AS SOON AS the young corn plant starts, the rootlets begin reaching out for plantfood. If they find it, in available form, the plant goes ahead, sturdy and green. If they don't find it, the green fades—you have often seen the sickly yellow color—and there will be no growth until a supply of available plantfood is found.

Nature provides ammonia in the vegetable matter of the soil. Warm weather brings decay, and this releases ammonia for the growing crop. But while waiting for warm weather corn should have ammonia supplied by fertilizer. You cannot afford to let the growing crop lose a single day.

Corn is a heavy feeder. It must have ammonia for a quick start and steady growth. It must have potash to make strong, stout stalks which bear big, heavy ears. It must have phosphoric acid to fill and harden those ears as well as to make strong and vigorous roots.

"High Analysis" Fertilizer for Corn

One of These Will Fit the Conditions on Your Farm

The figures represent percentages of ammonia, available phosphoric acid and potash, in the order given:

For sandy and loamy soils, and all worn soils, especially where the manure is short—

2-10-6 or **2-10-4** or **2-12-2**

For use on clay loams or other soils which contain plenty of potash —

2-12-0

For use where the soil has plenty of available ammonia; where plenty of manure is used; where legumes are plowed under —

0-10-8 or **0-12-4** — **0-12-2** or **0-16-0**

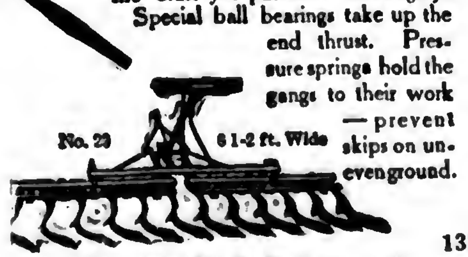
Our Automatic Formula Finder will help you select the right fertilizer to use on your other crops. Be sure to send for one—no charge or obligation.

Our booklet, "More Plantfood for More Corn," tells how to make bigger profits from your corn crop. Send for a copy. Also ask for our Automatic Formula Finder which will help you to select the right fertilizer for each crop. A post card request will bring both—they are free.

SOIL IMPROVEMENT COMMITTEE
of the National Fertilizer Association

CHICAGO
1717 Lumber Exchange Building

BALTIMORE
1017 Stock Exchange Building



"ACME" TILLAGE TOOLS

Make Perfect Seed Beds

"ACME" TILLAGE TOOLS enable you to make better seed beds than you have ever made before. They provide the plants with smooth, fine, firm soil which promotes quick root growth. Crops planted in "Acme"-made seed beds yield heavier.

"ACME" Disc Harrow —10 Sizes

Better Tillage — Bigger Crops

"ACME" Disc Harrow has offset gangs which disc *all* the soil — leave no "comb" or middle ridge. The discs are specially formed so that they enter the soil with a clean cut. They lighten the draft yet pulverize thoroughly. Special ball bearings take up the end thrust. Pressure springs hold the gangs to their work — prevent skips on uneven ground.

No. 23 6 1-2 ft. Wide

"The Coulters Do the Work"— Make Perfect Seed Beds.

"ACME" Coulter Pulverizing Harrow completes the work so well begun by the "Acme" Disc. It is almost universally used on truck farms where perfect seed beds are the common thing. And it's equally valuable on fruit and general farms. Everywhere, "The Coulters Do the Work"—make perfect seed beds.

"I have used both your 'Acme' Disc and 'Acme' Coulter Harrows at the State Institute of Applied Agriculture on Long Island," writes Wm. Ryan, Inspector in Farm Management, "and find that they do excellent work. I can recommend them either with tractors or with horses."

Ask your dealer to show you "Acme" Tillage Tools. Write us for free book, "The 'Acme' Way to Crops that Pay."

DUANE H. NASH INC.
137 Elm Street, Millington, New Jersey

Apples Are Money Makers

Farmers may be making money today, but when the normal years return, with normal prices, it will mean old conditions unless new means of making money are employed. Fruit trees—in particular, apple trees—are great sources of profit. They mean more money to the acre, and require less attention than most crops. Good stock always pays; get your trees from us and you will be sure of a good start. Write us today.

Hoopes, Bro. & Thomas Co.
41 Maple Avenue
West Chester, Penna.

WHITEWASHES AND COLORS

Kindly give me a good formula for cold water paint or whitewash and a cheap coloring for a light green. R. J. W., Chesapeake City, Md.

Government whitewash, recommended by the U. S. Department of Agriculture, has given very good satisfaction. It is made as follows: Slake one-half bushel of lump lime in boiling water, covering it to keep in the steam. Strain the liquid and add a peck of salt, previously dissolved in warm water. Add also 1 pounds of ground rice boiled to a thin paste and stirred in while hot, also one-half pound of Spanish whiting and one pound of glue dissolved by soaking in cold water and then hung over a slow fire, in a glue pot. To this mixture add five gallons of hot water, stir well and let stand for several days covered from dust. It is better to apply this mixture while hot.

This is the most generally satisfactory formula for whitewash that we know of and we suggest that readers cut it out for reference when wanted. Another commonly used for outhouses and fences but which will not adhere as well as the above it made as follows: Take one bushel of lime which must be slaked with hot water, two and a half pounds of white vitriol, and four pounds of salt. This colors white. If coloring is desired the following formulas may be used: Fern green—Five parts lemon chrome yellow and one part each of light chrome green and drop black. Foliage green—Three parts medium chrome yellow, and one part of ivory or drop black. These pigments should be added until the required density of color is obtained.

Kalsomine and cold-water paints may be obtained in the desired colors from commercial sources. They are especially good for interior uses but are much the same as whitewash for exterior use.

FRENCH POTASH

The potash monopoly of the world will be held by France instead of Germany in the future because of the cession of Alsace-Lorraine to France. The potash deposits extend 9.94 miles to the north of Mulhouse, over a surface of more than 69.2 square miles. They are unusually rich in potash salts, much richer in fact than the beds in the interior of Germany. They are, moreover, easier to exploit. Their thickness ranges from 12.1 to 17.7 feet. The thickness of the smaller beds in the upper layers varies from 2.6 feet to 4.9 feet.

The first workings were begun in 1909; in 1913 there were twelve in operation. In a period of only three years the production rose from 42,420 to 287,000 metric tons, so that the production of potash in Alsace in 1913 was already one-fifth of the entire German output.—Rock Products.

NO GERMAN POTASH COMPETITION

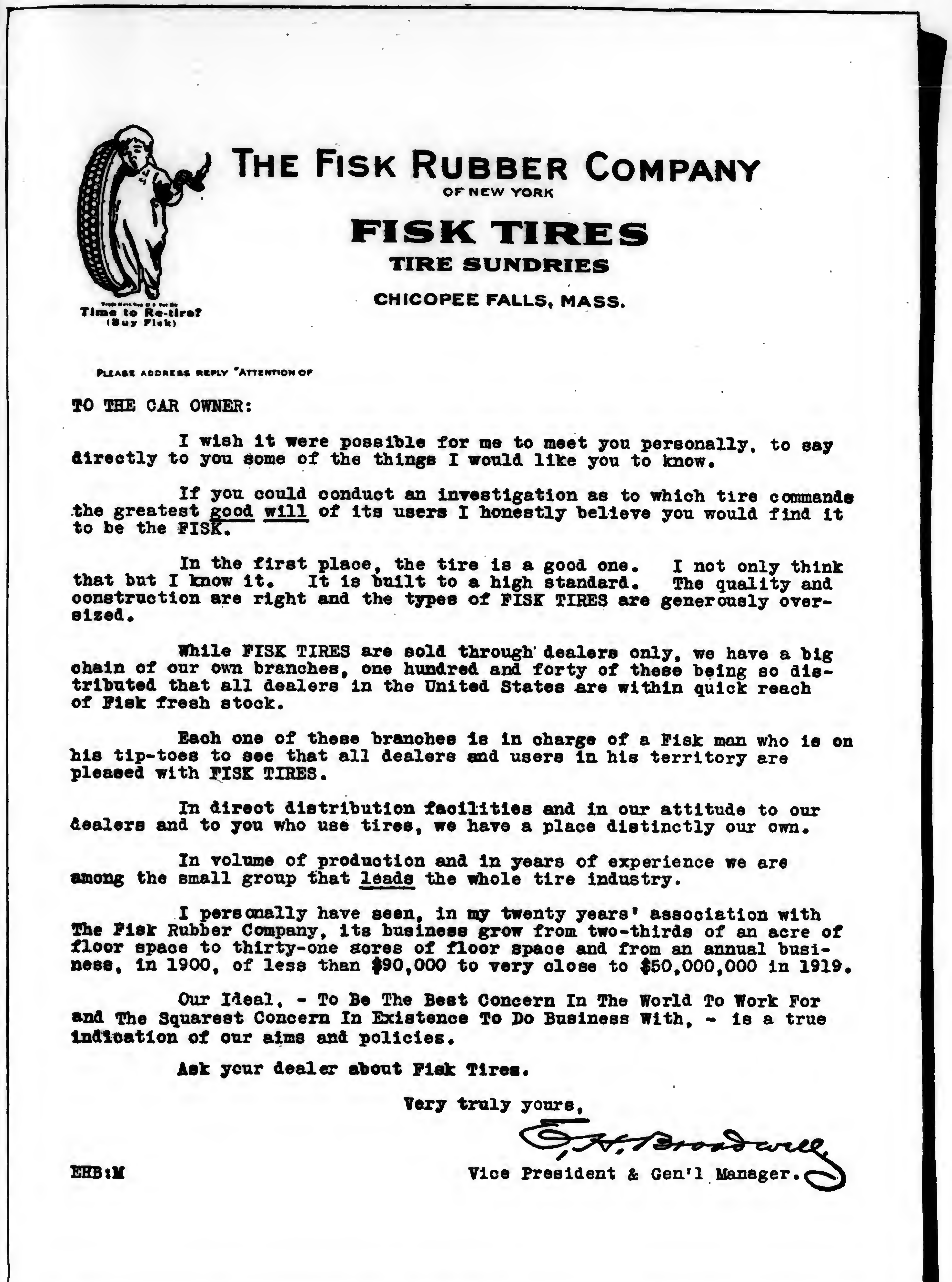
The German Potash Syndicate announces that it is able to supply only slightly more than one-third the home demand, which this year totals 15,000,000 double hundredweights.

Orders from abroad almost equal this amount, resulting in a situation which is forcing the syndicate to decline foreign deliveries. The output is still seriously handicapped by lack of coal. The directors assert that the situation can only be corrected thru the abolition of the eight-hour day in railroad shops and the introduction of piece work.—Rock Products.

WHEAT EXPORTS INCREASE

Wheat, including flour, exports from the United States and Canada for the week ending February 26th, reported to Bradstreet's aggregate 3,470,467 bushels, against 2,436,0 bushels last week and 3,269,3 bushels the corresponding week last year.

Corn exports for the week are 54 552 bushels, against 261,644 bushels the week before and 114,590 bushels in the like week of 1919.



THE FISK RUBBER COMPANY
OF NEW YORK
FISK TIRES
TIRE SUNDRIES
CHICOPEE FALLS, MASS.

Time to Re-tire?
(Buy Fisk)

PLEASE ADDRESS REPLY "ATTENTION OF

TO THE CAR OWNER:

I wish it were possible for me to meet you personally, to say directly to you some of the things I would like you to know.

If you could conduct an investigation as to which tire commands the greatest good will of its users I honestly believe you would find it to be the FISK.

In the first place, the tire is a good one. I not only think that but I know it. It is built to a high standard. The quality and construction are right and the types of FISK TIRES are generously oversized.

While FISK TIRES are sold through dealers only, we have a big chain of our own branches, one hundred and forty of these being so distributed that all dealers in the United States are within quick reach of Fisk fresh stock.

Each one of these branches is in charge of a Fisk man who is on his tip-toes to see that all dealers and users in his territory are pleased with FISK TIRES.

In direct distribution facilities and in our attitude to our dealers and to you who use tires, we have a place distinctly our own.

In volume of production and in years of experience we are among the small group that leads the whole tire industry.

I personally have seen, in my twenty years' association with The Fisk Rubber Company, its business grow from two-thirds of an acre of floor space to thirty-one acres of floor space and from an annual business, in 1900, of less than $90,000 to very close to $50,000,000 in 1919.

Our Ideal, - To Be The Best Concern In The World To Work For and The Squarest Concern In Existence To Do Business With, - is a true indication of our aims and policies.

Ask your dealer about Fisk Tires.

Very truly yours,

E. H. Broadwell

EHB:M

Vice President & Gen'l Manager.

Solves the Heat Question for Farm Homes

Throw out the old, dirty, wasteful methods of heating and install the modern, clean and efficient hot water radiator heating with an IDEAL-Arcola Radiator-Boiler

Make your farm home a haven of comfort. Warm every corner and drafty hallway. Give your good wife and yourself the comfort of an evenly warmed home with the healthful cleanliness and the great fuel saving of IDEAL - AMERICAN heating.

The IDEAL-Arcola Radiator Boiler

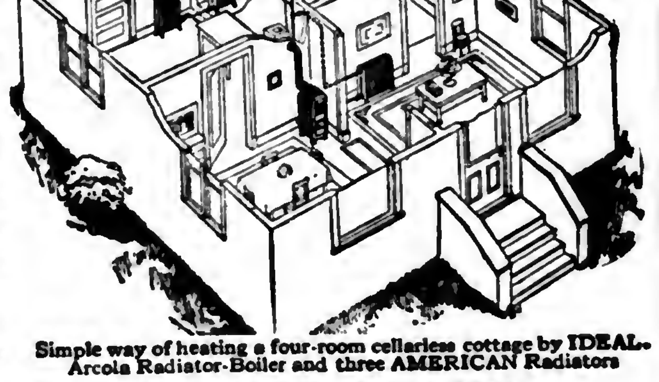
Gives the small farm house the complete comfort of a city mansion. The IDEAL-Arcola heats the room in which it is placed and circulates its surplus heat to the AMERICAN Radiators in adjoining rooms. It heats the whole house with one fire and lasts as long as the building stands.

Shipped complete for immediate installation

The beauty of the IDEAL-Arcola method is that no cellar is needed. Everything is on one floor. The Arcola is placed in any room that has a chimney connection. No running to cellar. Same water is used over and over again for years.

Cleanly heating—healthful heating—free from fire risks!

Unlike stoves, there are no coal-gas leaks into the living-rooms. The IDEAL-Arcola delivers the soft, radiant warmth of hot water—not the dry burnt-out atmosphere of stove heating. There is no fire risk to building—no danger to children—fire lasts for hours! The Arcola burns hard or soft coal. Brings cost of heating down to the lowest notch — and gives IDEAL comfort.



Simple way of heating a four-room cellarless cottage by IDEAL-Arcola Radiator-Boiler and three AMERICAN Radiators

Catalog showing open views of houses, with the IDEAL-Arcola Boiler in position will be mailed (free). Write today

Sold by all dealers. No exclusive agents.
AMERICAN RADIATOR COMPANY
Write to Department F-30 Chicago

PAINT $1.35 PER Gallon

ORDER DIRECT FROM FACTORY

We will send you as many gallons as you want of good quality red or brown

BARN PAINT

upon receipt of remittance. We are paint specialists and can supply you with paint for any purpose. Tell us your wants and let us quote you low prices. We can save you money by shipping direct from our factory. Satisfaction Guaranteed. On orders for 30 gallons or over we will prepay the freight within a radius of three hundred miles.

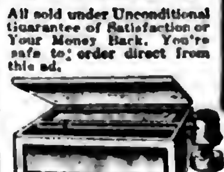
AMALGAMATED PAINT CO.
Factory: 373 WAYNE ST., JERSEY CITY, N. J.

WAIT! LOOK at MY PRICE

My 1920 offer is the sensation of the Incubator Industry. Others can't understand how I can sell such a superbly built, scientifically correct hatching machine at such an astonishing price. My answer is that I have smashed all records for big production—built in such huge quantities that I can afford to sell at this almost unbelievable price—and still make an honest profit. Furthermore, there is no "Profiteering" about the

DETROIT Incubators and Brooders

All sold under Unconditional Guarantee of Satisfaction or Your Money Back. You're safe to order direct from this ad.



140-Egg Capacity Sent Complete Ready to Use Prepaid to Your Freight Station

$7.10 For DETROIT BROODER

140-chick capacity—a triumph of mechanical ingenuity. Sent prepaid to your freight station. Order direct from this ad.

BOTH Incubator and Brooder for $17.50

This is my record-smashing offer. A complete hatching and chick-raising outfit—worth every cent of $25.00, for a mere $17.50. Order early, direct from this ad, or

Send for Special Descriptive Circular

Gives full and interesting facts regarding both machines. Write for Free Copy today.

Detroit Incubator Company
Dept. 13 Merritt St., Detroit, Mich.

It Pays to Save Lambs for 10¢ each

Kill Stomach WORMS
TixTon
Drench Balls
for Lambs & Sheep
ENOUGH FOR
10 Sheep $1.00
30 " $2.50
150 " 10.00

Write for Club Offer and Booklet on Care and Breeds of Sheep

Remedy sent by Parcel Post upon receipt of price

Parsons Chemical Wks.
GRAND LEDGE, MICH.
Leona Park Farms Exp. Station

Seed Corn Selected seed of the following varieties testing 90 percent or better. Early Butler, Pride of the North, Leaming, White Cap Yellow Dent, Mammoth White Dent. Price $3.00 per bushel. Bags extra at 60 cents each. Sample ears at 25 cents each.
THE HORN BROS. CO., MONROEVILLE, OHIO

STRAWBERRY PLANTS

All leading varieties, including the best of Everbearing kinds. ASPARAGUS ROOTS and Tomato Seed. Quality best. Prices reasonable. Catalog free.
W. R. ALLEN, SEAFORD DEL., R. D. No. 1.

POULTRY

HATCHING AND BROODING POINTERS

The incubator is of great value in obtaining early hatches from the best birds. We try to do most of our breeding from hens one year or two years old and these hens are never forced for eggs during the winter, as we wish to hatch a large per cent of strong vigorous chicks.

The old hens make the best mothers but the trouble is right here. We need eggs from those hens for incubation during the entire spring. The best hens often become broody very early in the spring and if they are given a clutch of eggs, that is the end of their usefulness in filling the egg basket until their chicks are weaned. If they are broken up on the first sign of broodiness, they will soon be laying again and furnishing fine quality fertile eggs for the incubators.

We like the incubators very much and have had no trouble with them and expect to increase our incubator capacity. At present we are using more hens for hatching than we will expect to use in the future. The coal-burning brooder is one of the factors which is making artificial incubation more successful on many farms. They are easy to manage and when the supply of hard coal is more sure there will be nothing to beat them for raising a large number of chicks with a minimum of labor and worry.

However the beginner with stove brooders should try one and become familiar with the operation before trying to manage a large number of stoves at one time.

It pays to buy incubators of the fireproof type and then they can be used in the home with little danger. We have one machine which is guaranteed fireproof and it does not seem that it could possibly catch fire from the lamp even if it were carelessly handled and of course, the farmer never expects to be even a little bit careless when valuable eggs are in the machine.

Our incubators have been run in the cellar and in a vacant room and the hatches have averaged first class. The only hatch we have lost was a late one and then the eggs were spoiled by overheating during very hot weather It is very hard to regulate an incubator in the summer when the thermometer sometimes registers 103 or 104 degrees in the shade during the day and then, possibly falls to 80 degrees within a short time after the sun goes down.

In the early spring, the eggs can be cooled without danger for a few hours but if the same eggs are overheated for even a short time there is a great danger of a ruined hatch. Sometimes the chicks do come out from overheated eggs but they are usually weak and very difficult to mature into profitable birds.

If the incubator is used in the house during the summer, it should be placed in the cellar where the variation in the temperature will not be very large. In the early spring, the machine can be run in a vacant room in the house if it is not too near to a stove and there are no draughts or sudden changes in temperature.

When buying incubaors, it sometimes is best to select one large machine rather than two or three small ones, as this will reduce the cost and give a greater capacity for the money invested. A farmer will frequently find it more satisfactory to have all of his chicks the same age rather than have two or three hatches of different ages to manage. It is also easier to take care of the machine for three weeks rather than watch it carefully for six or nine weeks.

When buyng incubators, it some- the oldest and most successful breeders do a large amount of hen hatching and hen brooding but others have a fine equipment in brooders and incubators and like them the best. We use both methods and believe that the artificially raised chicks are about as good and they are raised at a smaller cost per chick.

Some of the experienced breeders who dislike incubators and brooders may have used the machines years ago when neither incubators or brooders seemed to be as well built as now. We believe that a few chicks can be raised with the least trouble with old hens but when the flock is increased to several hundred, it saves time to hatch artificially and brood with coal-burning brooders in colony houses that are raised from the ground so the chicks are protected from rain storms, heavy winds, rats, weasels and skunks.

It seems much easier to care for the chicks in that manner. The hens are laying and not nervously pacing before the front of the brood coops. The incubator hatched chicks are in less danger from mites and lice. They can be fed more quickly in large flocks. A heavy wind storm may tip over small brood coops unless the are firmly anchored but it takes a cyclone to carry off a well built colony house.—R. G. Kirby.

PENNSYLVANIA STATE COLLEGE

A great many of us are under the impression that State College is an entirely agricultural institution, but of the 4,000 students only 850 are studying agriculture, while 1100 are taking engineering and the balance pre medical and pre legal. The Agricultural Department at State College is far from what it should be. There are plenty of farms in this State that are better equipped with pure bred livestock, especially with horses and dairy cattle. At the last session of the Legislature a strenuous effort was made to get an appropriation for buildings and equipment but the legislature ignored this most important need of the College entirely. Dean Watts stated that they could use $5,000,000 within the two years for which the appropriation was asked, but they got nothing.

There are plenty of schools where students can take pre medical and pre legal courses but this is the only agricultural College in the State. Every boy that expects to farm if he can't take a two or four year course should at least take a twelve week course, but this year the college can accommodate only 100 short course students and they must room and board at Lamont, 3 miles from the College. Pennsylvania in 1918 produced crops of a total value of $648,355,577 far surpassing in value the output of any other single industry, and yet we are not considered of sufficient importance to get the necessary buildings and equipment to make the College what it should be.—Anselm B. Kirsch, Cambria Co., Pa.

BUILDING FEED HOPPERS

We like the dry mash hoppers that are low and wide better than those that are high and narrow. The narrow hopper only gives a few birds a change to eat mash at the same time. The strongest and best feeders will obtain plenty to eat but the birds that are shy are pecked and crowded away from the feed and they may not get enough egg-making material to keep them laying profitably.

We like a big throat in the hopper so that no time will be wasted in forcing down the feed that clogs. The narrow throated hoppers are apt to clog on cold days when the poultrymen does not notice it and then the birds are without mash when it is greatly needed in their ration. Practical poultrymen soon find that it pays to keep the birds feeding heavily and one of the best assets in winter poultry management is the large broad hopper well filled with an egg producing mash. No matter how heavy the storms the birds can gather rations that correspond to their meals on the summer range and such a mash helps to produce eggs and keep birds vigorous for spring breeding purposes.

Small hoppers for grit and shell mean that they must be filled often and this charges more time up to the poultry. Why not have them at least large enough for a month's supply so that grit and shell will not constantly have to be carried thru the snow or the birds go without.

In a large laying house more than one long hopper is necessary. Watch the hoppers and if the birds are always crowded at eating time it usually means that there is not enough room and another hopper at the opposite end of the house will divide the flock and help all the birds to obtain their fill of mash.—R. G. Kirby, East Lansing, Mich.

CURING BUMBLE FOOT.

Poultry usually acquire bumble foot by jumping from the roost to a hard floor. We believe that a lack of litter on a cement or board floor will soon cause the trouble. Watch a heavy cockerel jump on a board floor and it is evident that the foot receives a hard shock. In their natural environment fowls only alighted on soft earth and under domestic conditions the foot seems insufficiently padded for jumping on a hard floor.

The abscess should be opened and the entire core removed. Then wash out the cut with a one per cent solution of carbolic acid. The cut will not need to be sewed up but it may be rubbed with a bit of carbolated vaselene each day to keep it soft and aid the healing process.

If a fowl with bumble foot is neglected it may spread to the leg joints and the bird must then be killed as there is no way to reduce the swelling. Immediately examine any bird that shows signs of lameness. If the bird is very valuable it will pay to isolate it from the flock and bandage the cut where the abscess is drained. Diluted bichloride of mercury is also recommended as a wash for the wound.—R. G. Kirby.

USE STOVE BROODERS.

Farm poultry keepers, always quick to appreciate more efficient equipment, are rapidly discarding all other brooding methods in favor of colony stoves. Stove brooders afford the easiest and cheapest method of brooding large flocks of chicks. With the coal or oil-heated colony hovers from three hundred to five hundred chicks can be handled in one flock with no more labor than is required with a few dozen chicks brooded with hens or ni lamp-heated brooders. The chick mortality is remarkably low on farms using colony stoves and little difficulty is experienced in raising early hatched chicks. The fuel cost for brooders is low, and the stoves are durable.

Brooder stoves are used in all kinds of buildings but best results are secured with a specially designed colony house. The brooder house should be warm, dry, well-lighted and ventilated, and be large enough to furnish room for exercise. It should also be movable so that the chicks may have fresh ground for their range.—Mo. College of Agriculture.

SMITHS WIN WAR

Who won the war? That's easy. The Smiths did. War department records show that there were 51,000 of this tribe in service. The Johnsons were second with 29,000, and others that were "placed" were the Jones clan, with 22,500; the Greens, with 22,500; the Browns, with 9,000; and the Cohens, with 4,500. Moreover, there were in the ranks 74 George Washingtons, seven Ulysses Grants, and 79 Robert E. Lees.—American Legion.

"Why don't you go in?" asked one tramp of the other, as they stood before the gate. "Dat dog's all right. Don't you see him waggin' his tail?"

"Sure I do," said the second tramp "but he's a-growlin', too, and I don't know which end to believe."

She: "I'll never go anywhere again with you as long as I live."

He.—"Wh-Why?"

She: "You asked Mrs. Smith how her husband was standing the heat, and he's been dead two months."

Cletrac
TANK-TYPE TRACTOR

Don't Wait for the Spring Rush— Get Your Cletrac Now

SPRING'S almost here! A few weeks more and you'll be faced with loads of work, limited time, unsettled weather—with help scarce and costly.

Put a Cletrac on the job! It replaces six or eight horses, works longer hours and more days, saves time and cuts costs.

It speeds up plowing—and fast plowing now means less work later, because it pulverizes the soil and cuts down work of preparing the seed bed. Travels easily over soft and sticky ground, turns short, gets the corners and swings back to the furrow quickly. Puts more acres under cultivation and helps produce bigger crops.

And the Cletrac not only plows—it prepares the seed bed, harvests, hauls. In winter when the horses are laid up, eating expensive feed and getting daily care, the Cletrac is busy clearing roads and sawing wood.

The quick popularity of the Cletrac has led to a bigger output, with lower manufacturing costs. That's why we can offer you an *improved* Cletrac *—and at the same time lower the price from $1585 to $1395, f. o. b. Cleveland.*

Don't wait until the Spring rush hits you—be ready for it. Get your Cletrac *now.*

One of the more than 1200 Cletrac dealers is near you. See him today or write for the helpful booklet *"Selecting Your Tractor"*

"Largest Producers of Tank-Type Tractors in the World"
The Cleveland Tractor Co.
19013 Euclid Ave.
Cleveland, Ohio

Sick Baby Chicks?

There is only one way to deal with baby chicks and that is to keep them well. Doctoring a hundred or more chicks is mighty discouraging work.

It's pure carelessness to lose more than 10 per cent of chicks, from hatching to full growth. Many lose 40 per cent to 60 per cent, and even more. No profit in that.

Our book, "Care of Baby Chicks" (free) and a package of Germozone is the best chick insurance. WITH BABY CHICKS YOU MUST PREVENT SICKNESS—NOT ATTEMPT TO CURE. "I never had a sick chick all last season"—C. O. Petrain, Moline, Ill. "Not a case of white diarrhoea in three years"—Ralph Wurst, Erie, Pa. "Have 800 chicks now 5 weeks old and not a single case of bowel trouble"—Mrs. Wm. Christiana, Olive Ridge, New York. "Two weeks after we started last spring we were a mighty discouraged pair. Every day from three to six chicks dead. A neighbor put us next to Germozone and we are now sure if we had had it at the start we would not have lost a single chick"—Wm. E. Shepherd, Scranton, Pa.

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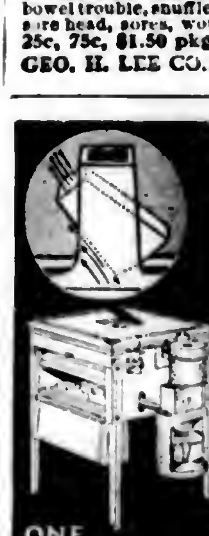

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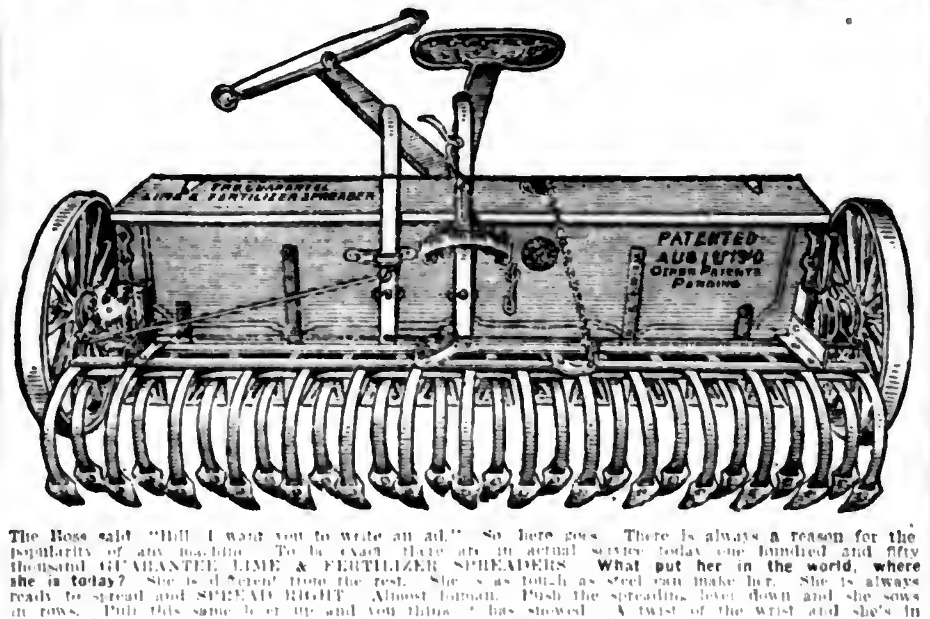

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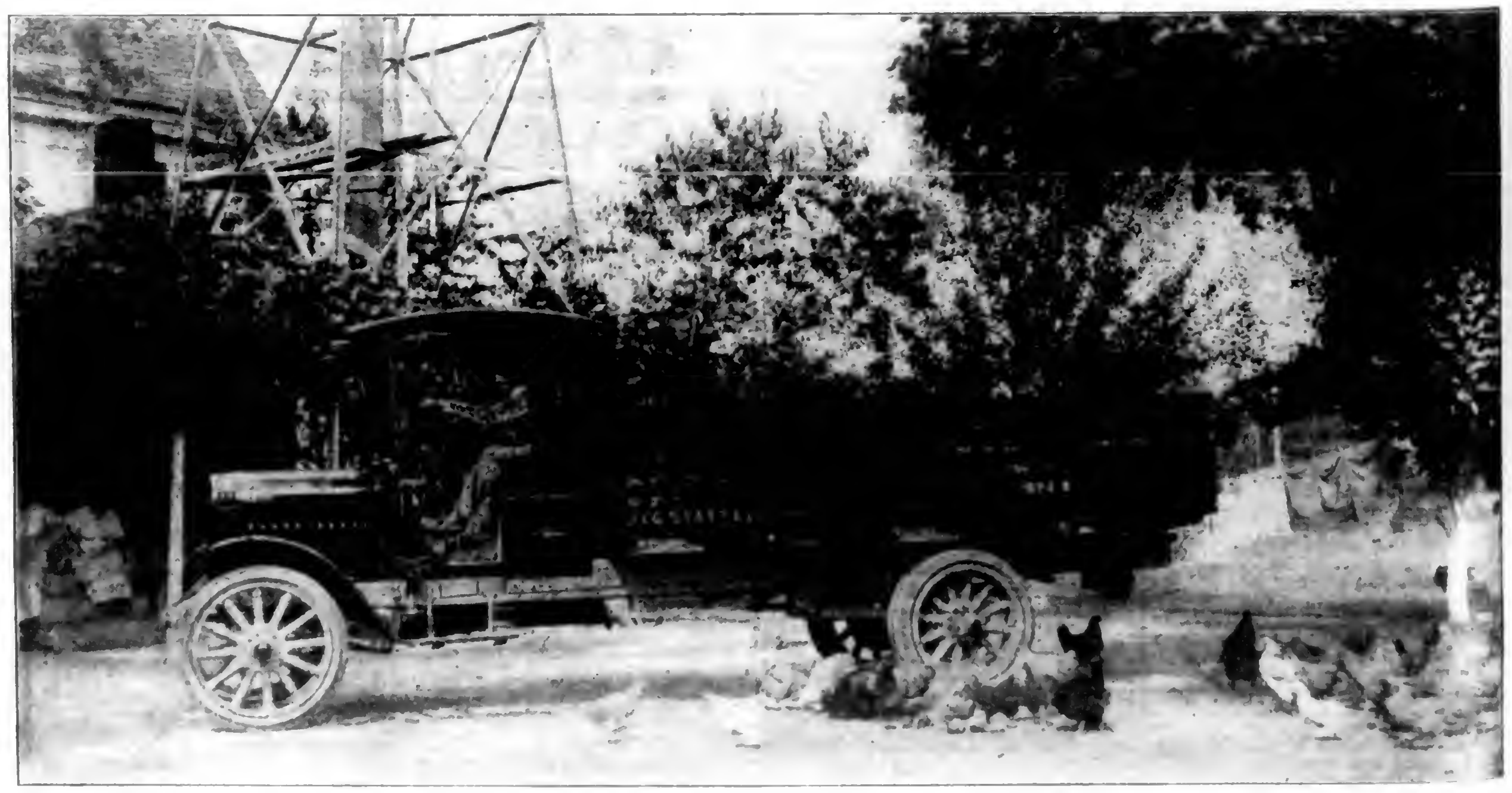

PASSING EVENTS IN PICTURES

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1.—Nicholas Murray Butler, President of Columbia University, Mentioned as a Presidential Possibility.

2.—Senator T. H. Newberry, Being Tried in Michigan by Government for Violating Election Laws.

3.—Gen. Leonard Wood, Another Presidential Possibility.

4.—Three Northwestern University Co-Eds, Members of a Life Saving Corps.

5.—Miss Pauline Goldmark, Manager of Women's Service in Railroad Administration.

6.—Officers of U. S. Transport Powhatan which Was Very Nearly Lost at Sea.

7.—Viscount Glegrawley, son of an Earl, Veteran of the war, now in a musical comedy.

8.—Leon Bourgeois who has been Elected Permanent Chairman of League of Nations.

9.—Capt. Peck, Captain of the University of Pennsylvania Basket Ball Team.

10.—Ernest Berger, Expert Skater, Jumping Over a Pile of Barrels.

11.—Ex-Sec'y of Agriculture Houston Becomes Secretary of Treasury.

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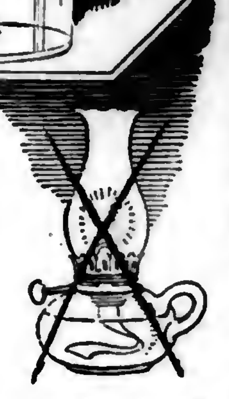

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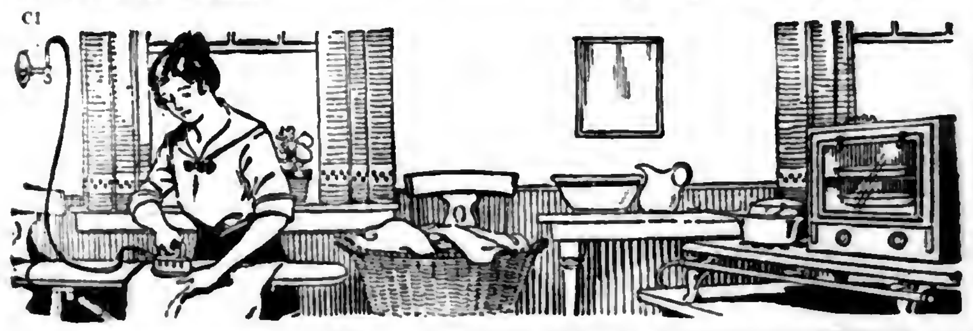

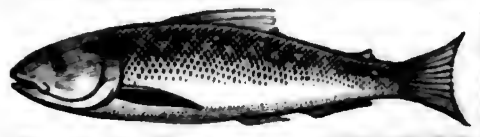

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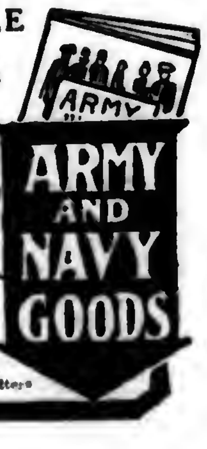

KEZIAH COFFIN

By JOSEPH C. LINCOLN

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(Continued from Last Week)

Parker found his patient sleeping soundly and had not disturbed him. Returning to the living room he spoke to Grace.

"Humph!" he grunted, watching her from under his brows, "everything seems to be all right in there. He hasn't been excited or anything like that?"

"No."

"That's good. He mustn't be. You understand that? He mustn't be told anything that will upset him. He's getting well fast and I want it to continue."

"Yes, I understand."

"Hum! Er—have you heard—Has anyone been here?"

"Yes. I have heard. The telegram came and I answered it."

"You did? Well, it's a miracle and we're all thankful, of course. Did you—er—er——"

"Doctor, I must go home. I mustn't stay here any longer."

"Why not?"

"You know why not. I must be at home when he comes. You must get some one to take my place. Aunt Keziah will stay, of course, and perhaps Mrs. Higgins would come, or Hannah Poundberry. She——"

"Not if I know it. I'd as soon have a hay-cutter running in here as Hannah's tongue. I could stop a hay-cutter when it got too noisy. Well, if you must go, you must, I suppose. But stay through tomorrow, at any rate. Nat won't get here until Thursday, and I may be able to find another nurse by that time. And what I shall say to him," motioning toward the other room, "I don't know."

"Must you say anything? Just say that I have been called away for a few days on—on some business. Don't tell him the truth, doctor, now. He is too weak and I am afraid——"

She stopped and turned away. The doctor watched her pityingly.

"Cheer up," he said. "At any rate, this is only for a little while. When the captain knows, if he's the man I take him for, he'll——"

She whirled like a flash. "You're not going to tell him?" she cried. "No, no? You mustn't. You must promise me you won't. Promise."

"Somebody'll tell him. Telling things is Trumet's specialty."

"Then you must stop it. No one must tell him—no one except me. I shall tell him, of course. He must hear it from me and not from anyone else. He would think I was disloyal and ungrateful—and I am! I have been? But I was—I couldn't help it. You know, doctor, you know——"

"Yes, yes, I know. Well, I'll promise, but it will all come out right, you see. You mustn't think I—we—have been interfering in your affairs, Grace. But we've all come to think a whole lot of that parson of ours and what he wanted we wanted him to have, that's all."

"I know. Thank you very much for all your kindness, and for your promise."

He would have liked to say much more, but he could not, under the circumstances. He stammered a good-by and, with a question concerning Mrs. Coffin's whereabouts, went out to join Captain Zez.

"Well?" queried the latter anxiously. "How is it? What's up? What's the next tack?"

"We'll go to the parsonage," was the gloomy answer. "If anybody can see a glimmer in this cussed muddle Keziah Coffin can."

Keziah was on her knees in her room, beside a trunk, the same trunk she had been packing the day of the minister's arrival in Trumet. She was working frantically, sorting garments from a pile, rejecting some and keeping others. She heard voices on the walk below and went down to admit the callers.

"What's the matter, Keziah?" asked Dr. Parker sharply, after a look at her face. "You look as if you'd been through the war. Humph! I suppose you've heard the news?"

Keziah brushed back the hair from her forehead. "Yes," she answered slowly. "I've heard it."

"Well, it's great news, and if it wasn't for—if things weren't as they are, I'd be crowing hallelujahs this minute. Trumet has got a good man safe and sound again, and the Lord knows it needs all of that kind it can get."

"Yes."

"Yes. But there's the other matter. I've been to see Grace. She didn't say so, but it was easy enough to see; the man she promised to marry and thought was dead, is alive. She's a girl of her word—she promised him and she promised her dying uncle—and she'll marry him. And then what will become of John Ellery? He'll go downhill so fast that a ship's anchor wouldn't hold him. If he doesn't die I'll have to send him away somewhere, and the Regular church will lose the minister we've fought so hard for."

"Yes," concurred Zebedee, "and them blasted Danielses'll run the shebang and the rest of us'll have to sing small, I tell you."

"So we've come to you, Keziah," went on the doctor. "Do you see any salvation?"

"Yes, I do."

"You do? Where?"

"In Nat Hammond. If he knows Grace doesn't want to marry him, do you suppose he'll hold her to her promise?"

"I don't know. I'm not so sure. Men don't give up girls like that so easy. I wouldn't—by George, I wouldn't! And she won't tell him the whole truth, I'm afraid. She'll pretend to be glad—hang it! she is glad—to have him home again and ——"

"Of course she's glad. Ain't we all glad and happy and thankful? We ought to be. But"—she hesitated—"doctor, you leave this to me. So far as John and Grace are concerned you needn't worry. I'll take it on myself to see that they have each other, as the Almighty meant 'em to. Leave it to me. Just leave it to me. I know I can do it."

She would not say more, nor tell on what grounds she based her optimism. She would go back to the shanty that evening, she said, and stay until the following afternoon. Grace would undoubtedly go to the old tavern to prepare for the homecoming. Let Mrs. Higgins take her place as nurse.

"I shall have to leave, myself," she added, "for a little while; so perhaps you'd better try to get somebody else to help the Higgins woman. Don't ask me any questions, please don't, and be sure not to say a word to anybody—most of all to Grace. Just do as I tell you and leave it to me. And don't come and see me again until after—after he comes home. Good-by, Cap'n Zeb."

She shook hands with each of them, a rather unusual proceeding as they thought of it afterwards. Then they went away and left her.

"Humph! mused Parker, as they came out at the gate. "Humph! She seems sure, doesn't she. And yet she doesn't like herself. Did you notice that?"

"Yup. I noticed it. But I expect Nat's droppin' out of the clouds shook her up, same as it done the rest of us. Well, never mind. She's a bully good, capable woman and what she says she'll do she gen'rally does. I'm bettin' on her. By time! I feel better."

Captain Elkanah Daniels and his friends were feeling better also, and they were busy. Trumet had a new hero now. On Wednesday the Boston papers printed excerpts from Captain Hammond's story, and these brief preliminary accounts aroused the admiration of every citizen. It

was proposed to give him a reception. Elkanah was the moving spirit in the preparations. Captain Nat, so they learned by telegraphing, would arrive on the noon train Thursday. His was not to be a prosaic progress by stage all the way from Sandwich. A special carriage, drawn by the Daniels span and escorted by other vehicles, was to meet the coach at Bayport and bring him to Trumet in triumphant procession. All this was to be a surprise, of course.

Wednesday afternoon the Daniels following was cheered by the tidings that Grace Van Horne had left the beach and was at her old home, the Hammond tavern. And Mrs. Poundberry reported her busy as a bee "gettin' things ready." This was encouraging and indicated that the minister had been thrown over, as he deserved to be, and that Nat would find his fiancee waiting and ready to fulfill her contract. "Regular whirligig, that girl," sniffed Didama Rogers. "If she can't have one man she'll take the next, and then switch back soon's the wind changes. However, most likely she never was engaged to Mr. Ellery, anyhow. He's been out of his head and might have said some fool things that let Dr. Parker and the rest b'lieve he was in love with her. As for pickin' of him up and totin' him back to the shanty that night, that wa'n't nothin' but common humanity. She couldn't let him die in the middle of the lighthouse lane, could she?"

Thursday was a perfect day, and the reception committee was on hand and waiting in front of the Bayport post office. The special carriage, the span brushed and curried until their coats glistened in the sunshine, was drawn up beside the platform. The horses had little flags fastened to their bridles, and there were other and larger flags on each side of the dashboard. Captain Daniels, imposing in his Sunday raiment, high-collared coat, stock, silk hat and gold-headed cane, sat stiffly erect on the seat in the rear. The other carriages were alongside, among them Captain Zebedee Mayo's ancient chaise, the white horse sound asleep between the shafts. Captain Zeb had not been invited to join the escort, but had joined it without an invitation.

"I guess likely I'd better be on hand," the captain confided to Dr. Parker. "Maybe I can stop Elkanah from talkin' too much about—well, about what we don't want him to talk about, and besides, I'm just as anxious to give Nat a welcome home as the next feller. He's a brick and we're all proud of him. By mighty! I'd like to have seen that craft he built out of cocoanuts and churches —I would so."

Kyan Pepper was there also, not yet fully recovered from the surprise which Lavinia's gracious permission had given him. Abishai had been leaning disconsolately over his front gate early that morning when Noah Ellis, the lightkeeper, jogged down the lane.

"'Mornin', 'Bish," hailed Noah, pulling up his horse. "What's the matter? You look bluer'n a spiled mack'rel. What's the row? Breakfast disagree with you?"

"Naw," replied Kyan shortly. "Where you bound, all rigged up in your shore duds?"

"Bound to Bayport, to see Nat Hammond land," was the cheerful answer. "I ain't had a day off I don't know when, and I thought I'd take one. Be great doin's over there, they tell me. Elkanah's goin' to make a speech and there's eighteen teams of folks goin'."

"I know it. I wisht I was goin', too, but I never have no fun. Have to stay to home and work and slave over them consarned tax papers. Sometimes I wish there wa'n't no taxes."

"Humph I've wished that, myself, more'n once. Why don't you go, if you want to? Climb right aboard here with me. Plenty of room."

"Hey? You mean that? By godfreys mighty! I'd like to."

"Sartin, I mean it. Come ahead."

Mr. Pepper sadly shook his head. "I guess likely I'd better not," he sighed. "Laviny mighty not like to have me leave her."

"Oh, fiddlesticks! she won't mind. I'll take care of you. It's perfectly safe. There ain't goin' to be no women around. Haw! haw! haw!"

He was still laughing at his own

(Continued on Page 32.)

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For prompt acceptance we offer you special "Express paid" prices. We ship same day order is received. Cash with order or C. O. D. You run no risk. We guarantee to please you, or your money back. "DPECK BRAND" Seeds are the best that grow. We ship them subject to your approval at our risk. We recommend the best. The best is none too good in grass seed. Remember we pay all express charges and furnish bags free. Mail us your order today.

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	Ind. Ky.	Ohio-W. Va.	Pa.-N.Y.
"DPECK BRAND" Clover [illegible] Pure [illegible] Germination Per bu	[illegible]7.00	$[illegible]7.40	$37.90
"DPECK BRAND" Timothy [illegible] Pure [illegible] Germination Per bu	7.00	7.25	7.60
"DPECK BRAND" Alsike 99% Pure [illegible] Germination Per bu	[illegible]8.00	38.40	38.90
"DPECK BRAND" Alfalfa [illegible] Pure [illegible] Germination Per bu	28.[illegible]0	28.90	29.40
"DPECK BRAND" White Sweet Clover [illegible] Pure [illegible] Germination Per bu	2[illegible].00	23.40	23.90
"DPECK BRAND" Sudan Grass, Northern Grown, Per 100 lbs.	16.50	17.00	17.50

Write for catalog and prices on other Grass and Field Seeds

On Freight Shipments—Prepaid—Deduct 60 per Bushel

Don't put off ordering as these prices are for immediate orders. We will ship C. O. D. subject your approval. Take advantage of these special prices and order today. We guarantee satisfaction. Write for big catalog and samples of any Grass or Field seeds.

DAVE PECK SEED CO., 2220 Pa. Ave., Evansville, Ind.

Hoffman's Seed Oats

Unstained—not sprouted—sound—white—weigh 40 to 44 lbs. per measured bushel—unclipped. The grains here shown are the famous "Shadeland Climax"—a tree oats—have yielded 100 bushels per acre—a wonderful stooler. Hardy—grown in cold Northwest—you never saw nicer oats. "Shadeland Climax" are early—rust-resistant—do not lodge. Other oats varieties, both of the "tree" and "side" type—all heavy yielders.

Hoffman's 1920 Farm Seed Catalog

offers seed for every farm crop and tells how to grow them. Specializes in Alfalfa, Soy Beans, Field Peas, Seed Potatoes, Clovers and Seed Corn, for silage and cribbing. Hoffman's Catalog is sent free with oats and other samples if you mention this paper.

A. H. HOFFMAN, Inc.
Landisville, Lancaster County, Pa.

GOOD SEEDS

GOOD AS CAN BE GROWN
Prices Below All Others

I will give a lot of new sorts free with every order I fill. Buy and test. Return if not O. K.—money refunded.

Big Catalog FREE.

Over 700 illustrations of vegetables and flowers. Send yours and your neighbors' addresses.

R. H. SHUMWAY, Rockford, Ill.

EXPERIENCES AND OBSERVATIONS OF A ONE HORSE FARM

The writer has for years noticed the almost entire absence of articles in farm-papers adapted to the small farmers working largely alone and keeping but one horse. There must be a multitude of such farmers restricted from expansion for various reasons, and many other men in cities and towns longing for country life as they read about it but seeing no way without capital to start.

As one who has spent a long life working largely alone in a limited way I propose to write some of my experiences of both profit and loss which I hope may be of some help to these two classes of men.

What we did (including the women folks in the home) with two cows.

"Spottie" is a large Holstein like some prize pictures I have seen. We bought her of a dealer in November, 1915. "Blackie," a little smaller, whose grandmother we bought years ago, is a mixture of Jersey and Holstein, and the best milker of the two. She is a high spirited cow and a big kicker, so I have to lash her hind legs together with a strap around them like a figure 8, but not so tight as to prevent her from keeping her balance. One night I forgot to take the strap off, but fortunately it was loose enough to allow her to work it down and off.

We made during the year 1919 in 11 months 666 pounds of butter, almost two pounds a day. We get so little milk during August we did not churn. Also during the 11 months mentioned we made 3240 one-half pound balls of cottage cheese of the skim milk entirely, with no seasoning but salt. Our customers adding cream or what else suited them. We also sold 722 quarts of buttermilk at private families during the 11 months with most of the butter, and one-half the cheese. The other half of cheese was wholesaled at grocery stores. Weekly trips are made the year around to effect these sales to a large factory town three miles away.

2160 quarts of fresh milk were sold from these two cows to neighbors who come daily for it to the house, including the milk for home use.

Our butter and cheese have an unlimited demand in town, and our customers frankly say they cannot buy its equal anywhere. Let me say right here, we as a family for generations past have been butter-makers so that the present generation did not learn it all.

There is another advantage in retailing goods in that one finds customers for other farm products.

"Spottie," the large Holstein, did poorly last season during the hot weather, partly from being a little dainty, and was entirely dry during September until she calved October 13th. "Blackie," was fresh September 3rd. I started five weeks ahead of time to dry her up, but it took two weeks to stop the flow of milk with irregular milking and a shortage of rations.

We are not in a natural grass country. Have not a pasture field nor any grass except sometimes the cows are chained near the public read or private road or around farm buildings. Hay nor any other roughage has not been bought in any quantity until the past January 15th this winter. I had to start with one-half hay feed of baled clover and timothy at $40.00 a ton.

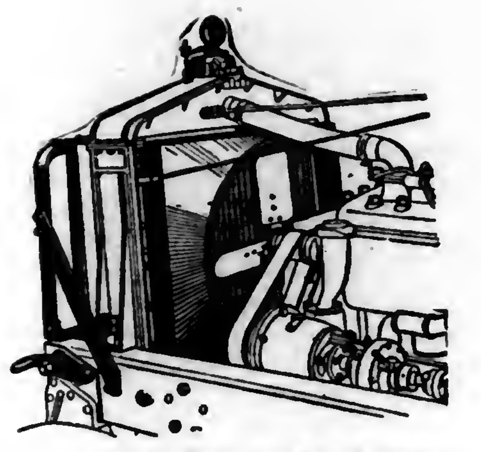
In my next article (if the editor permits) I purpose to write how we cared for and fed the cows and raised the roughage on part of our 13-acre farm, the remainder of which farm is devoted to fruit and vegetables for sale and home use. This may include some original ideas and others read about with various successes and failures.—C. W. Gardner, S. Vineland, N. J.

The wealthy old lady was very ill and sent for her lawyer to make her will. "I wish to explain to you," she said weakly, "about disposing of my property."

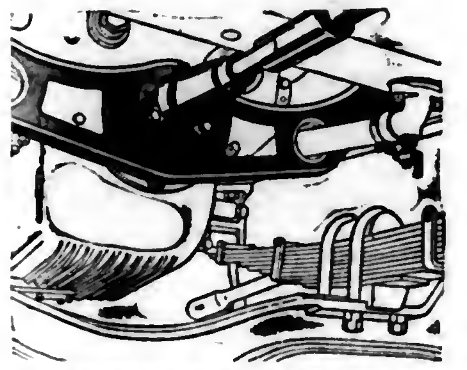
The lawyer was sympathetic. "There, there, don't wory about it," he said, soothingly; "just leave it to me."

"Oh, well," said the old lady, resignedly. "I suppose I might as well. You'll get it anyway."

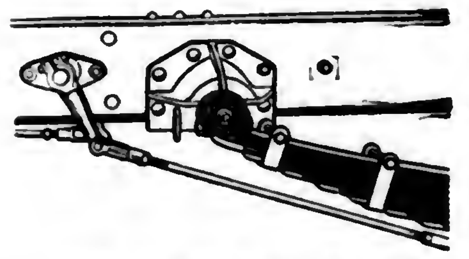
JUMBO



The Jumbo radiator fan shroud insures uniform cooling of entire radiator because air is drawn through fins in even volume. Also note Moto-meter, radiator guard and pig-tail tow hooks—all standard equipment.



Front engine support is an I-Beam so mounted that it may be removed with motor. Engine rocks in large pilot bearing in this support. The radiator drain cock is at lowest point of circulatory system. Every bit of water can be drained.



Jumbo springs are of highest grade spring steel and are 6 to 10 inches longer than customarily used on trucks of similar capacity. Second leaf is wrapped full around driving eye for safety.

A Word to the Truck-wise is Sufficient

Reliable performance of Jumbo Trucks means a saving of money on the farm. You can count on a Jumbo--always--in everyday service or in emergencies because it has power--and power to spare.

Equipped with a 32.4 h. p. Buda Motor, the Jumbo power plant is sufficiently oversize to avoid being called upon for more than 85 per cent of its capacity. Straight line drive under load and Clark Internal Gear Drive Axle insure maximum efficiency at point of drive. Jumbo Trucks are particularly adapted to trailers.

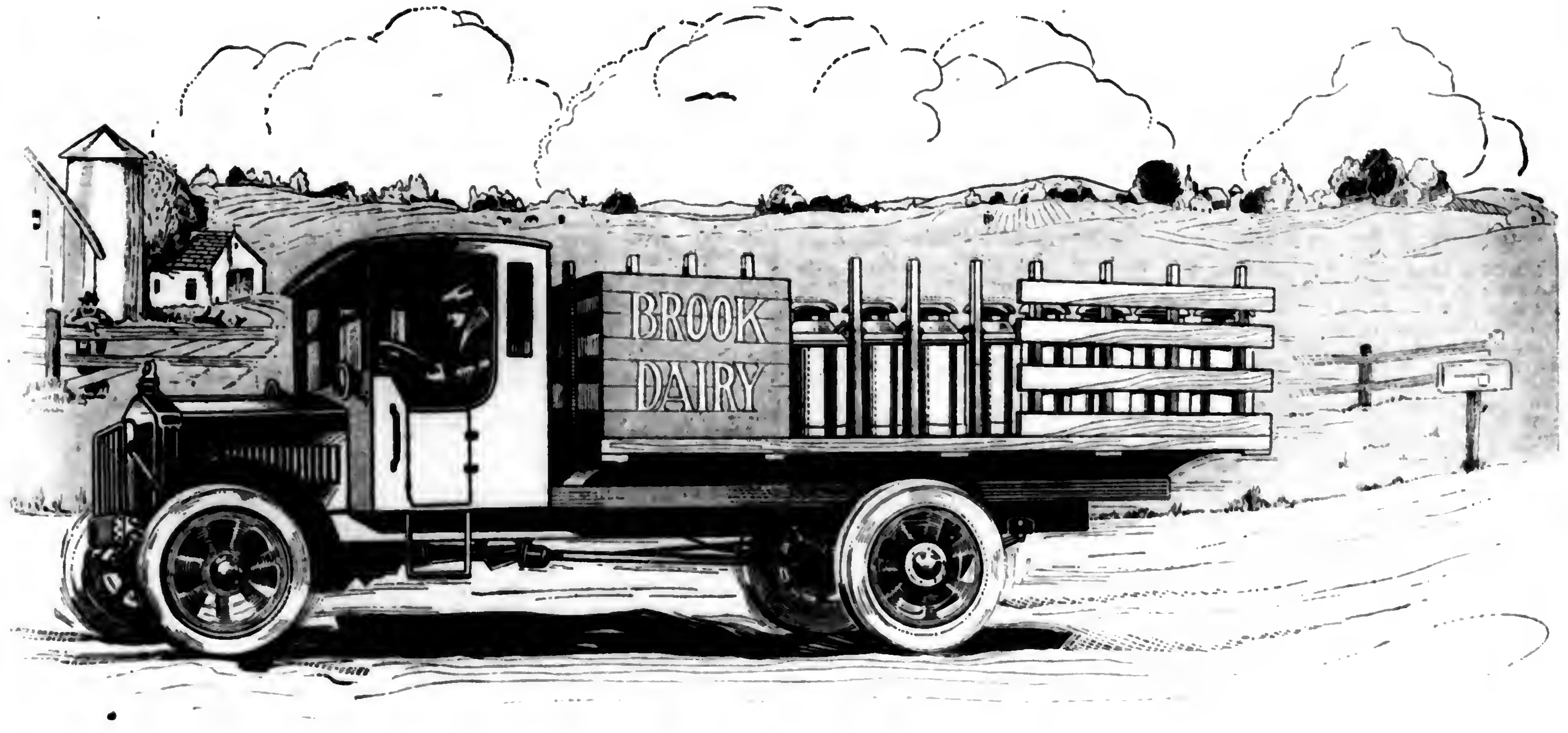
The more you know about motor trucks in general, the easier you can see why there are no dissatisfied Jumbo users. Jumbo Trucks are stronger trucks--stronger trucks are better trucks--better trucks give longer, more dependable service at lower upkeep cost.

A Jumbo Truck comes to you completely equipped. There are no extras to buy except the body. A word to the truck-wise is sufficient--and that word is Jumbo--the *complete* truck.

Ask your distributor to show you how the Jumbo saves time, labor and money on the farm.

NELSON MOTOR TRUCK COMPANY, Saginaw, Michigan

Also makers of the famous line of Jumbo Farm Engines



SOME GOOD WINTER SALADS.

There are five essentials of a good salad:—1, All ingredients cold; 2, green vegetables perfectly clean and crisp; 3, canned fruits and vegetables well chilled; 4; a good dressing; 5, ingredients well mixed just before serving. Salads furnish a relish for the hearty essentials of a meal. They may be made of all kinds of meats or fish, nuts, fruits, eggs, cheese and vegetables, both cooked and uncooked, but there are two ingredients absolutely necessary—the foundation and the dressing. Lettuce is most commonly used as the foundation for a salad, but in the winter when lettuce is unobtainable we find an excellent substitute in cabbage. The small crisp leaves may be used whole and the larger leaves shredded. Savoy or celery cabbage is particularly adapted to this use.

There many good commercial salad dressings on the market these days, and the busy housewife may prefer sometimes to buy one of them as a change from her own. If, however, the necessary materials are at band, the homemade dressings are the best and the cheapest. Of these the three most used are mayonnaise, French dressing, and boiled dressing. In the first two we always use a good grade of corn or cottonseed salad oil in place of the olive oil called for and find them very good and not too expensive.

To Make Mayonnaise Dressing.

One teaspoon mustard, one teaspoon salt, 1 teaspoon sugar, a few grains cayenne pepper, yolks of 2 eggs, 2 tablespoons lemon juice, 2 tablespoons vinegar, 1½ cups salad oil. Mix the dry ingredients and beat them into the yolks of the eggs, then add ½ teaspoon vinegar and add the oil gradually, stirring or beating constantly, and thinning when necessary with a little lemon juice or vinegar Add oil and vinegar until all is used.

French Dressing

One-half teaspoon salt, ½ teaspoon paprika, 2 tablespoons vinegar or, better, lemon juice, and 4 tablespoons salad oil. Put the ingredients in a glass jar and shake well, or into a bowl with spoon. A little grated onion makes a nice addition for a vegetable salad. Always use lemon juice in place of the vinegar if the dressing is to be used on a fruit salad, and usually a little sweetening improves the flavor for either vegetable or fruit salads.

Boiled Dressing

One-quarter teaspoon salt, 1 teaspoon mustard, 1½ tablespoons sugar, a few grains cayenne pepper, 1½ tablespoons flour, 1 egg, 1 cup milk and ½ cup vinegar. Put vinegar and sugar in a sauce-pan and let come to boiling point. Mix dry ingredients, add the beaten egg and 1½ tablespoons salad oil and the milk. Mix well until smooth, and add the sugar and vinegar slowly. Cook over boiling water until mixture thickens.

Cabbage and Banana Salad.

Shred ½ head cabbage; cut 4 to 6 bananas in slices and add to the cabbage and mix with 2 tablespoons French dressing. Get stand one hour. Serve on lettuce leaves with a dressing made by mixing the juice and rind of one lemon, 1-8 teaspoon salt and 1 egg well beaten, and cooking until it thickens in a double boiler. Whip ½ cup cream, add 1 teaspoon sugar and add to the dressing when cool.

Good Cold Slaw.

Select a firm, medium-sized head of cabbage, cut in fine pieces and sprinkle with a little salt. Make a quantity of boiled dressing and pour while hot over the cabbage. Mix well, cool and serve with meat at dinner.

Potato Salad.

Cut enough potatoes into ½ inch cubes to fill 2 cups; add ½ cup finely cut celery and a medium-sized apple, pared and cut in thin slices. Pour over this some boiled dressing and serve in nests of lettuce or cabbage leaves. Garnish with bits of red apple skins or sprinkle with a little paprika.

Tomato Jelly Salad.

Strain 1 pint of canned tomatoes and add 1 teaspoon each of salt and sugar. Heat again and add to 2-3 cup cold water. Pour into small cups and set aside to chill and become firm. Serve on a bed of shredded cabbage all well mixed with mayonnaise dressing.

Tomato Jelly Salad With Baked Beans

Make a tomato jelly mixture and pour into individual molds. Let stand until partially set. Mix together 2 cups Boston baked beans, 3 tablespoons salad oil, 1 tablespoon vinegar, juice of ½ lemon, ½ teaspoon salt, ¼ teaspoon pepper, 1-8 teaspoon onion salt and 1 teaspoon selery salt. Add some of this mixture to each jelly mold and let stand unitl chilled and firm. Serve on a bed of cabbage leaves, and garnish with thick mayonnaise.

Sardine Salad.

Remove skin and bones from the desired quantity of sardines, and mix with an equal quantity of mashed yolks of hard boiled eggs. Pile in nests of small cabbage leaves and serve with mayonnaise dressing.

Shrimp Salad.

Remove shrimps from can, cover with cold water and let stand 20 minutes. Drain dry and remove the little black intestinal veins, break in pieces, saving six of the finest for garnishing. Moisten with mayonnaise dressing and arrange on lettuce or cabbage leaves. Garnish with the whole shrimps saved out and a few stuffed olives cut in quarters.

Cranberry and Cheese Salad.

Make a very stiff cranberry jelly and mold in a large jelly glass. When ready to serve, slip it onto a dish containing cheese balls on small lettuce leaves. To make the cheese balls, work some cheese smooth with a fork, gradually adding enough thick cream to make a stiff paste, then mold into tiny balls and serve three to a portion. Currant jelly may be used in place of the cranberry jelly.

String Bean and Cheese Salad

Cut canned string beans into 1-inch pieces, add chopped celery, onion and pimentoes; sprinkle with grated cheese and serve in a cabbage leaf with French dressing.

Rabbit Salad.

Cut cold baked rabbit into small pieces and let stand in French dressing an hour or so. Then add an equal quantity of crisp celery cut in small pieces, and mix with mayonnaise dressing or boiled dressing. Place on shredded cabbage and serve immediately. Attractive garnishes may be made for this salad of hard boiled eggs, curled celery or little sweet pickles.

Fruit and Nut Salad

Mix 1 cup malaga grapes, 1 cup chopped pineapple, 1 cup chopped apples and 1 cup chopped nuts, together lightly, add mayonnaise dressing, and serve on a lettuce leaf. Garnish with two or three canned cherries.

Pear Salad.

Roll canned Bartlett pear halves lightly in mayonnaise and then in chopped nuts, and serve on lettuce leaf. Bananas cut in half and sliced lengthwise may be used in place of the pears. Serve on shredded cabbage.—Mrs F. W. Stillman, Union County, N. J.

An Old School House at Valley Forge

BUILDING AND REPAIR FOODS

By Pearl MacDonald

In the article in January 17, Pennsylvania Farmer we discussed the food needs of the body and what foods supply these needs.

We found that the body requires protective substances and materials for building and repair, for fuel or energy and for regulating the body machinery.

The building and repair materials are (1) the proteins and (2) mineral matter.

Proteins

Let us consider first the proteins—what they do, their sources and quality.

The root of the word protein means first or foremost. The early investigators in the nutrition field gave this name to foods containing it because nitrogen enters into the construction of the body issues, and is necessary to the life of every cell. And since the body is made up of cells, there can be no life of the body without this element, nitrogen, which is built up in what we call the body proteins. Therefore, the body proteins are the most important part of our muscle tissue.

The farmer has learned the importance of nitrogen in growing crops. He has found that plants, in order to grow, must get nitrogen from the soil. For this reason he puts into his soil fertilizer in the form of nitrates, etc., and plants such crops as clover, soy beans, etc., because on the roots of these plants are the groups of tiny bacteria that have the power to change the nitrogen of the air into a form that the plant can use for food.

Animals change vegetables products which they eat into meat or milk, which we can use for our sources of protein or nitrogen.

Just as plants cannot live and grow without this nitrogen, neither can the animal or human body live and grow without it.

So in planning the meals for your family it is, you see, quite important to know that protein foods must be supplied in the diet every day. Children are building up new muscle and other body tissues every day, and as they work and play their tissues wear out and have to be repaired. Grown people, for the most part, need the proteins only for repair of worn-out tissues broken down by work and other activities. However, in cases where grown people's body tissue has been consumed by disease, as in fevers, tuberculosis, etc., there must be an extra supply of proteins in their diet to make good the abnormal loss of body or cell tissue. A full supply of body tissue constitutes "a good constitution," with which to resist disease.

In the next article we will talk about the foods which supply these proteins most abundantly and in the best available form for human use.

SOLUTION TO: "I CAN NOT WEAR THE OLD SUIT"

(Pennsylvania Farmer, Feb. 21st.)

To a New Tune—"Sing It."

Let Wifie wear the old suit you wore long years ago.
She'll rip and sponge and press it, 'til worn spots will not show;
Cut off the buttons, buttonholes, insert a gay vestee——
The trowsers use for drop-skirt, beneath a draperee.
A couple yards of satin, a morsel for a vest——
Then buy yourself a new suit, and give your worries rest.
For ways and means, the Will's the Way, combined with adaptation.
Let "Georgia" do it—(bet you she'll achieve a real "creation."
The new suit's likely shoddy, and its wearing qualitee
Can not compare with Wifie's suit with its little, gay vestee.

—The "Make-Over Lady."

NOVELTY IN SPRING NECKWEAR

They tell us that collar and cuff sets of organdy built like this sample will be popular this Spring. Such a set will freshen up that old dress that one feels obliged for economy's sake to make do another season. But instead of the knife pleating we suggest that gathered ruffles would be more practical when it comes to ironing the set. (Photo by Underwood and Underwood.)

A SUBSCRIBER SUGGESTS COMPETITIVE BASIS FOR THE FARM

As a subscriber to the Pennsylvania Farmer I wish to say something about the high cost of living and the farmers side of the question. Up to last spring, I was working as an electrician. Last spring, I bought a farm, and if conditions ever get settled, I will always be glad of the fact, but at the present time I would have been many hundreds of dollars better off if I had let George do the work, but I believe that the farmers are going to win out when they all organize.

At present I am not making milk, and therefore, do not exactly know what it costs, but all reports that are accurately kept in the best dairies in this part of the country gives milk production at a loss. Considering the lowering price of milk, and the steady uprise of the grain, I cannot see how the milk producers are going to make ends meet.

I read in the Dairymen's League Paper this morning that probably the price for March milk will be around $3.33, and I believe the Western farmers are getting wise enough to hold up their grain, and make the cost of production out of it thereby making the milk producer lose more.

Novelty in Spring Neckware

Last year I was living where a good deal of cotton was raised, and I saw what the results were when the production was cut, and I really believe that if every farmer would raise only what he could himself, and let the men go to the city, then the prices would come up and the farmer could not only make more wages but more on his investment.

In the city of Syracuse, New York after the first of April an electrician will be paid $1.25 an hour, without his asking or striking for it, and while as a workman, I want to see big wages, I would also like to see the producer get his share, for while electrical work is not play, neither is farming and there is no reason why the farmer should work from 12 to 16 hours, and the electrician only eight.

I believe, like some orchard men, around the western part of New York, that the farm should be put on an eight-hour basis, then help would be more plentiful and much easier to get and if a man couldn't do the farm work in that time let him have two shifts and make the consumers pay as the farmers have to pay for all they buy, when the workers are only doing an eight-hour shft and not working very hard either.

I have been much interested in the letters on the girls leaving the farms and only yesterday I had the answer: My next door neighbor on a good farm has two girls both working in the city, one told me, that she could earn about $4 a day in a silk mill which does not take above the average intelligence, that she can punch the clock at any old time in the forenoon, that she can visit with her fellow workers at any time, and that she can sit when she is working, having city advantages, etc.

I would like to congratulate, Mr. Hulsart on his article, knowing what experience he has had.—K. W. B., Cortland, New York.

MILK MAKES PROGRESSIVE FOLKS

The people who have achieved, who have become large, strong and vigorous; who have reduced infant mortality; who have the best trades in the world; who have an appreciation for art, literature and music; who are progressive in science and in every activity of the human intellect, says a paragraph from N. D. Agricultural College, are the people who have used large amounts of milk and its products, acording to Dr. E. V. McCollum of Johns Hopkins University.

It was while Dr. McCollum was working on animal nutrition at Wisconsin Experiment Station and Agricultural College that he determined definitely that it is certain elements, called vitamines, in milk, and particularly in the butterfat of milk, that children have to make them grow as they should.

There is no other food that supplies these elements so abundantly nor in so available a form for children as does whole milk. See that your children each get at least a quart of milk per day in some form. Milk and cream are also excellent for elderly people. We have noted that those old people who make milk a liberal part of their daily diet are nearly always the most healthy and best preserved for their years.

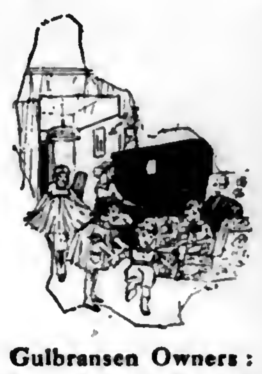
Most storekeepers are honest. They are glad to have you check their measures and weights; correct scales and measures should be a part of every kitchen equipment.

One bar of laundry soap plus a quart of water plus one teaspoon of turpentine and heated until the soap has dissolved makes a good soap jelly.

That burned enamelware pan may still be useful. Place a small amount of fat in the pan, warm it gently, and scrape off the burned particles.

A new wrinkle in cake-making: Spread the filling on the bottom of the layers; the bottom is more porous than the top and receives the filling better.

GULBRANSEN
(Pronounced Gul-BRAN-sen)
Player-Piano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There are many player rolls especially made for entertaining children. More than thirty Mother Goose rhymes are set to music with the words on the roll. Game song rolls with directions for playing various games supply the music and the words to sing, such as

Itiskit Itasket
'Round the Mulberry Bush
Farmer in the Dell
London Bridge

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47 Kinds of Music for Gulbransen Owners

Yes, more kinds of music than you perhaps knew exist all explained and listed in our new free book—music for every occasion, for every home, for every purpose, for every taste.

"Good Times With Your Gulbransen," is the name of our new book which every player-piano owner and prospective owner should read. You simply cannot realize the variety of home entertainment offered by the Gulbransen until you see this book—free to you. Use coupon below.

Gulbransen "Pedal-Touch"

Imagine a player-piano so Easy to Play that you can pedal it *easily* with one finger—and make it play! A truly wonderful test, which the Gulbransen meets successfully.

But mere *ease* in pedaling is not all. It is the right "feel"—or "pedal-touch"—that means everything in playing. Lightness, without a sign of uncertain, "trembly" touch. Nor do Gulbransen pedals ever feel *stiff*, requiring you to push hard. Nor are they *mushy*, with that "die away" feeling—forcing you to pedal fast just to keep the instrument playing.

They have just enough resistance so you "get the feel of them" and they yield so readily that playing is made effortless. This distinctive Gulbransen "pedal touch" makes the Gulbransen Easy to Play with natural expression.

"Pedal-touch" is as important to the player-pianist as the "key-touch" to the hand-pianist. For the pedals are "keys" to the player-pianist—practically his only contact with the instrument. Thus you pedal the Gulbransen as the music requires—gently or strongly—always leisurely, relaxed, enjoying the music.

You would enjoy a Gulbransen. You could play it well. Its tone is live, resonant, singing. Just try one at our dealer's store.

You can locate him by the "Baby at the Pedals"—actually playing the Gulbransen—in his window. And send coupon for free book, "Good Times With Your Gulbransen." Tells all about the music available and the fun you can have.

Easy to Play
Gulbransen Trade Mark

To Gulbransen Owners

Play softly. Try to see how softly you can play your Gulbransen and you will get a better idea of its true richness and variety of tone. Have it tuned at least twice a year and the tone will improve. A fine instrument deserves care.

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Three models, all playable, by hand or by roll, sold at the same prices to everybody, everywhere in the U.S., freight and war tax paid. Price branded in the back of each instrument at the factory.

White House Model, $725 Country Seat Model, $625 Suburban Model, $550

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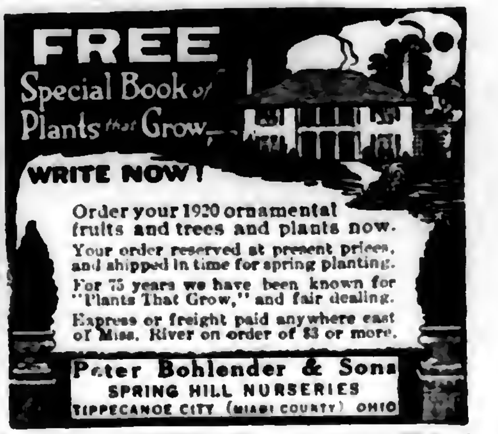
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SAVAGE

STRONG BLACK-AND-WHITE

DO you know that these days you can get about as much for a skunk-skin shot with a .22 rifle as you can for one that has been trapped? Furs are high—way high.

Even though it's dark, you can see a black skunk a long way on white snow. See him well enough to hit him with the first shot from your deadly accurate little .22 Savage Junior. And if there's a moon, it's as easy as in daylight.

The next evening it thaws, take your little Savage Junior rifle and go for a walk. Wear your oldest clothes, and take your skinning knife. There's money in it, and the chickens won't suffer so next year.

The .22 Savage Junior single-shot is the boiled-down essence of rifle—all accuracy—all reliability—Savage quality condensed in three pounds, and at only $9.75. Your dealer has it for you. For a complete description, write us.

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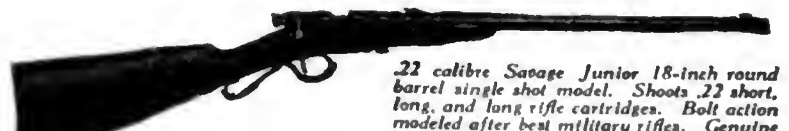

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THE TRI-STATE DELAINE SHOW STUDIES WOOL MARKETING.

Sheep men to the number of 200 or more met in the McLure House Auditorium February 13th and 14th for the annual meeting of the Tri-State Sheep and Wool Growers Association. The dominant question on their minds was that of marketing the coming clip. This was discussed under the heading; "Review of the Marketing of the 1919 Wool Clip and Suggesting for Marketing the 1920 Clip" by the following men. W. B. Connell, Specialist Sheep Extension Pennsylvania State College; L. B. Palmer, a director of Ohio Sheep and Wool Grower's Association; Joseph W. Stewart, President Green Co. Wool Grower's Association; R. L. Munce, Pres. Washington Co. Wool Growers Association; W. E. Scott of W. C. Scott Wool Co., Wheeling, W. Va.; James P. Bentley, of Patterson & Co., Boston; E. S. Bayard, Editor, National Stockman & Farmer. Their addresses served to outline several plans of marketing.

1. Pooling the wool of a county in carload lots and employing a grader to grade the wool, at the pooling point giving the wool growers an opportunity to see the grading and learn what things hurt their grades and how wool should be put up. After grading, bids are secured and wool sold on a basis of grades—which makes it safe for the buyers to bid all the market will pay, as they know what they are buying. Professor Connell said this method seemed most ideal for Pennsivania conditions and that he could not recommend it too highly.

2. In sections or counties where a carload cannot be made up or a grader secured conveniently, the wool maybe collected and consigned to a commission house to be graded and sold.

3. In Ohio, the Ohio Sheep and Wool Grower's Association have a warehouse at Columbus and handle the wool of their members on a commission basis, giving individual grading on each clip. Their charge last year was 5½ per cent for all handling charges except freight. Over 2,000,000 pounds were handled and the Association expects an increased business this year.

4. The fourth plan is to sell direct to a local buyer as of old, usually a very poor way to sell in counties where only a carload or two is produced. In such counties as Washington and Greene Counties, where the wool is an immense business amounting to close $2,000,000, competition is very keen and buyers usually pay up to or above Boston price quotations, so that about the only criticsm is that the wool is largely bought on a flat price, the grower of the best wool carefully put up getting very little if any higher price than the grower of a poorer grade.

Last year in Pennsylvania, fifteen counties marketed 192,050 pounds co-operatively at a gain of $12,424.30 over local prices. It is thought that these county organizations will handle practically all the wool in their counties the coming year.

Wool Prices

No one would venture a prediction as to what wools would bring, but every one seemed to anticipate prices above those of last year as costs have increased and conditions are favorable. The The fine wools appear to be in for another year of active demand. The 55 show fleeces averaging 11.7 pounds were sold at $1.01 a pound for fine wools (Delaine) and 66c. a pound for the 7.3 pounds medium wools. The latter wools were not of the best grade including some braid, so the price for them was not as high, the bids averaging from 40c. to 66c. The price bid for the Delaine wool from 87c. to $1.01 may not be representative of what average Delaine would bring as this was extra choice wool.

Another point emphasized was the importance of forming most complete county organizations in time to be united into state Association not only to assist in marketing but to make it more readily possible to keep the growers informed as to market conditions and developments. Thru such action the state and county units might lend their aid most effectively in legislative questions and for more effective production thru purebred ram clubs, forage crop trials, disease control, and the like.

Professor J. W. Hammond, told of the work at the Ohio Station which appears to have done the most work of the three. They recently completed two years of work on winter roughages for breeding ewes, in which they were trying to find a means to utilize the cheaper forms of roughage such as corn stover and oats straw, in part to offset the more expensive roughages such as clover and alfalfa. All the different rations were made up on approximately the same ratio of protein to energy value, 16.

The ration of corn, cottonseed meal, and silage without any other dry roughage was very unsatisfactory, resulting in large soft, flabby lambs, with a high death rate. The Pennsivania station had a like result with similar rations. Corn and cottonseed meal, silage and a light feed of alfalfa, approximately a quarter pound a day, gave very good results. Corn, cotton seed meal, silage and corn stover also gave good results. In this case it was of course necessary to increase the cotton seed meal to offset the protein carried in the alfalfa that was dropped out. In all there were eight rations fed, all of which gave satisfactory results with the exception of the silage as the sole roughage. While there was a wide variation in the cost, the two mentioned as being satisfactory were among the lowest in cost. Professor Hammond interpreted this to mean that sheep had quite a wide adaptability as to rations. The discussion brought out was the fact that in all cases where silage has been used with proper care it gave very good results both with ewes and lambs. Frozen silage or sour feed should not be allowed to lay around. Ohio has also been running some wool scouring tests to check up on what the actual shrinkage is on the different kinds of wool.

The Pennsylvania station reported cross breeding experiments, in which they started with Merino ewes, crossing them on mutton rams in an effort to determine what might be accomplished in the way of fixing a type of sheep that would carry more of the fine wool qualities with the mutton conformation. They have also conducted maintenance tests, comparing fine wool ewes and mutton ewes and found that it required about one-third more feed to maintain the mutton type.

Purebred Ram Clubs

L. F. Engle, county agent, Green County, Pa., outlined a plan under which Ram Clubs are being organized in the county. They are working on a basis of three arms to a club, and are planning to secure line bred rams which can be exchanged within the three blocks every two years, so the three rams will give service for six years. Buying in this way a higher priced ram can be bought without costing the breeder any more in the end and also more care will be taken in the purchase. The Ram Club idea met with a lot of interest and appeared to have the approval of all the breeders. The only question being raised was as to whether it would be possible to secure three rams similar enough in type of fleece. Professor Connell reported that somewhat the same Ram Club plan is being caried on thruout the entire state. Except in some sections where the breeders only have a few head, several men go in on the ownership of one ram.

World Wool Supply

G. H. Bedell of the U. S. Department of Agriculture, took Professor Marshalls place and gave the breeders a lot of good points. According to his statement the Austrailian clip will not be up to the average either in quality or quantity, due to scarcity of grain and drought in some sections. Russia which is one of the largest producers of wool is not looked upon as a source of a very great supply of wool this year. Consequently it appears that supply of wool on a world basis is probably not up to average. There is a question, however, whether the consumption will be as great in some of the European countries, as many of the textile working machines in France and Belgium were destroyed during the war, and full operation has not been attained yet. The United States produces about three hundred million pounds of wool and uses about six hundred million pounds. Every one seemed to feel that the wool market would be strong unless there is a general break in prices of all commodities.

Truth in Fabrics.

W. W. Reynolds who is publicity man for sheep directors in Ohio, gave a very interesting talk of decided importance on more publicity with regard to woolen fabrics, and enlisting purchasers of clothing, in a demand for a law that would require the marking of fabrics saying from what material they had been made, known as the "Truth in Fabrics Law." Many suits now sold as all wool are made largely from re-worked wool sometimes called shoddy. Mr. Reynolds insists that the term "Virgin Wool" should be used to apply to wool the first time it is used in fabrics. This is evidently a new term in the woolen trade as the discussion brought out the fact that the head of the clothing department of one of Pittsburg's largest stores did not know what was meant by "Virgin Wool."

The Term "Asbestos Suit," was also coined by one of the speakers in connection with a suit he had purchased made evidently from reworked or shoddy wool. Everyone present seemed to feel that the purchaser of clothing should know what he was securing but there was a point raised as to the economics of the question, whether the cost of enforcing such a law would be so expensive as to more than offset the benefits. In connection with the resolution the Association went on record in favor of passing of the "Truth in Fabric" Law, House Bill 11,641.

NEW YORK SHEEP MEN WANT FABRICS LAW

A resolution favoring the enactment by Congress of a pure fabrics law defining wool, cotton and shoddy as used in cloth, was adopted by the members of the N. Y. Federation of County Sheep Growers' Cooperative Associations, at their annual meeting at Syracuse on Saturday, February 28.

Fred I. Porter, President of the Association, stated that it was his opinion, that a vigorous campaign of advertising to acquaint the public with the various qualities of wool and woolen clothing, is badly needed.

The following officers were elected: President, E. L. Moody, Ontario County; Vice-President, R. C. Ostrander, Orleans County; Treasurer, E. S. Hill, Tompkins County; Directors, John Curry, Otsego County, and Arthur Wood, Delaware County.

According to the Audubon Society, the crops destroyed by insects and small rodents in America would feed the people of Belgium. Birds are the great natural enemies of these pests of the farmer, fruit grower and forester.

"I beg your pardon, but what is your name?" the hotel clerk asked.

"Name," echoed the indignant guest, who had just signed the register. "Don't you see my signature there on the register?"

"I do," answered the clerk. "That is what aroused my curiosity."

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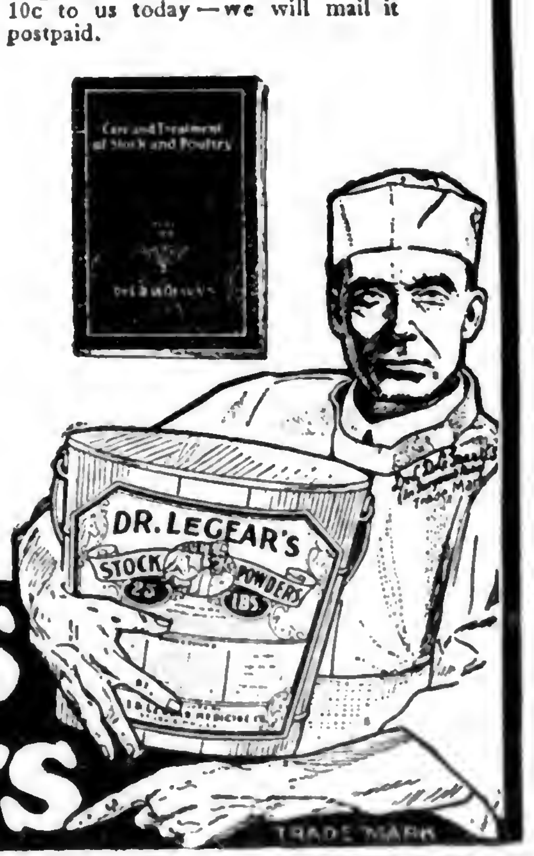

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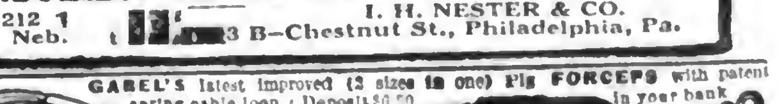

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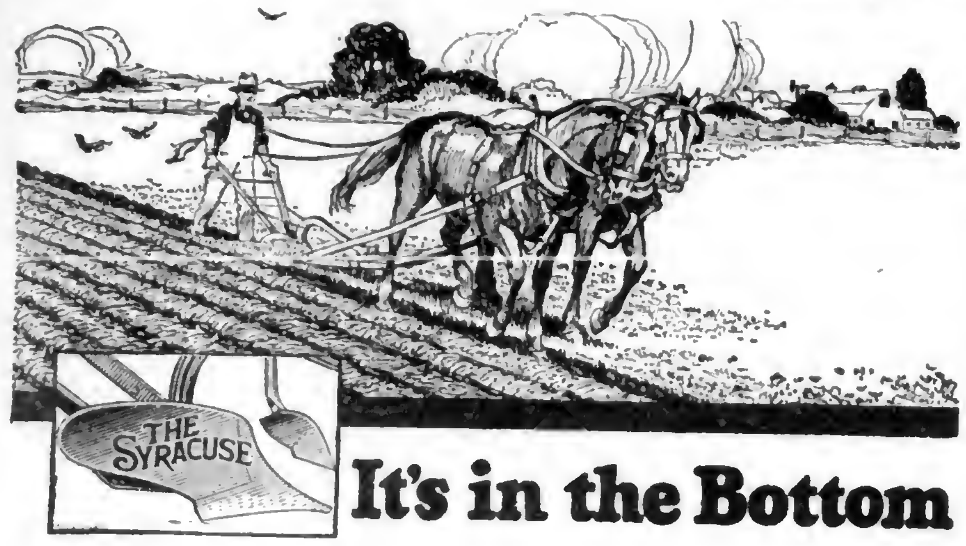

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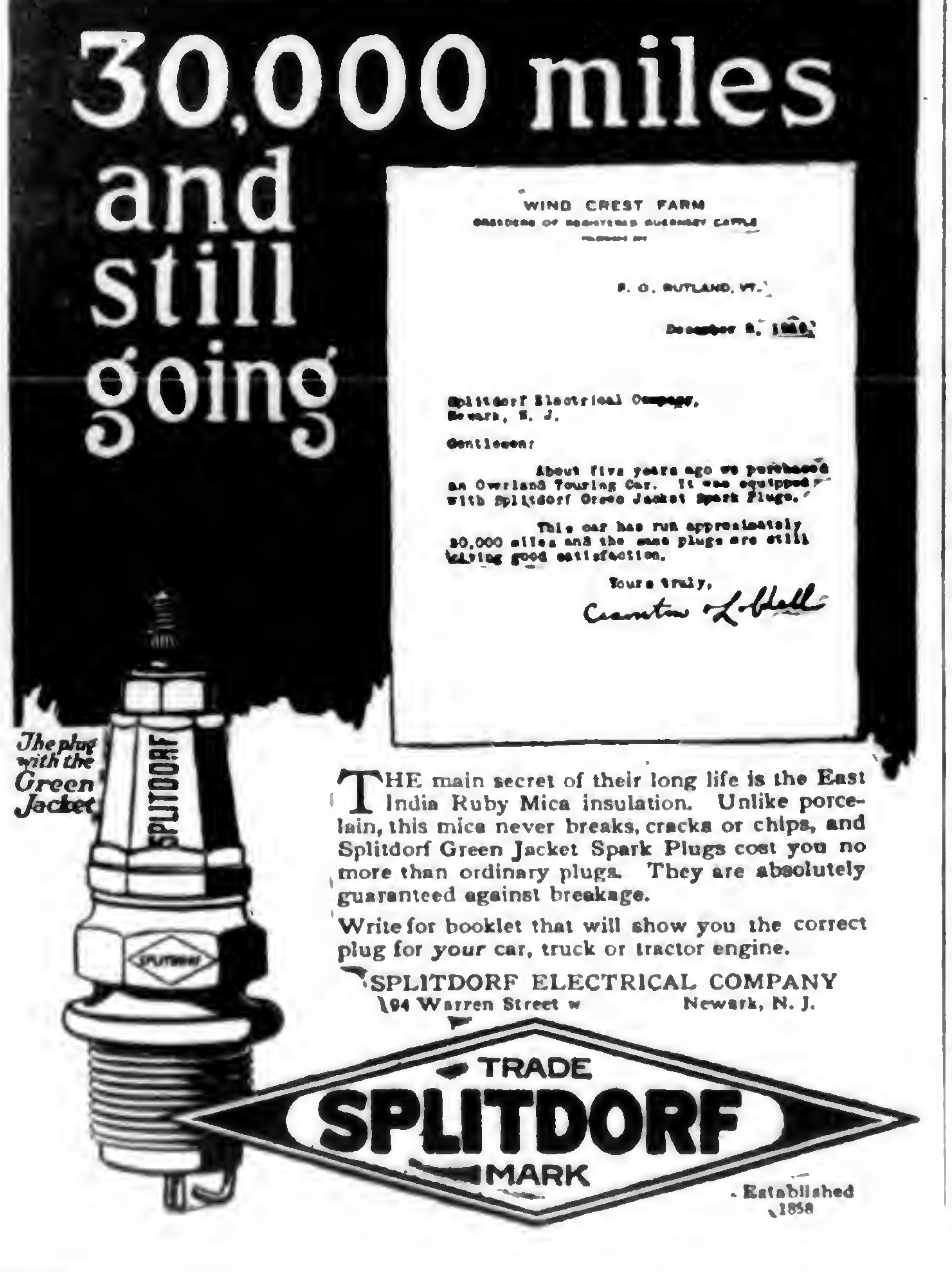
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FARMERS MUST LEARN TO CO-OPERATE

The farmers must learn to co-operate. The individualism of fifty years ago is gone forever. Manufacturers, merchants, coal operators and wage workers, all are organized for their own protection, and it is absolutely necessary that they should be organized. The farmer, living a more isolated life and each one working for himself, did not feel the need or organization as quickly as those in other lines of industry.

The great world war has done more than anything else to bring home to the farmer the necessity of organization. Had it not been for the Farm Bureaus, and the Grange, and a few other farm organizations, the results of Government meddling and price fixing would have been disastrous.

Everbody seemed to think that they knew better what the farmer should do and what he should get for his products than the farmer himself. A real practical farmer wasn't considered to be fit for the Secretary of Agriculture by those who held the fate of farmers in their hands. A politician who was about as much of a success as a farmer as the old fashioned Peter Tumbledown held the position of National Secretary of Agriculture for sixteen years. He in turn was succeeded by a Standard Oil man who has no more sympathy for the real working farmer than Judge Gary has for the organized steel workers.

If all the farmers organizations in the country, (small as they are in comparison to what they should be) would work together as a unit such a condition could not exist. Pennsylvania is a good example. Here we find the Pennsylvania State College, the Farm Bureaus and the Granges working in harmony. Here we have a real Secretary of Agriculture; one that we can all be proud of, and one is working unceasingly for the best interests of the farmer. We have started a Farmers' Selling Organization in Cambria County which would scarcely have been possible without the Farm Bureau organization. The possibilities of this new venture are almost without limit. A great deal depends on the loyal support and assistance of the farmers.

To show what is possible I will give you an illustration: The organization of the United Grain Growers of Western Canada. This organization has 60,000 members, has a paid up capitalization of $3,000,000, a reserve fund of more than $2,000,000 and assets of more than $12,000,000, and in 1918 paid its shareholders a dividend of 10 per cent. This combine of farmers transacts an annual business of more than $100,000,000 in buying and selling for its members. The combine operates 650 grain elevators in country communities and four large elevators at the head of the great lakes. They conduct the largest grain exporting business on the American continent, having headquarters in New York City and a string of foreign connections, and incidentally control the government of Western Canada. And W. R. Motherwell who initiated this movement is at present Secretary of Agriculture. This organization also handled over 3000 carloads of livestock last year. They also own their own farm paper. It is of, by, and for farmers and is rated as one of the best papers printed today.—Austin B. Kirsch, Cambria Co., Pa.

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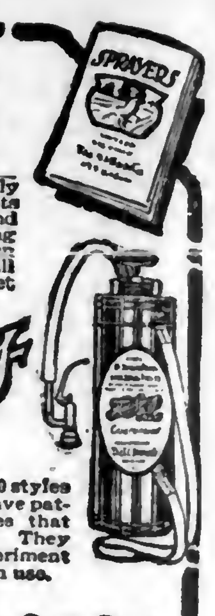
Mrs. Belle M. Coursen produced on her farm at Fassett, Pa., during the past year and shipped to Elmira, N. Y., 56 tons, 1,661 pounds of milk, which had an average test of 4.98 per cent. butterfat. This does not include the amount used at home for cooking and starting young calves. Mrs. Coursen's herd is composed of 15 high grade Guernseys of which 5 were 2 years old and 2 were 3 years old. Mrs. Coursen has proved her ability as a milk producer. She is successful along other lines also and does her share of the work done by other women outside their homes.

Your body needs fuel. If it does not get the fuel, then it must burn some of its own tissues.



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MORE OF THOSE GAMES WE LIKE TO PLAY

"Boots, Without Shoes"

All who are to play the game leave the room but the leader who remains inside. He selects one from the group and calls him in, inviting him to sit down and do as he does. The leader then says: "Say just what I say. Say boots, without shoes, "This is said with a short pause after the word boots. The player will undoubtedly repeat the whole sentence and the leader says, "No, I want you to say boots, without shoes," and thus it may go on until the leader has given the statement in all sorts of tones and expressions. Finally, the player MAY find out that when told to say "Boots, without shoes," he must simply say, "Boots."

This player is allowed to stay in the room to hear the conversation of the others, therefore much amusement is afforded, as the crowd gathers.

"It"

One of the players, who does not know the game, is sent from the room. While he is gone, the others are supposed to be thinking of some person, whom he is to guess when he comes in. However, it is arranged that each one describes his right hand neighbor when asked any questions. When the circle is composed of girls and boys alternately, it is found more amusing. The player is called in and told that he is to guess what person the company thought of and that person is "It."

The conversation may be somewhat like this: "Is it in this room?" "Yes." "Is it a boy?" "Yes." "Is his hair long or short?" "Very long." And so it goes, until the information that has been obtained may be the following: "A boy, very long hair, pink waist, brown eyes, has a beard, very short, stout, about ten years old."

The player, of course astonished at this seemingly senseless information, may keep on guessing for some time before he guesses correctly. If, at last he has to give up "It" is explained to him.

"Famous Numbers"

Each played is provided with paper and pencil, and on each a number is written. These papers are collected, shuffled, and one handed to each of the players. Each in turn must name someone or something suggested by that number. Those, if there are any, who fail to do his are compelled to pay a forfeit.

For example, N.o 1 has 13, so he will say, "My number is 13; there are 13 stripes in our flag. "No. 2 having 7, says, "My number is 7; there are 7 days in a week. "No. 3 having 4, says, "My number is 4; the Declaration of Independence was signed on the fourth of July.

"A Trip Around the World"

Each guest, provided with paper and pencil is asked to write the names of places suggested to him by the different articles which have previously been displayed on the table. For instance: A small package of tea suggests China; a watch, Switzerland; cotton, Texas; coffee, Brazil; silk, France and so on.

"Jack's Alive"

A small piece of kindling wood is held in the fire until it is well lighted. It is then carried to the group of players who have arranged themselves in a circle, and handed to one of them. The game is to pass the burning stick quickly to the player at the left, saying "Jack's alive." The instant the stick stops burning "Jack's dead" and the one who is holding it then pays a forfeit.

"Telegram"

Provide the players with paper and pencil. Each one then writes on his slip, ten letters of the alphabet in any order, using no letter twice. The papers are then passed to the right and each one is requested to write a telegram, using the ten letters for the beginning of the ten words, just in the order given. The papers are then passed again and the telegrams are read aloud. Some of course will be very amusing. Examples:

(Continued on Page 31.)

The Farm International Arrives in Town
FULTON PRODUCE & MATERIALS CO.

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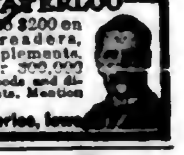

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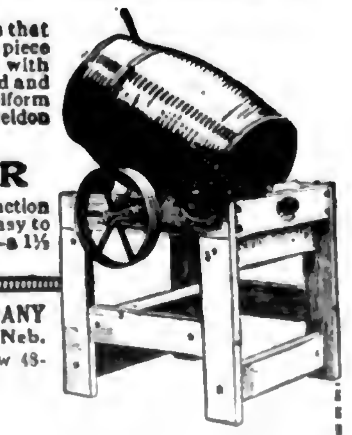

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FEED MARKET REVIEW

The approach of the close of the winter season and the opening of spring are vital to feed markets. This transition means a turn from the period of heaviest feeding to a time when the consuming trade depends to a larger and larger extent on pastures as a source of feed. Naturally, the change is a bearish one in markets for the various commodities tho the check on the movement of some foodstuffs from farms incident to the beginning of spring work and the breaking up of country roads tends to offset the bearishness. While the decline in prices on most feedstuffs the past month are the outcome of day-today demand and supply conditions, the fluctuations represent a partial discounting of the approach of the grass season. Other factors, however, are also mostly bearish in the feed trade.

Of the feedstuffs used on an extensive scale by dairymen of the East, only bran has maintained its firmness. Cottonseed cake and meal, linseed feed, alfalfa hay and alfalfa mixed feeds have been depressed in price, rather sharply in instances. Extreme weakness is evident in the market for the high concentrate feeds, with demand of a sluggish character even at the sharply reduced levels. Rushers are disposing of considerable meal to manufacturers of commercial fertilizer and to feed mixers, but only an insignificant amount of the product is being sold direct to meat animal producers and the dairy trade. Not alone is this true of the East but other sections as well, including the extensive range cattle areas of the West, Southwest and Northwest, and the heavy feeding belts of the Central States and Middle West also are buying only meagerly, if at all. Dealers report a hand-to-mouth trade, with the country practicing greater economy in the use of the high protein feeds than ever before. The rather discouraging position of cattle markets is a significant factor in this connection.

Cottonseed Meal.

Crushers of Texas and Oklahoma are offering their product around $62 to $64 a ton, for carlots, basis mill, for cake and meal of 43 per cent protein content. Values in the Southeast are on a similar basis, tho some crushers in Memphis territory are holding their product at higher levels. Still, it is said purchases could be made at Texas points as low as $60 a ton for 43 per cent protein cake and meal, practically the lowest figure of the season. The offerings from crushers of the South are not liberal, yet no difficulty whatever is encountered in obtaining supplies. Here and there, in fact, distress meal is available in transit, and prices have been discounted sharply in an effort to dispose of this product. Compared with a month ago, the market is generally $6 to $8 a ton lower. The technical position of the market has not improved even at the decline.

Conflicting views are held concerning the supply situation in cake and meal markets the remainder of the crop year. Some fear a shortage will be felt when buyers enter the market for summer requirements. Those who hold to such a theory place much emphasis on the present seed supply, which the Department of Commerce estimates at 473,181 tons on January 31, compared with 846,142 tons a year ago. It is true that crushing operations in the South have fallen off sharply, owing to diminishing stocks of seed, yet the crush thus far on the crop amounts to more than 3,000,000 tons of cottonseed, or close to 200,000 tons more than in the same period a year ago. Other interesting figures in connection with the future supply situation are the estimate by the Department of commerce of cottonseed cake and meal on hand at crushing plants on January 31, the total 264,579 tons, compared with 136,938 tons a year ago. Based on the consumptive demand, it is safe to estimate the amount of cake and meal in market channels awaiting consumption at far above the corresponding period a year ago. Crushers are not eager to store their product for summer trade, which normally is true, the high level of prices making immediate sales the more profitable operation. From this observation, it appears that little fear need prevail over future stocks of the high protein feed.

Linseed Meal.

Linseed cake and meal have eased off, tho not to the extent noted in cottonseed feed markets. Because of the limited amount of flaxseed moving to crushers of the Northwest, including both the domestic and Argentine stock, operations of mills have been restricted, and there was naturally less pressure to dispose of offerings. Spot linseed feed, however, is not moving so readily as earlier in the year, and marked indifference is apparent on the part of buyers in contacting for deferred shipment. For spot linseed cake and meal, the market in Minneapolis is holding around $78 to $79 a ton, and for late March and April around $76. The export demand for linseed feed is stagnant, and crushers of the East are competing with the Northwestern operators for trade. The absence of foreign buying of both linseed and cottonseed cake is an important bearish item in the market for these commodities.

Alfalfa.

Buyers of alfalfa hay in the East are sharing a lower market for the legume. The sharp downturn in prices came earlier than anticipated the almost remarkable absorption of record receipts in January strengthening the belief that values might maintain firmness until at least the middle of March and possibly until April. But the latter half of February witnessed a sharp break, amounting to as much as $12 a ton on the cheaper grades. The dairy trade of the East, however, cannot report a difference of $12 a ton in their purchases, the better quality offerings of pea-green and leafy alfalfa having eased off only about $3 a ton from the high point. The market probably never before showed such an extreme difference in the prices for the good and cheap alfalfa, the range being from $14 to $36 a ton, or $22 margin. In normal seasons the difference is less than $5 a ton. But the situation on current markets is easily explained. Little hay of good to choice quality is available in the country, with the bulk of the heavy marketings of the cheaper grades, including musty, stained and otherwise damaged hay. Demand is largely for the better offerings.

Further declines in alfalfa prices are probable, even on the better grades. The country still holds large supplies, and, as the season advances, marketings are increasing. Eastern buyers should not purchase above their current requirements, and thus be in a position to take advantage of further price recessions.

Bran and Shorts

Reduced operations of flour mills in both the spring and winter wheat belt, as well as in the East, are an offsetting factor to bearish pressure on bran and shorts. The market has not advanced, yet the fact that declines have not occurred in face of the depression in other commodities indicates a strong undertone. The East is buying sparingly, both millers and handlers reporting a dearth of buying orders from that section. In fact, considerable bran and shorts bought earlier in 1920 have been resold to the West and Central States by the Eastern handlers, owing to lack of consumptive demand there. Bran is available in Minneapolis, the leading spring wheat market, around $43 a ton, in Kansas City at $41 in St. Louis at $43 to $44 for soft winter, and in Chicago around $43 to $44. These prices in the East, Philadelphia for instance, equal about $50 a ton. Kansas City is probably the most favorable market for Easterners on purchases of shorts at the present time, prices there being at the lowest level, around $46 to $47 for gray, and $44 to $45 for brown. Minneapolis quotes gray shorts or standard middlings up to $56 a ton, and brown around $48. Red dog for feed, a low grade flour, can be purchased in the Southwestern market as low as $55 a ton, sacked.—Sosland.

MORE OF THESE GAMES WE LIKE TO PLAY

(Continued From Page 29.)

A.E.F.G.K.L.N.O.G.I. Am eternally fearing ghosts. Keep living now on good ideas.

C.B.D.W.G.H.S.I.M.T. Come back, Dan. Walk. Grace Helene Smith is married tomorrow.

"Passing Clothespins"

Two leaders are appointed who choose men for their sides. The sides face each other, but quite a space is left between them. By the way, the leaders are at the end.

At the end of each line is placed a basket containing twelve clothespins. Each player is instructed to hold his neighbor's right wrist with his left hand, thus leaving one hand free.

The leaders begin by passing the clothespins, one at a time, down the line, each player being careful not to drop one. When one reaches the end of the line, the last player places it on the floor beside him until all twelve have been passed, then he passes them as before, up the line to the leader.

The side which succeeds in passing all its clothespins back to the leader first is the winning side. If a clothespin is dropped, the player who dropped it must pick it up and pass it on. The rest must wait until it is passed before passing any of the others.

"Who Am I?"

The guests are formed in a line and asked to pass slowly by the hostess, or some other person who may have been chosen for the occasion. As he passes, a card with a name of some noted author, statesman, or poet written on it, is pinned on his back, so that every one can see it but himself.

As each person wants to know who he is, he begins to converse with his neighbors. In conversing, each talks as if he were the person who's name is written on the other fellow's back. From the conversation each has to guess who he is.

"Bright Ideas"

One member of the company, "It," is sent from the room. While he is gone, some object is thought of as for instance a window. Upon "It's" entrance, one member of the company says, "I have a bright idea." Thereupon "It" asks, "Who's it like?" "You." "Why?" "Because it's easily seen thru. Another then says, "I have a bright idea." "It" asks why, and perhaps is told, "Because it's easily cracked. "And so the game goes, each one in the company repeating the words "I have a bright idea" but each must be different. When "It" guesses what was thought of, the person who had the last idea is "It."

"Study of Art"

Select copies of famous paintings, being careful to choose those familiar to every one. These are hung around the room. Neither the name of the picture nor the artist must be on it but a number on each picture.

Provide each guest with paper and pencil and allow a certain length of time for the guessing of names and artists.—R. L. Elliot, Green, N. Y.

MINERAL METTER AND MILK

Experiments conducted by the Bureau of Animal Industry, United State Department of Agriculture, with dairy cows are showing an important relation between milk secretion and certain mineral substances. Feeding compounds of phosphorus and calcium have resulted in a decidedly beneficial effect on the milk flow in both quantity and fat content.

It has been shown also that a deficiency of phosphorus in dairy ration has a detrimental effect on milk secretion of cows and growth of calves. A remedy was found in the addition of sodium phosphate to rations deficient in phosphorus. The work is being continued.

"Hot Beds and Cold Frames" is a bulletin you will be wanting soon. Why not write the State College of Agriculture at Ithaca, N. Y., for a copy. It is F. 120.

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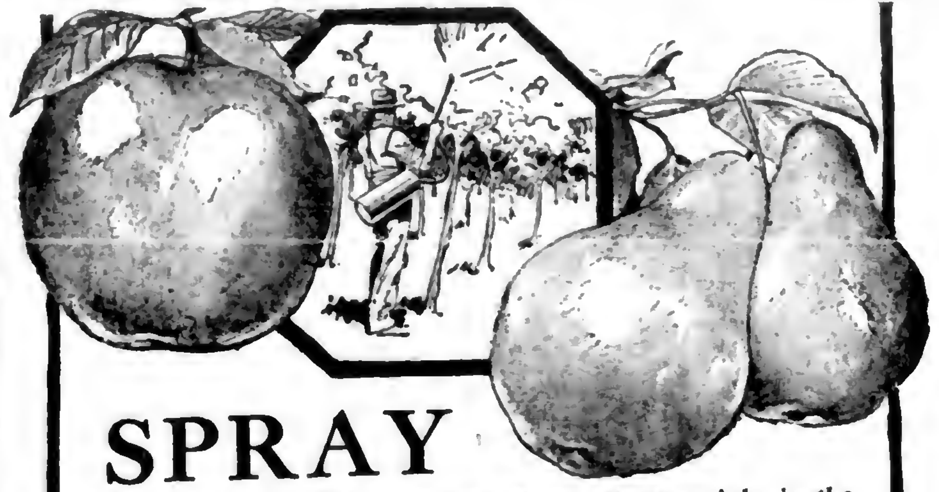

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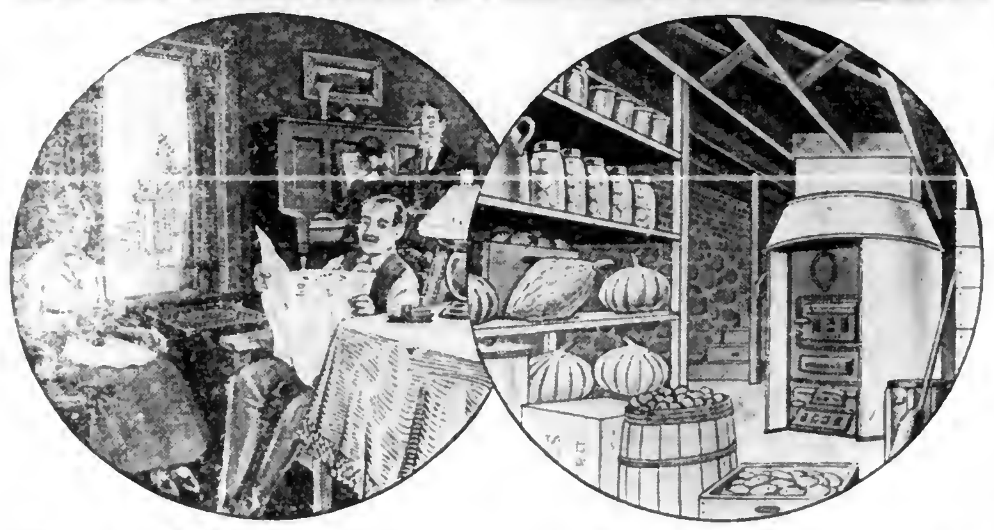

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AWAY-below-zero weather will not bother you---will not make your rooms chilly or uncomfortable if you install in your cellar this sturdy STEWART ONEPIPE---the furnace that is right now so successfully and satisfactorily heating hundreds and hundreds of homes.

Out of the way, down cellar, is the proper place for the home heating plant. This convenience is now available for farm homes. The construction of this new furnace is such that no heat is allowed to escape into the cellar, so that vegetables, fruits, etc., stored therein will be perfectly safe—no danger of spoiling.

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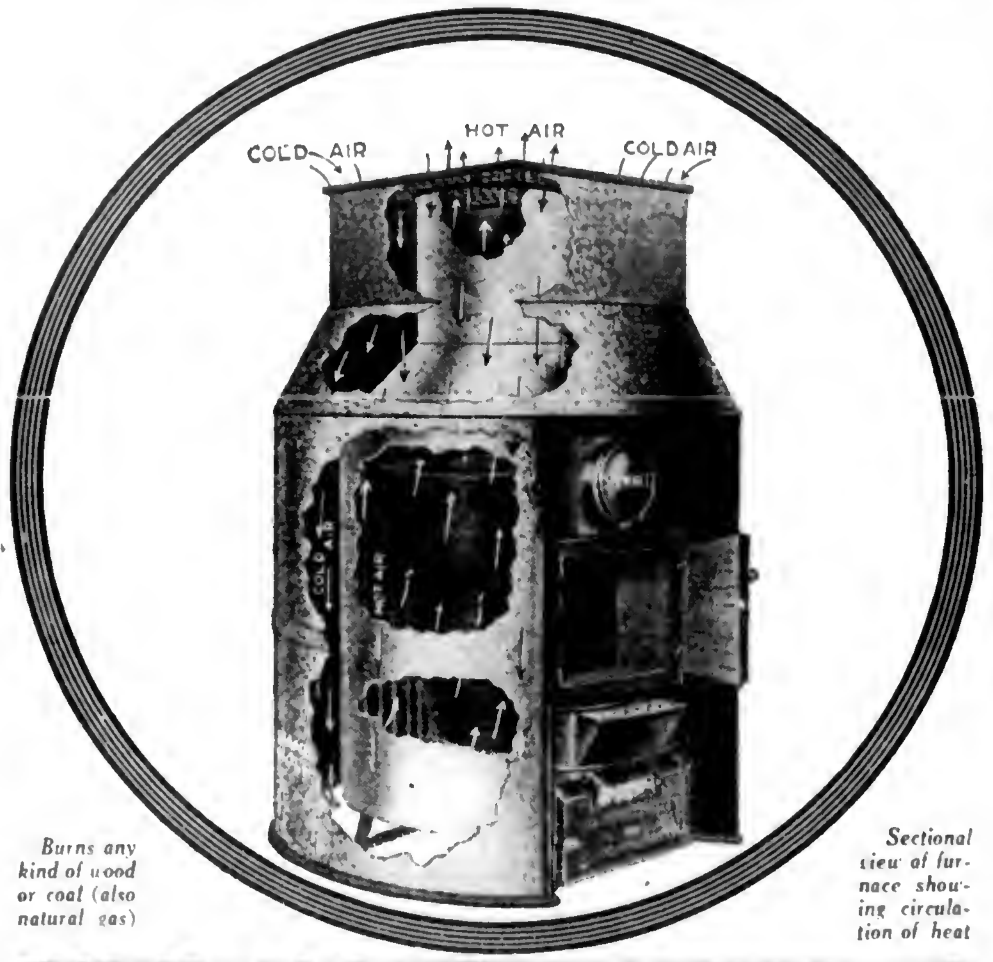

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Sectional view of furnace showing circulation of heat

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joke when thru the slats of the closed blinds shading the Pepper house parlor a shrill voice was heard speaking.

"Go ahead, 'Bishy dear," called Lavinia. "Go ahead and go. A change of air'll do you good."

Kyan whirled and clutched at the gate.

"Hey?" he shouted in amazement.

"Are you deef? Or is Mr. Ellis laughin' so hard that you can't hear? What is it that's so funny, Mr. Ellis?"

The light-keeper shut off his laughter by a sudden and rather frightened gulp.

"Oh, nothin', nothin', Miss Pepper. Nice day, ain't it?"

"I guess so. I ain't had time to look at it yet. I have to work. I can't let my wife do it for me, like some folks, and take 'days off.' What was it you was laughin' at, Mr. Ellis?"

"Nothin', nothin' at all."

"Hum! They used to tell me there was only one kind of person who laughed at nothin'. Well, 'Bish Pepper, what are you standin' there for? If you're goin', come right into the house and change your clothes this minute."

Kyan obeyed. Shortly he reappeared, clothed like a lily of the field, one that had long since gone to seed. He clambered up beside Noah and they drove off.

"Jerushy!" exclaimed the light-keeper. "This is kind of unexpected, ain't it? What's got into her to make her so accommodatin'?"

"Godfreys mighty!" was the dazed reply, "I don't know. This as fast as you can drive? Hurry up, afore she changes her mind."

So it happened that Mr. Pepper was in Bayport with the rest, awaiting the stage which was bringing Trumet's latest celebrity from Sandwich.

"Here she comes!" shouted Ezra Simmons, the postmaster. "Right on time, too."

Sure enough! A cloud of dust in the distance, rising on the spring wind, and the rattle of rapidly turning wheels. The reception committee prepared for action. Captain Elkanah descended from the carriage and moved in stately dignity to the front of the post office platform.

"Hum—ha!" he barked, turning to his followers. "Be ready now. Give him a good cheer, when I say the word. Let it be hearty—hearty, yes."

The stage, its four horses at a trot, swung up to the platform.

"Whoa!" roared the driver.

"Now!" ordered Elkanah. "One—two—Hurrah!"

"Hurrah!" shouted the committee, its uninvited guests and the accompanying crowd of Bayport men and boys which had gathered to assist in the welcome. "Hurrah!"

"Hooray!" yelled Kyan, a little behind, as usual.

A passenger or two peered from the coach window. The stage driver ironicall touched his cap.

"Thank ye," he said. "Thank ye very much. I've been hopin' for this for a long time, tho I'd about given up expectin' it. I'm very much obliged. Won't somebody please ask me to make a speech?"

Captain Elkanah frowned his disapproval.

"We are cheering Cap'n Nathaniel Hammond of Trumet," he explained haughtily. "We are here to meet him and escort him home."

The driver sighed. "You don't say," he said. "And I thought my merits had been recognized at last. And 'twas all for Cap'n Hammond? Dear! dear!"

He winked at Simmons who wanted to laugh, but did not dare.

"Come! come!" said Captain Elkanah. "Where is he? Where's Cap'n Hammond?"

"Well, now, I'll tell ye; I don't know where he is."

"You don't? Isn't he with you?"

"No, he ain't. And he didn't come on the train, nuther. He was on it. The conductor told me he see him and set along with him between stations as fur as Cohasset Narrows. But after that he never see hide nor hair of him. Oh, that's so! Here's the mail bag, Ezry."

Captain Elkanah looked at the reception committee and it looked at him. Here was a most disconcerting setback for all the plans. The committee, after asking more, and fruitless questions, went into executive session.

Captain Zeb stepped beside the stage and put one foot on the wheel.

"Say, Thad," he whispered, "is that all you know? Where did he go to?"

'Can't tell you, cap'n. The conductor says he see him afore they got to Cohasset Narrows and not after. Naturally, we s'pose he got off there. Pretty good joke on old Daniels, I call it. Serve him right, figgerin' to take a passenger away from me. He, he!"

"But you do know more, now don't you? Tell a feller—come! I don't like Elkanah any better'n you do."

"Well," the driver's voice dropped still lower. "Well," he whispered, "I did hear this much, tho don't you tell none of them: A chap I know was on the train and he said he see Cap'n Nat get off the cars at the Cohasset Narrows depot and there was a woman with him."

"A woman? A woman? What woman?"

"Blessed if I know! And he didn't nuther. So long! Git dap!"

The reception committee and its escort drove slowly back to Trumet. The Daniels following was disgusted and disappointed. Captain Elkanah had figured upon keeping Hammond under his own wing until he was safely deposited at the old tavern. Grace was there and Elkanah meant that these two should meet before any inkling of Ellery's story reached Nat's ears. Incidentally, he could drop a few damaging hints concerning the minister's character. To hurt Ellery all he could and prejudice Hammond against him—that was the plan, and now it was frustrated. The captain had not put in an appearance and no one knew where he was or when he would come home. Obviously, there was nothing to do except give up the reception and await further news from the missing man.

Some of those present wished to remain in Bayport until night. Another train was due in Sandwich and, possibly, Nat might come on that. They could telegraph and find out whether or not he did come, and if he did, could send a carriage for him. But this suggestion was overhauled. The reception was off.

The homeward journey had some unpleasant incidens. Several Come-Outers had driven over. Nat belonged to them, so they felt—he was the son of their dead founder and leader—and they determined the Regulars should not have him all to themselves. They had come to bid him welcome on behalf of the worshipers at the chapel. Now they took advantage of the general disappointment to make sarcastic and would-be humorous remarks loud enough for the majestic occupant of the decorated carriage to hear.

"Seems to me," said Thoph Black, "that them flags ought to be ha'f mast. That craft's in distress."

"S-sh-h!" counciled his companion, another Come-Outer. "Don't be irreverent. Look who's cruisin' under 'em. That's the King of Trumet. Let's you and me go ahead and fire salutes, Thoph."

Captain Elkanah wrathfully ordered the flags to be removed from the horses' heads and from the dashboard.

As Noah Ellis and his passenger turned into the lighthouse lane another vehicle turned out of it.

"Who was that?" queried Kyan. "Looked like one of the livery stable horses to me."

"'Twa'n't. 'Twas Thankful Payne's and that was her carriage, too. It's gettin' so dark I couldn't see who was drivin' it, but 'twas a man, anyhow."

Kyan seemed to be pondering. "I wonder," he said slowly, "I wonder if that cousin of hers from Sandwich is here visitin'. That Caleb Pratt, seems to me his name is."

"Don't know. Why?"

"Nothin', nothin'. I just wondered, that was all. That might explain why she let me—"

"Hey?"

"Nothin'. Good night, Noah. I'm much obliged to you for takin' me over, even if there wa'n't no reception."

Trumet spent that evening wondering what had become of Nat Hammond. Captain Zebb Mayo wondered most of all. Yet his wonderment was accompanied by vague suspicions of the truth.

(Continued Next Week.)

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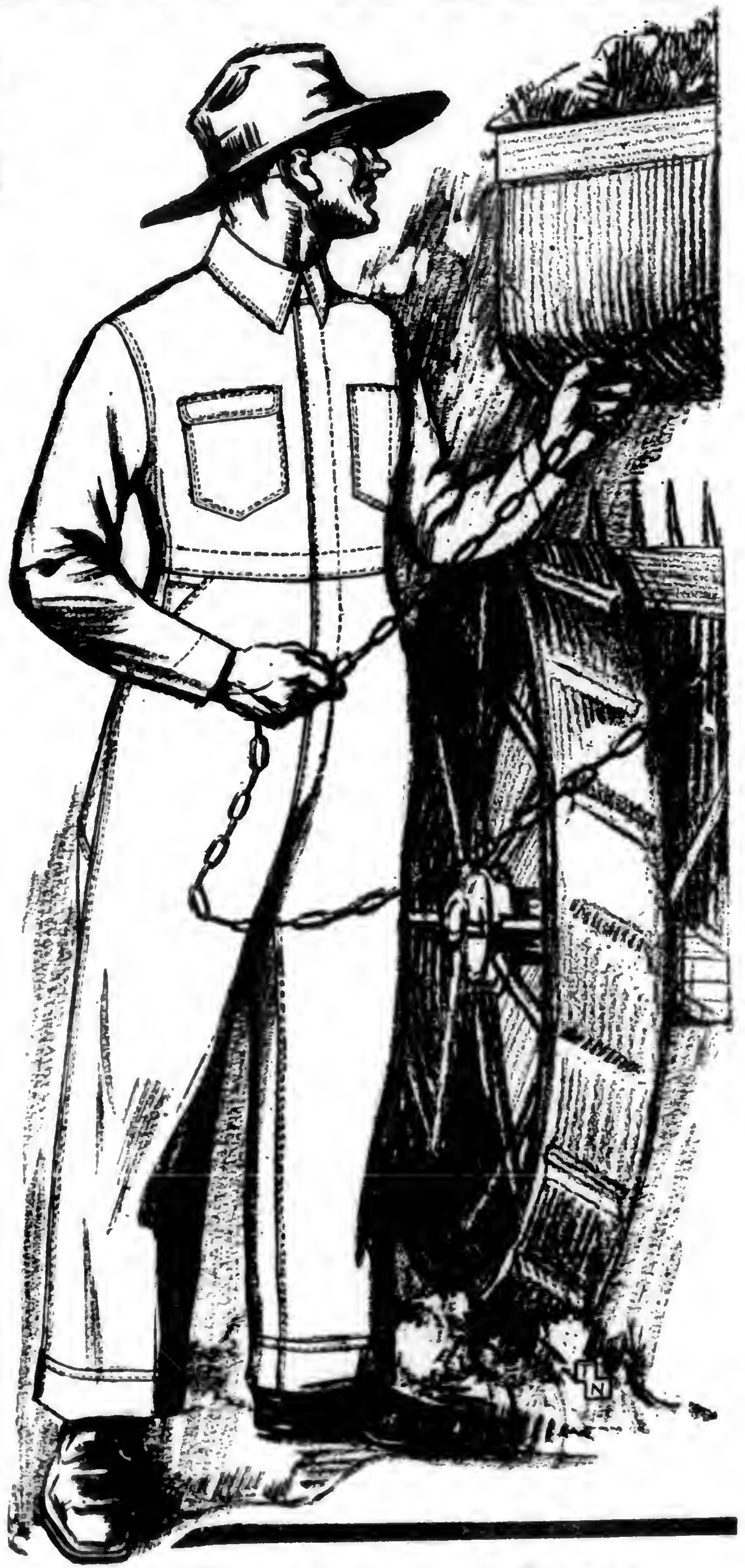

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Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., March 8, 1920

The market on potatoes is ruling very firm. By reason of cold and stormy weather prevailing for the past several days making hauling conditions in the country extremely difficult, supplies have been very light, and as a result prices are quite a little higher than a week ago. As usual Pennsylvania grown potatoes are bringing the highest prices as they are selling around $5@5.40 per cwt. New York state potatoes are bringing from $5@5.25 per cwt. Some Maryland Hoosiers have been selling around $4.50@5 per cwt. The new potatoes from Bermuda are ruling very firm at $13@14 per barrel.

Sweet potatoes are showing no material change over last week's prices as the No. 1s are still selling around $2.25@2.40 per hamper, with No. 2s at $1.15@1.35 per hamper, with supplies coming mainly from the Eastern Shore of Virginia sections. The nearby New Jersey grown sweet potatoes continue firm at $1.60@1.90 per 5/8-basket for the No. 1 stock. There was a car of North Carolina yams on the market this morning which sold at $4 per barrel, while the yams from the Eastern Shore of Virginia sections are selling from $3@5 per barrel as to condition.

Vegetables

Artichokes are in very light supply and are ruling firmer and higher at $9@10 per box. Altho asparagus made its appearance last week, supplies are still very limited and prices are ranging around 75c@$1.50 per bunch as to size and quality. Beans are an extremely scarce commodity and bringing extremely high prices, some fancy stock having brought $12 per hamper with other sales ranging down to $7 as to quality. Old beets from Pennsylvania and New Jersey points are in good active demand at $3.25@4.50 per barrel, while the new crop from southern points is selling around 10@12c per bunch. Brussels sprouts are in light supply but as the quality is mostly poor, prices are ruling lower at $5@9 per drum as to condition. The season on old cabbage is nearly over, there only being parts of three cars here today which were cleaning up at $75@80 per ton. New cabbage is quite a little higher than it was a week ago, as hampers sold today at $2@2.50, and crate stock at $3.75@4.50. Old carrots are also doing better, New York state rough stock bringing $5@5.50 per barrel, and fancy Pennsylvania washed stock around $6.50@7.50 per barrel. Cauliflower is fully 50c per crate higher than it was a week ago, as todays sales ranged from $3.25@3.50 per crate as against $2.75@3 a week ago. Celery is also firmer than it was a week ago and is now selling at $2.50@3.75 per crate mostly. The demand for hothouse cucumbers exceeds the supply at $2.50@3 per dozen. The market is absolutely bare of egg plants and strictly fancy plants would bring very high prices. Endive and Escarole are showing practically no change from last week's prices of $7@7.50 per barrel. Garlic also remains unchanged from day to day at 20@30c per pound. Horseradish has been a very scarce commodity all season and strictly fancy stock is selling around $23@25 per barrel. There has been no kale for several weeks and strictly fancy kale would undoubtedly sell at very high prices. Most southern lettuce is arriving in poor condition and showing poor quality and therefore prices are ruling rather low, sales being made today at 75c@$2.25 per hamper with very little good enough to bring the top prices. Lettuce from California is selling mostly at $1.50@$2.50 per box altho some very poor stock sold below these prices. Lima beans are scarce and the few that are arriving are bringing $8@9 per hamper. The market on onions shows another advance over that reported in these columns last week and good onions are now $6@6.25 per 100 lb. sack, with sprouted ones lower. No. 2s are selling around $3.50@4.50 per sack. Nearby grown onion sets remain firm and unchanged at around $5 per bushel, while the westerns are a trifle easier at $3.50@3.75 per bushel. Mushrooms are in good demand at the practically unchanged price of $1.25@2 per three pound basket. Parsley shows another decline over that reported last week, and sales are now being made at $5@6 per barrel, while the box parsley sells at $1.50@1.75. Peas have advanced under the light supplies and are now selling at $10.50@12 per crate. Only a very few peppers are available at the very high prices of $6@10 per hamper. Romaine remains firm at $1.25@2 per hamper. Hothouse radishes are also very firm at $4@6 per hundred bunches. Fancy hot house rhubarb continues very firm at 90c@$1 per bundle but some off condition stock is bringing lower and irregular prices. Texas spinach sold today at $2@2.40 per bushel, mostly $2.25. Shallots are in light supply and firm at $8@10 per barrel. Tomatoes show an extremely wide range in price due to the fact that many of the tomatoes are arriving too green and green stock is not wanted in cold weather. Fancy 144 size sold today all the way from $2@4.50 per crate and choice 180 size from $1.50@3 per crate. Strictly fancy hard ripe tomatoes would exceed these prices as one day last week some tomatoes sold up to $6 per crate. Hothouse tomatoes are a little lower at 20@35c per pound. Pennsylvania grown parsnips are very scarce and bringing the very [illegible] price of $2.25@2.50 per barrel. Pennsylvania and New Jersey turnips continue in moderate supply and firm at the unchanged price of 75c@$1 per 5/8 basket on whites and $1@1.25 per basket on yellows. The Eastern Shore rutabagas are firm at $3.25@3.75 per barrel. Watercress is very scarce and wanted at 3@4c per bunch.

Fruits

Supplies of strictly fancy apples are light and the market is ruling very firm at practically unchanged prices. There are not so many poor apples on the market this week and for that reason the range of quotations is not as wide as it has been. At this writing sales are being made about as follows on the various varieties: [illegible] $[illegible]@9.50, Ben Davis, $4.50@6.50; [illegible] $[illegible]@7.25; Greenings, $5.25@[illegible]; [illegible] $[illegible]@8; York Imperials, $[illegible]; [illegible] $6@9. Western Box [illegible] about as follows: [illegible] Rome Beauty, $2.25@3.25; Ortleys, $3@3.50; Winesaps, $2.40@4; Wagner, $2.15@3.25. Cranberries continue dull and neglected by the trade, but strictly fancy berries are being held at their former values with quotations ranging as follows: barrels, $4@8; Crates, 75c@$2.50. Strawberries continue in light supply, there having been only one straight car here this season which sold mostly at 60@70c per quart. At the present writing strawberries are very scarce and are selling all the way from 65@85c per quart.

Poultry

The high prices to which live poultry advanced last week, seem to have drawn out additional supplies as well as curtailed the demand, as the market is now quite some lower. Fowls are now selling at 38@40c per pound for fancy heavy stock while the smaller sizes are only drawing 35@37c; fancy soft meated roasting chickens are about steady at 40@42c, with small and inferior at 38@39c; fancy nearby broiling chickens are firm at 55@60c per pound. Old roosters are weak at 30@32c. Ducks are drawing all the way from 30@45c per pound, and turkeys, 40@45c. There are no live geese on the market at this time.

Eggs

The egg market has been gradually showing a lower tendency ever since our last report. Supplies are now beginning to arrive more freely and with favorable weather conditions there will no doubt be much lower prices prevailing before our next report. At this writing Pennsylvania and other nearby current receipts are selling at 50c with firsts at 51c. Western extra firsts are weak at 50c, while Western firsts only draw 49c, and Southern eggs only bring 48c.

LANCASTER PRODUCE MARKET

Lancaster, Pa., March 8, 1920

The high cost of produce went searching for a new altitude record today when only half-a-hundred farmers were able to break the drifts and cross thru floods to reach market. The county is blizzard-bound, and many of the farmers who started for market were forced to turn back. Eggs leaped to 65 cents again under a heavy demand and scant supply, and dressed fowls that brought $1.75 last week, sold today for $2.50. The offerings were light. Following are the quotations:

Butter and Eggs.—Creamery butter, 80@85c per pound; country butter, 70@75c per pound; eggs, 65c per dozen; duck eggs, 75c per dozen; goose eggs, 8 cents each.

Poultry.—Dressed old chickens, $1.75@2.25 each; dressed young chickens, $2.50 each. No live fowls offered.

Vegetables.—Spinach, 40c ½ pk.; turnips, 20c per ½ pk.; potatoes, 30@40c ½ peck.; do., $2.50 per bu.; sweet potatoes, 35c per ½ pk.; cabbage, 10@20c per head; cauliflower, 20@35c each; lima beans, 25c per quart; oyster plant, 10c per bunch; lettuce, 10@25c per head.

Fruit.—Apples, 30@40c per half peck.

Grain Market.—Wheat, $2.20 per bu.; corn, $1.25; oats, 85c. Timothy hay, $31 per ton; mixed hay, $30.

YORK PRODUCE MARKET

York, Pa., March 8, 1920

Eggs.—50@65c per dozen.

Butter.—Separator, 75@80c lb.; country, 65@75c lb.; milk, 12c quart.

Poultry.—Hens, 26@35c lb.; dressed $1@2 each.

Vegetables.—Potatoes, 20@36c ½ pk.; $2@2.50 bu.; lettuce, 5@15c hd.; cabbage, 10@20c hd.; beets, 5c bx.; radishes, 6c bch; onions, 5c bch; 20@30c ½ pk.; lima beans, 35@40c qt.; soup beans, 20@30c qt.; celery, 5@15c a stalk; turnips, 20c ½ pk.; lard, 32c lb.; sausage, 35@38c lb.; pudding, 30c lb.; steak, 40@46c lb.; bone meat, 28@32c lb.; hams, 50c lb.; dresed hogs, 21c pound.

Fruit.—Apples, 18@30c ½ pk.; Stayman, 25@40c ½ pk.

BALTIMORE PRODUCE

Baltimore, Md., March 8, 1920

Butter.—Creamery, fancy, per lb., 68@69c; do., choice, per lb., 66@67c; do., good, 64@65c; do., prints, 70@71c; do., blocks, 68@69c; ladles, per lb., 48@50c; Maryland and Pennsylvania rolls, per lb., 43@47c; Ohio rolls, 41@45c; West Virginia rolls, per lb., 44@46c; do., store packed, 40@42c; do. Maryland, Virginia and Pennsylvania dairy prints, 42@45c; do., process butter, 53@55c.

Eggs.—Maryland, Pennsylvania and nearby firsts, per dozen, 53@54c; Western firsts, per dozen, 53@54c; West Virginia firsts, 52@53c; Southern firsts, 52@53c. All loss off.

Live Chickens.—Chickens, old hens, 4 lbs. and over, per lb., 41@43c; small to medium, per lb., 39@40c; White Leghorns, lb., 38@39c; old roosters, 20@22c; springers, large 40@42c; do. White Leghorns, 38@40c; ducks, young, Pekin, 3 lbs. and over, 40@42c; puddle, 38@40c; muscovy, 38@40c; smaller, thin, 30@32c; old, 25@28c; pigeons, young, pair, 35@40c; old, 30@35c; guinea fowls, young, 1½ lbs. and over, each, 75@85c; smaller, 50c; turkeys, young, 7 pounds and over, per pound, 46@48c; do., old, per lb., 40@42c; capons, 50@52c; small, 40@42c.

Potatoes.—Western Maryland and Pennsylvania, No. 1, per 100 lbs., $5@5.25; do., Eastern Shore Maryland and Virginia, No. 1, per 100 lbs., $4.50@4.75; do., New York, No. 1, per 150 lb. sack, $7.50@7.75; do., native or nearby, No. 1, per 100 lbs., $4.25@4.75; do., all sections, No. 2, per 100 lbs., $1.25@1.50; do., do., No. 3, per 100 lbs., 75c@$1; do., do., do., New York, per 100 lbs., $5@5.15; do., sweets, North Carolina, No. 1, bbl., $5@6; do., do., Eastern Shore and Virginia, per bbl., $5@6; do., do., Rappahannock Potomac, per bbl., $5@6.50; do., yams, all sections, No. 1, per bbl., $4@4.50; do., sweets and yams, cull's and No. 2, $1.50@2; do., do., native or nearby, No. 1, per bbl., $5@5.25; do., do., do., native per basket, 90c@$1.00; Eastern Shore, Maryland and Delaware, per hamper, $2.50@2.75.

NEW YORK PRODUCE

New York City, March 8, 1920

Butter.—[illegible] creamery [illegible] creamery [illegible]

gathered, extra firsts, 48@48½c; firsts, 46½@47c; state, Pennsylvania and nearby western hennery whites, firsts to extras, 51@53c; state, Pennsylvania and nearby hennery, browns, extras, 52@53c; do., gathered browns and mixed colors, firsts to extra, 45@50c.

Cheese.—Steady; receipts, 1,426; state, whole-milk flats, held, specials, 29½@31c; do., average run, 28@29c; state, whole-milk twins, held, specials, 29@29½c; do., average run, 27½@28½c.

Live Poultry.—Steady; chickens, 26c; fowls, 40@41c; old roosters, 18@19c; turkeys, 40@45c; dressed steady; chickens, western, broilers, frozen, 40@51c; chickens, fresh, 31@39c; frozen, 30@40c; fowls, fresh, 30@40c; frozen, 29@40c; old roosters, fresh, 27½@28c; frozen, 28c; spring turkeys, fresh, 46@52c; frozen, 51@55c.

Vegetables.—Potatoes, Maine, $5@6; per cwt.; State, $9@9.50; Long Island, $9.50@10 per 165 pounds. Beets, $3.50@4.50 per barrel. Carrots, $4@5; onions, $5@6.50 per 100-pound bag.

Fruit.—Apples.—Ben Davis, $4.50@8; Winesaps, $4@9.50; Yorks, $3.50@6.50; Greenings, $4@11.

PHILADELPHIA LIVE STOCK

Philadelphia, Pa., March 8, 1920

Receipts of live stock for week ending March 6, were as follows:

	Beef Cattle	Sheep and Lambs	Hogs
Total for Week	2,163	3,406	9,929
Previous Week	1,911	4,921	8,364

Calves.—Receipts of calves last week were 1,594 head against 1,292 head week previous.

Beef Cattle.—Demand was firm and the market for steers and cows was steadily maintained. Desirable grades of veal were in fair request and steady, but offerings were largely of more or less unattractive stock, which was dull and irregular in value. Quotations: Steers, fair to good, $12@13.75; common to fair, $10.75@12.25; cows, lb., good to choice, corn fed, 8@9½c; do., fair to good, 6@8c; common to fair, 4@6c; calves, extra to choice, $21.50@22; do., fair to good, $16@19; do., common, $13@15; do., heavy and rough, $8@11; do., Tennessee, choice, $16@18; other southern, $9@14.

Sheep and Lambs.—The market for both sheep and lambs of fine quality ruled firm and higher, with demand readily absorbing the offerings. Supplies were mostly of medium and under grades, which met with fair sale, but showed no change in prices. Quotations: Sheared sheep, wethers extra, $14@14.50; do., good to choice, $11@12; do., medium, $8.50@9.50; do., common, $5@6.50; heavy, fat, $11@12; lambs, spring, choice, $20.50@21; do.; medium grades, $18.50@20; do., culls and common, $13.50@15.50.

Hogs.—Demand was fair. Quotations: Best western, $18 per 100 pounds; hogs, nearby, good, $16@16.25.

City Dressed Stock.—Steers, heifers and cows were dull and lower, due to free offerings and increased pressure to sell. Lambs of fine quality were firm and higher. Other descriptions were in moderate supply and demand, with little change in prices. We quote: Steers, 16@23c; heifers, 15@22c; cows, 12@17c; calves, city dressed, choice, 28@30c; do., country, 24@26c; sheep, choice, 14@24c; lambs, choice, 33@35c; hogs, 23½c.

PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., March 8, 1920

Baled Hay and Straw.—Receipts, 204 tons of hay. Scarce and market firm. We quote: Timothy hay: No. 2, $43@44; No. 3, $41@42; sample, $34@37; No grade, $30@32. Clover, mixed hay, light mixed, $43@44; No. 1 mixed, $42@42.50.

Straw.—No. 1 straight rye, $20@21; No. 2, do., $18@19; No. 1 tangled rye, $18@18.50; No. 2 do., $17@17.50; No. 1 wheat straw, $17@17.50; No. 2, do., $15@15.50; No. 1 oat straw, $17@17.50; No. 2, do., $15@15.50.

Bran.—Firmly held. We quote car-lots, to arrive including sacks. Soft winter bran Western in 100 lb. sacks, per ton, $51.50@52; spring bran, in 100 lb. sacks, per ton, $50.50@51.

Corn.—No. 2, Yellow, $1.60@1.70.

Oats.—No. 2 white, $1.02@1.02½; No. 3, white, $1.01@1.01½; No. 4, white, $1@1.00½.

NEW YORK HAY AND GRAIN

New York City, March 8, 1920

Feed.—The market for mill feed was firm and the demand was quite active. Buyers apparently have become somewhat alarmed over the reduced output at the mills and jobbers have been laying in larger supplies owing to fears of a possible shortage.

Quotations: City feed, bran $51; middlings, $55, in 100-pound sacks; red dog, $69, nominal, in 100 pound sacks; Western spring bran, $51.50@52; standard middlings, $56.50@57; flour middlings, $62; red dog $68, all in 100-pound sacks, 30 day shipment. Oat feed, $32; rye middlings, $53; white hominy feed, $66, all in 100 lb. sacks. Cottonseed oil meal, $76; linseed oil meal, $73.50; in 100-pound sacks.

Hay and Straw.—The market holds steady and prices are without change. There are occasional cars strictly up to grade which are exceeding quotations but, as a rule, outside figures are full and there is rather an easy feeling on low grade hay. Prices in Brooklyn are on a par with 33d Street sled, but in Harlem values are ranging $3@5 lower, necessitating a wide range in quotations. Rye and oat straw very scarce and peddling sales of the former are quoted up to $35.

Hay.—No. 1 large bales, $49@55 ton; No. 2, $48@53 ton; No. 3, $47@51; shipping, $46@49 ton. Fancy light clover mixed, $48@52 ton. Clover No. 1 mixed, $47@51. No. 2 mixed, $46@50.

Straw.—Per ton, No. 1 rye, $30; No. 1, oat, $27@30.

Wheat.—No. 2, red, $2.36½.

PITTSBURGH HAY AND GRAIN

Pittsburgh, Pa., March 8, 1920

Hay.—While the receipts of hay have shown a slight increase nevertheless the demand is very active with market commanding a slightly lower figure. Clover and clover [illegible] former [illegible] market [illegible]

No. 1 Timothy, $38@38.50; Standard Timothy, $37@37.50; No. 2 Timothy, $35@36; No. 3 Timothy, $32.50@33.50; No. 1 Light Clover Mixed, $37@37.50; No. 1 Clover Mixed, $38@39; No. 2 Clover Mixed, $34@36; No. 1 Clover, $39@39.50; No. 2 Clover, $34@36.

Straw.—Receipts of oat straw are very light, while the demand is good. Wheat straw arriving a little more freely but placed at quotations. Market quiet but steady.

No. 1 oat, $15@15.50; No. 2, $14.50@15; No. 1 Wheat, $14.50@15; No. 2, $14@14.50; No. 1 Rye, $15@15.50; No. 2, $14.50@15.

Ear Corn.—Demand very poor. Arrivals altho light are difficult to place at anything like satisfactorily figures. Market dull.

Yellow No. 2, $1.55@1.57; No. 3, $1.50@1.53; Mixed No. 2, $1.53@1.56.

Oats.—Demand limited. Receipts liberal. Market somewhat easier.

No. 2 white, 96¾@97c; No. 3 White, 95¾@96¼c; No. 4 White, 92@94c.

PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., March 8, 1920

Butter.—Receipts, 740 tubs. The market ruled firm under stronger outside advices, but as usual on Saturday there was not much wholesale trading. We quote:

Fresh, solid-packed creamery, fancy, high-scoring goods, 66@68c, the latter for jobbing sales; extra, 65c; extra firsts, 61@64c; firsts, 56@59c; seconds, 50@53c; sweet creamery, choice and fancy, 67@69c; do., fair to good, 51@66c; ladle packed, as to quality, 40@44c; packing stock, 35@39c; fancy brands of nearby prints jobbing at 73@75c; good to choice, 65@72c; fair, 62@64c.

Cheese.—Steadily held. Quotations follow: New York, whole-milk flats, held, fancy, 29½@30c; specials higher; fair to good, 28½@29c; current make nominal; Wisconsin, held, fancy, 29½@30c; specials, higher; fair to good, 28½@29c; jobbing sales of fancy held goods, 32@33c.

NEW YORK MILK MARKET

New York City, March 8, 1920

Supply is liberal for the first week in March, and while local demand is good, the condensed milk manufacturers are not taking any at the present time and surplus which is going into butter and cheese is very heavy. The March rate for 3 percent milk in 200-210 mile zone is $3.36 per 100 lbs.; 3.6 percent milk is $3.60 and 4 percent milk $376. The retail price for grade A in this city is 18c per quart bottle; grade B 16@17c; loose milk, 13@14c.

Receipts of milk and cream in 40-quart cans for the week ending March 6th, 1920, were as follows:

Railroad	Milk	Cream
Erie	49,736	3,437
Susquehanna	9,000	153
West Shore	13,116	1,114
Lackawanna	52,042	986
N. Y. Central (long haul)	154,534	1,803
Ontario	44,940	2,816
Lehigh Valley	52,871	1,223
New Haven	7,296	32
Pennsylvania	12,575	422
Other Sources	6,500	300
Totals	402,610	12,286
Same week last year	337,778	10,706

INTERSTATE MILK PRICES

The basic price for 3 percent milk within 10 miles of Philadelphia is $3.28 per 100 pounds, and one cent per hundred less for each 10-miles distant. Four cents per 100 pounds is paid for each one-tenth of one percent fat above 3 percent. These are prices for the basic quantity or less. Amounts exceeding the basic quantity are paid for at a less price.

CLOVERSEED

Toledo, O., March 8, 1920

Cloverseed.—Prime cash, $34; March $34; April, $33.60; October, $25.

Alsike.—Prime, cash, $34.85; March $34.85.

Timothy.—Prime, cash, 1917, $6.30; 1918, $6.30; 1919, $6.50; March, April and May, $6.50.

Note.—It is well to remember that these are wholesale prices per bushel paid by jobbers.

TOBACCO MARKET

Pennsylvania tobacco growers are at present interested in improved market methods. From the beginning they have followed the antiquated way of individual barter. It was in this way that an unsuspecting Indian chief sold Manhattan Island for the sum of $24 and it is no less true that tobacco growers have for years sacrificed much of their rightful possession. It has been noted that the tobacco of the locality has often sold for less than that of other localities growing the same type and that some of the other types have sold for three times as much. In general it costs as much to produce one type as another and while it should be admitted that other features figure in the price, the cost of production should be the mainstay. The success with which improved sale methods have met in other localities has been an inspiration to growers here.

For the past two seasons a few localities have combined and sold thru cooperative warehouses with a satisfactory degree of improvement over previous ways. Several cents a pound has been added to the tobacco thus held and sold. Now it is proposed to make this general and to go farther along the line of improved market methods and establish regular sales floors like those in other places.

The above and many other related features were duly considered at a recent meeting of a large number of growers. All arguments to the contrary, including prominently the suggested inability to attract buyers, were found to be untrue in other localities and the meeting upon the whole was one of great encouragement to growers who would have an established market and increased price for their tobacco. The plan will be continued at forthcoming meetings and it is thought that some definite provision will be made before the [illegible] for delivery.

PENN'A. SEED CORN POOR.

That the condition of seed corn in Pennsylvania is rather critical this spring is the belief of the Agronomy Department of the Pennsylvania State oCllege. The situation has been brought to light by tests made on corn exhibited at the Harrisburg Farm Products Show. One kernel from each ear in 317 exhibits was brought to the College and a germination test was made. These kernels represent some of the best corn grown in 39 counties of this state and should test higher than the average seed corn that will be planted by farmers this spring. One hundred and fifteen exhibits, or a little more than one-third, gave a germination test of 100 per cent. Sixty-two exhibits, representing about one fifth of the total, germinated between 91 and 96 per cent, while 94 exhibits, or 30 per cent of the total, germinated between 71 and 90 per cent. The remaining 46 exhibits were very low in germination four of them showing no signs of life whatever.

If the seed corn thruout the State is as much below that shown at Harrisburg as would naturally be expected, farmers will do well to test every ear before planting.

One explanation given for the low germination of seed corn this year is that the wet season last fall caused the corn to contain an abnormally large amount of moisture for the time of year. This was followed by weather so cold in December that some corn was frozen, killing or injuring the germ.

FARM SALES BREAK RECORD

March will conclude the heaviest public sale season that has been known in Frederick County for 30 years. Seven farm sales took place in one day recently and 91 are scheduled for March. Horses, cattle and all live stock, household furniture and farming implements are bringing record prices. Cows have sold from $75 to $150, horses from $125 to $225 and farming implements in some instances have brought more than the original price.

Recently a farmer painted and made minor repairs to a wagon body that he bought several years ago at a public sale for $11 and sold it for $60. Harness, grain drills and horse rakes have brought slightly more at some sales than the first selling price. Inability to secure labor and the disposition on the part of young men to find easier work in cities has caused many persons to quit farming.—Baltimore Sun.

PENNSYLVANIA FOOD LICENSE RECEIPTS

The annual report for 1919 of the Bureau of Foods of the Pennsylvania Department of Agriculture submitted to Secretary Fred Rasmussen of the Department of Agriculture by Director James Foust, shows that this Bureau collected more than half a million dollars in licenses. The activities of the Food Bureau have grown by leaps and bounds since 1907, when Director Foust's report shows that the receipts of the Bureau were $55,732.63.

The business has increased steadily in volume from year to year, with the result that last year was a record breaker along all the lines of its activity. The receipts from all sources during the year were $541,487.37, but in this connection it is interesting to note that only a very small portion of this large sum was collected in the form of fines. Oleomargarine licenses netted $515,967.37, cold storage licenses $3,600.00, egg opening establishment licenses $1,300.00, and renovated butter licenses $600.00, a total of $521,467.37, leaving the receipts from fines but $20,020.00.

COOPERATIVE ASSOCIATIONS GAINING

According to a report by the director of cooperative organizations in Saskatchewan the number of shareholders in cooperative agricultural concerns in Saskatchewan has increased from 12,459 to 15,132 during the past year. The capital invested has increased from $151,805 to $230,002. The number of associations marketing live stock has increased from 35 to 41. The value of live stock marketed has increased from $1,050,285 to $1,558,621. The value of farm produce marketed has increased considerably, the aggregate turnover of the associations having increased from $4,160,262 to $5,278,166.

INDIANA FARMERS TO "KEEP BOOKS"

More than 30,000 Indiana farmers will "keep books" this year of their business in record books put out by the agricultural extension department of Purdue University. Of this number more than 24,000 were distributed thru banks in all parts of the state and more than 5,000 thru county agricultural agents. One hundred and forty-six banks in 67 conntles have obtained the books for their farmer patrons, and in some counties practically every farmer will be supplied.

GOVERNMENT WOOL HOLDINGS DECREASED

The Government's holdings of wool have decreased materially since last year. The wool purchasing quartermaster reported that on December 28, 1918, the total stock of wool in the possession of the Government, spot and in transit, was 313,746,502 pounds, and estimated the quantity of wool in dealers' hands not yet billed to the Government as 70,000,000 pounds, making in all 383,746,502 pounds, compared with 98,352,000 pounds on December 31, 1919. This clearly shows, it is claimed, that the Government released its wool holdings as quickly as possible in such quantities as the market would readily absorb thru public auctions thruout the year.—U. S. Dept. of Agr.

CORN

Tho temporary downturns have occurred in the corn market, the coarse grain is offering little comfort to bears. The outstanding factor contributing to the strength is the disappointing movement and the prospects for little improvement as spring approaches. But the germinating season now is at hand and country elevafor operators are more willing to market their corn, because of fear of heating. Considerable loss already has occurred. The government's priority grain loading order, in effect ten days in February, was a failure so far as improving the movement is concerned. Elimination of the 200,000 bushel maximum on individual trading in corn futures has been bullish and probably will continue so for a brief period. Speculators, realizing the inability of carriers to move corn are taking advantage of the situation and buying the futures, tho they probably will sell out their "long" holdings after a good upturn. Cash corn is bringing around $1.50 for the better grades. Demand is not brisk, hardly sufficient to absorb the small movement. The fact that cattle and hogs are about $4 lower than a year ago, while corn is higher than in the corresponding period, strengthens the bear side of the coarse grain market. —Sosland.

SAVES MONEY ON FARM

I think there is no place like the farm. I have had a good many jobs with big pay but it seems as tho I do not save very much of it.

Last year at this time I went back on the farm and I found out that taking the year around the working hours are shorter. I am glad to say that I save more money on the farm than I did on the big paying jobs. It seems so that when I was working on different jobs that there was a lot of men who used to spend a lot of money and I wanted to do the same.

I am working for a good farmer. His whole family is good to me.—E. L. G., Burlington Co., N. J.

Boys and girls like to have pets. If they have them in the pig club and in the chicken club and the rabbit club they will learn to handle the pets the right way.

Mother.—Tommy, come right on into the house! This is the last time I'm going to tell you.

Tommy.—Thank goodness! I can play now without being bothered.—Judge.

HEXPO
INSECTICIDE & FUNGICIDE
POISON

Convenience and Economy in Spraying

Spraying to kill insect pests and to prevent and control fungus is absolutely necessary.

Hexpo makes this necessary task both convenient and economical. Putting Hexpo in water, a little stirring, and the spraying mixture is ready! Its concentrated form, and its scientifically correct and approved formula make it go far, and its results are certain and effective.

HEXPO
DRY POWDERED
INSECTICIDE & FUNGICIDE

Thousands of fruit growers, market gardeners and general farmers use **Hexpo** because it is simple and easy to use, and because it does two spraying jobs in one.

Its strong Arsenate of Lead content kills pests. Its Bordeaux Mixture prevents and controls blight.

It is a very finely divided, fluffy powder that can be blown on dry or used with water. The minute particles of Hexpo readily mix with water and stay in suspension without the necessity for constant stirring.

With Hexpo you pay no freight on water. You have no inconvenient muss and fuss with paste. Nothing to harden. Nothing to deteriorate. No spraying of water in one place and too much thick poison on another part of the field.

Hexpo comes in handy 1-lb., 5-lb. and 10-lb. red, white and black cartons, or in 25, 50, 100 and 200-lb. drums.

Ask your dealer for **Hexpo** or write us for instructive literature with spraying calendar.

H. J. Smith & Co., Utica, N. Y.

Manufacturers of:—
Hexpo (Dry Powder-Bordo-Arsenate)
Smith's Arsenate of Lead (Powder)
Smith's Arsenate of Calcium (Powder)
Smith's Paris Green

"No, this Outfit isn't perfect— but it's pretty darn near it"

Willis Cornell.

That's the kind of testimonial we like. It is part of a letter written us by Willis Cornell, of Baldwinsville, N. Y. Mr. Cornell bought one of our Power and Light Outfits about a year ago and writes some plain facts about it. Read his interesting letter below.

Western Electric Company

Dear Sirs:

"The only place where I know that perfection exists is in heaven and in patent medicine claims. I will say though that most of the many farm light plants admit they're the best. Maybe I'm foolish, but I didn't buy any of these '*best*' ones—I bought a Western Electric.

"I don't believe a sane man would point to any one automobile made in America and call it '*best.*' And doesn't that apply to power plants too? Price enters, so do looks, pride and the purpose you want the plant for.

"It seems to me that a farmer's main purpose in getting a plant ought to be power, plenty of power. Any man knows what excess power in a motor car means on hills—but that isn't half as important as ample power in a farm plant. You can go up a hill on second, but your farm work goes down hill unless you have enough power to run the machinery.

"So when you think of electricity don't think of light and stop there. Of course, the light is mighty handy, but it is

The extra powerful outfit that saves time and money

"With its extra capacity engine and ample generator the Western Electric Outfit is an economy because it will do all the big and little chores around the place.

"If you have a gas or kerosene engine on your place you know what a valve-in-head motor does to give more power, and how important it is to have an oiling system that works for sure. (That last is the difference between 20c a quart and burned out bearings at $2.00 a pound.)

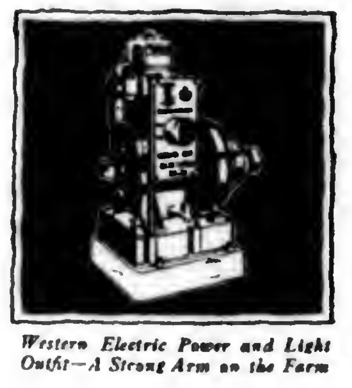
"With your Western Electric Power and Light Outfit you get an engine that runs smooth when you want it to run—and develops power a-plenty to operate all the machinery you've had to turn by hand.

But an outfit is only as strong as the batteries

"Nobody knows just how a battery works. We don't any more know what goes on inside a human being, but we do know what's good for us and what hurts. It's the same with cows or with batteries. If a battery takes current too fast it stalls on its food—a kind of electrical indigestion, I argue—and it's a pretty expensive dyspepsia when you have to buy a new battery.

"So I think the Western Electric method of *regulating* the charge is great. I should say I know it is, because my battery is standing up in fine shape.

"I wouldn't say anybody's plant is the best, but I will say that if any man thinks he can find on my farm a better piece of machinery than the Western Electric Power and Light Outfit, why I'll help him hunt. No this outfit isn't perfect — but it's pretty darn near it."



Western Electric Power and Light Outfit—A Strong Arm on the Farm

Are you interested in Power and Light that can handle your heaviest work? Just write a postcard to the Western Electric Company at Philadelphia or New York, and be sure to ask for Booklet Pa-2

Some good territory still available for live-wire representatives.

Western Electric Power & Light

Makes the Battery last longer

THE AGRICULTURE PRESS

There are a great many farm papers scattered throughout the length and breadth of the land. Some of them are farm papers in name only and if you would eliminate the stories there would be very little left. But there are a great number of good farm papers, that as far as farm production goes are good educators, but when it comes to economic questions some of the very best farm papers we have are as unreliable and misleading as the worst trust owned city paper, and their power for evil is much greater especially among the agricultural people because farmers as a rule put more confidence in the editorials of their farm paper than in the city daily.

When the farmers of North Dakota after being driven to desperation by the grain speculators and the farm-mortgage sharks passed constructive legislation few farm papers told us about it. Some of them never mentioned it, some called them Bolshevists, and one farm paper under the heading "Autocratic Socialism" went on to say that the State of North Dakota is now virtually an autocracy. When the laws passed by the farmer legislators were put to a referendum vote of the people every law was ratified at the polls by big majorities, that same farm paper was silent as a tomb. Many of the readers of that paper don't know that such a referendum was ever held.

That same paper is always on the alert for fear the poor meat packers would be imposed on and every time that the federal trade commission would report that the meat packers were violating the law and doing an outrageously crooked business this paper would call them liars and notoriety seekers, and try to make its readers believe that the Federal Trade Commission is composed of a bunch of unreliable men.

When Attorney General Palmer turns over 160,000 acres of California oil lands to the Southern Pacific worth $500,000,000, do we hear anything about it from this so called friend of the farmers? Not a word. How long are we going to keep on supporting such farm papers? Let us insist that any paper we support, give us the facts and then we will be able to judge for ourselves.—Anselu B. Kirsch, Cambria Co., Pa.

DRIED HEN MANURE FOR OATS

I have a ton or more of air dry hen manure which I want to mix with acid phosphate, often called acid rock, analizing 14 or 16 per cent. Should I use the 14 per cent or 16 per cent material? How many pounds should I add to 100 pounds of manure? I am planning to grind it and use it on my oats ground this spring. How much of the mixture should I drill to the acre. W. A. B., Lewes, Pa.

Either 14 or 16 per cent acid phosphate may be mixed with hen manure. The grade to use depends on the cost of unit of available phosphoric acid. This may be determined by dividing the price by 14 in the one case, and by 16 in the other. Usually the 16 per cent acid phosphate is a little cheaper.

Dried hen manure is quite high in phosphoric acid, generally containing more of this element than of nitrogen and potash. Ordinarily there is no particular advantage of mixing acid phosphate with it but it will be a good plan in your case to add 100 pounds of acid phosphate to every 100 pounds of manure because oats produce larger yields when well supplied with phosphoric acid. This mixture should be used at the rate of 300 pounds to the acre for oats.

It is a much better plan to use a small amount of acid phosphate on the dropping boards in the hen houses. When this is done so that approximately 10 pounds are used for every one-hundred pounds of fresh manure much of the liquid and the ammonia contained in the manure is saved whereas much of it is lost—goes off into the air—if no acid phosphate or other similar material is used in this manure.

This looks like a mighty good year for making maple syrup.

Once Grown Always Grown

GROW A "MONEY" GARDEN

The kind that *actually* means dollars

43 years' experience in originating, testing and growing vegetable and flower seeds is behind Maule's Four-Leaf Clover Guarantee. *All* Maule's seeds are *tested* for growing power which means *big crops* and *beautiful flowers.*

MAULE'S SEEDS

THE MAULE SEED BOOK comprises 176 pages of illustrated information on planting and gardening. Tells how and when to plant—everything you need to know. A lot of new, *unusual* features.

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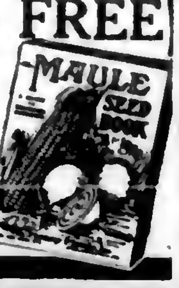

R. K. TIRES Practically Puncture-Proof

Retreaded with twice as much fabric as an ordinary tire—so tough they stand the wear and tear of the roughest country roads. These wonderful R. K. Tires are guaranteed—all we ask you to do is to give them a fair and square test.

The following are the little prices of our guaranteed tires:

Size	Non-Skid	Price	Size	Non-Skid	Price
30x3	....	$ 7.00	34x4	....	$11.50
30x3	1-2	8.50	34x4	1-2	13.50
32x3	1-2	9.00	35x4	1-2	14.00
33x4	....	11.50	36x4	1-2	14.50

2 percent off for cash with order.

10 percent deposit required with all C. O. D. orders.

R. K. Tire Company

837 No. Broad St., Dept. A, Phila., Pa.

Send for descriptive booklet and price list.

Good Territory Open for Live Agents.

These Seven Cows

Kept for 1 Year on the Product of 1 Acre

On one acre of land in the state of Michigan, Ross' Eureka Ensilage Corn produced, in one year, 70 tons and 800 lbs. of the best quality of sweet ensilage. At 50 lbs. per day, this would feed seven cows for one year with enough left over for 261 feeds.

Ross' Eureka Corn grows the tallest, has the most leaves, is very short jointed and will produce more tons of good sweet ensilage per acre, than any other variety. We have been selling Eureka corn for nearly 45 years and we know before shipping that it will grow under favorable conditions. This corn usually germinates 90% or better.

Ross' Eureka Corn

Complete line of Farm Seeds: Oats, Rye, Barley, Wheat, Buckwheat, Cow Peas, Vetch, Soy Beans, Essex Rape, all varieties of Field and Ensilage Corn; Grass Seeds, including all kinds of Alfalfa and Sudan Grass. Also full line of Agricultural Implements, Poultry Supplies, Fertilizer, etc. Our 120-page catalog mailed free on request.

ROSS BROTHERS COMPANY, 41 Front Street, Worcester, Mass.

Reading Bone Fertilizer

Quality Service Satisfaction

Always look for our trade mark (as shown below) on the bag. It means protection to you. Hundreds of farmers in the East have come to recognize it as the mark of honest, square fertilizer goods and methods.

(This trade mark means quality)

Reading Bone Fertilizer Co., Reading, Pa.

Ask your dealer for Reading Bone Fertilizer.

Write for booklet and further information.

FREE FENCE AND GATE BOOK

I want to mail you, POSTPAID, my New, Big, 96-page BARGAIN BOOK. Over 150 styles to choose from. Don't buy a rod of fence until you get my new ROCK BOTTOM PRICES. I'll save you 20% to 40% and sell you better fence. I PROVE IT BEFORE YOU BUY.

BROWN'S BARGAIN FENCE BOOK

Get This Bargain Book NOW

Factory Prices—Freight Prepaid

BROWN FENCE has earned a reputation for LONGER LIFE because it is a STIFFER, STRONGER FENCE. Made of heavy, acid test, Galvanized, Basic Open-Hearth Wire—that's why. Send for Bargain Book and sample, both FREE, postpaid. Do it now. (10)

THE BROWN F[illegible] COMPANY, Dept. 5121, Cleveland, Ohio

Seed Oats Choice Swedish Select and Big Four Seed Oats testing 40 to 43 pounds. Price $1.50 per bu., bags extra at 20c each.
THE HORN BROS CO., MONROEVILLE, OHIO

SAY you saw the advertisement in Pennsylvania Farmer when you are writing to our advertisers.

True Value DAIRY FEED

Keeps the Cans Full All Winter

"A heavy flow of winter milk means good profit. The feed that gets large yields of this high priced winter milk, must be of highest quality—every pound.

"I keep the milk yield right up to the mark all through the winter. If cows once begin to shrink in milk production it is impossible to bring them back to normal.

"To keep them milking steadily in cold weather I must have

True Value DAIRY FEED

"This is the most valuable winter milk ration that I ever have used. It is all good honest feed. Cows like it, and it is a sure milk maker." So says the practical milker, for he realizes that if he had all materials on the granary floor he could not mix and proportion such a ration himself.

TRUE VALUE DAIRY FEED is correctly blended and thoroughly mixed from clean pure grain products; cotton seed meal, linseed meal, corn gluten feed, ground oats, wheat bran and cocoanut meal.

The TRUE VALUE MILLERS have the equipment that enables them to furnish this economical TRUE VALUE DAIRY FEED that keeps your milk cans full till grass grows again. And it pays to feed some of it even when cows are on pasture.

Ask your feed dealer. If he hasn't this feed yet, write for full information about how to get your supply now.

LADISH MILLING COMPANY
Dept. D
MILWAUKEE, WISCONSIN
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True Value PRODUCTS
DAIRY FEED
STOCK FEED
HORSE FEED
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AND
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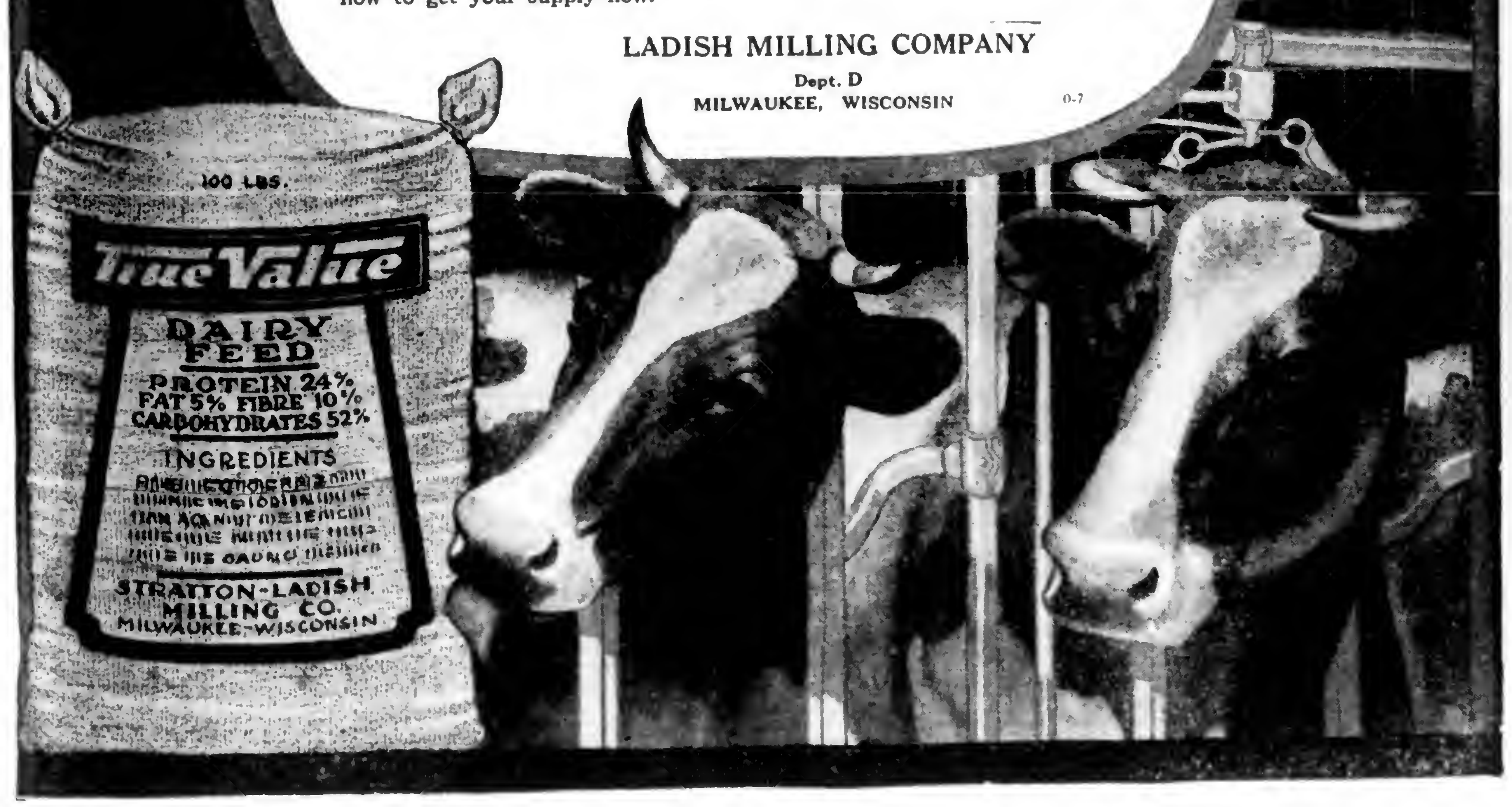
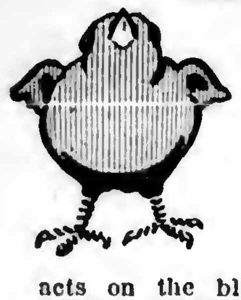


Stop Losing Little Chicks



Gapes and diarrhoea destroy millions of dollars' worth of poultry profits. Protect your chicks against it. As soon as they are hatched, start feeding **RUST'S CLIMAX CONDITION POWDER.** It helps to keep the chicks free from disease—develops their plumage and vigor. It acts on the blood, liver, kidneys and urinary organs—improves the appetite—helps digestion.

RUST'S CLIMAX CONDITION POWDER

develops the Spring hatched chickens so that they will be profitable laying pullets by Fall. Its use means good fertile eggs for hatching. It means good fat broilers early in the season.

Ask your dealer for **RUST'S CLIMAX CONDITION POWDER.** It contains no antimony, arsenic or injurious ingredients. If your dealer cannot supply you, order direct. We will ship by express at the following prices: 13-oz pkg., **30c.**; 2-lb. pkg., **60c.**; 5-lb. pkg., **$1.20**; 20-lb. pkg., **$3.75.**

T. W. WOOD & SONS
RICHMOND, VA.
Successors to Wm. Rust & Son.

Hens Need Conditioning in the Spring

Spring comes with warm days and green fields. Laying time is here. A tax is being put upon the egg producing organs. Hens need a tonic to put them in good condition—to make them healthy and happy, so that they scratch and cackle and lay.

Right now is the time to start feeding them **RUST'S CLIMAX CONDITION POWDER.** Use it at least three or four times a week and have healthy, happy, industrious hens.

BABY CHICKS

Three millions for 1920, delivered anywhere by Parcel Post. Catalog free.

Barred Rocks	White Wyandottes
White Rocks	Rhode Island Reds
Buff Rocks	Black Minorcas
Brown Leghorns	Anconas
White Leghorns	Buff Orpingtons
Buff Leghorns	Assorted

SMITH HATCHERIES, Dept B, 1629 Chestnut St., Phila., Pa.

Kendel's Superior Strains Famous for Standard Bred, Utility Qualities. All leading breeds including Leghorns, Plymouth Rocks, Reds, Wyandottes, Minorcas, Anconas, Brahmas, Langshans, Orpingtons, Ducks, and etc. Prices reasonable. Circular free. A. C. Kendel, 224 Prospect, Cleveland, O. Baby CHIX Hatching EGGS

WHEN IT PAYS

All through the blustry winter months, our WHITE WYANDOTTES lay eggs, and lots of them. We offer a limited number of carefully selected eggs from this flock at $15 per 100, $8 per 50, $2.50 per sitting of 15. Also chicks at 40c each. We advise the purchase of this stock for those who want the best from our high production, trapnested birds. Terms—cash with order. Eggs and chicks forwarded parcel post prepaid. We know you will be pleased with our stock. Book your order early. J. V. BITNER, GORDONVILLE, Lancaster Co., Pa.

GULDIN'S WHITE LEGHORNS HAVE MADE GOOD

If you want STRONG VIGOROUS CHICKS of a HIGH FLOCK AVERAGE LAYING STRAIN, write to

PAUL R. GULDIN, Yellow House, Pa.

Chicks

Better Produced Day-Old Chicks are the kind you want—17 leading breeds at reas. prices. Send for free catalog today. Springfield Hatcheries & Poultry Farm, Box H, Springfield, Ohio.

BIG STURDY BABY CHICKS AND HATCHING EGGS from high egg producing strains of quality. Martin's Dorcas White Wyandottes, Ringlet Barred Rocks, Shepard Anconas, Eglantine White Leghorns, S. C. R. I. Reds. Hatches every week after February 15th. Catalog free. SUNNY SIDE POULTRY FARM, COOPER HILL, N. J.

Baby Chix: Sturdy, thorobred chicks that live, grow and pay, from the four great American breeds—White and Barred Rocks, White Wyandottes, R. I. Reds and White Orpingtons. Safe delivery guaranteed. $25 per 100. Cash with order, postpaid delivery, any week after February 15th. LEONARD STRICKLER, SHERIDAN, PA.

200,000 Chicks Reds, Rocks, Leghorns, Minorcas and Broilers at low prices. Shipped by Parcels Post, charges prepaid. Safe delivery guaranteed. Our 11th year. Fine catalog free. THE KEYSTONE HATCHERY, Dept. 5, RICHFIELD, PA.

Baby Chicks— Single Comb Rhode Island Reds. Improve your flock by buying chicks produced from hens bred for the past ten years for high egg production. First hatch March 10th. Write for prices. A. FELL, R. F. D. 1, BETHESDA, MD.

Tiffany's Superior Chicks That live. Silver, White, and Columbian Wyandottes, Buff, Barred, and White Rocks, R. I. Reds, White and Brown Leghorns, Pekin, Rouen, and Indian Runner Ducklings (heavy type). Aldham Poultry Farm, R. 30, Phoenixville, Pa.

50 Breeds Fancy Poultry. Our big instructive Book mailed. Stamps appreciated. Address "HATCHWELL," Cochranville, Pa.

CHICKS

WHITE LEGHORN RHODE ISLAND RED BLACK MINORCA

Increased incubator capacity enables us to fill your order for Pratt's "Superior" chicks. Three varieties bred for highest combination of practical qualities and standard requirements. A farm—not a hatchery. Booklet.

PRATT'S POULTRY EXPERIMENT FARM
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LOOK: BABY CHICKS AND DUCKS 10 breeds of chicks, 4 breeds of ducks. Utility and Exhibition grades. Postage paid and live delivery guaranteed. Capacity 100,000 weekly. Catalog free. Stamps appreciated.

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60 BEST PAYING VARIETIES Hardy Northern raised Chickens, Ducks, Geese, Turkeys, Pure-bred heavy laying strains. Fowls, Eggs & Incubators all at low prices. 24 years experience. Large new Poultry Book & Guide FREE. W. A. Weber, Box 2 Mankato, Minn.

BABY CHICKS White and Barred Rocks, White Wyandottes, Reds, Anconas, White and Brown Leghorns and Broiler Chicks. Send for Free Catalog and prices before ordering elsewhere. Trial convinces. NEW WASHINGTON HATCHERY, NEW WASHINGTON, OHIO. DEPT. N.

AMERICAN POULTRY ALMANAC Our 1920 catalog FREE. How we breed the 300-egg hen. Scientific facts plainly told. Each month's routine. Feeding for winter eggs. *How We Win Medals at the Egg Laying Contests.* HOPEWELL FARMS, Box 65, Hopewell, N. J.

Baby Chix: Pedigreed Heavy-Laying Barron 300 egg strain S. C. White Leghorn Baby Chicks. Heavy, deep-bodied, red-combed birds. Bred to lay and do lay. $20 hundred, parcel post delivered. 10 percent will book your order now for May and June. Sold out for April. LEONARD STRICKLER, SHERIDAN, PA.

Day Old Chicks and Hatching Eggs White Leghorns, Barred Plym. Rocks, Rhode Island Reds. Safe delivery guaranteed. Place orders now to insure prompt delivery. PARADISE POULTRY FARM, BOX C, PARADISE, PA.

Hatching Eggs A Specialty, from Kreider's improved fine white Leghorns that are the persistent laying and big paying kind. Healthy, vigorous, free farm range stock. 15 eggs $1.50, 100 eggs $8.00. Orders accepted. ELMER KREIDER, GORDONVILLE, PA.

Baby Chicks Barred Rocks, White Rocks, White Leghorns and Reds. Circular Free. Mechanic Grove Poultry Farm, Mechanic Grove, Pa.

HILLPOT FOR QUALITY CHICKS

Sturdy, lively chicks that will quickly grow into profit-producing poultry—Hillpot Quality Chicks.

	100	50	25		100	50	25
White Leghorns	$25.00	$12.50	$6.25	Buff Rocks	$30.00	$15.00	$8.25
Black Leghorns	25.00	12.50	6.75	R. I. Reds	35.00	18.00	9.50
Barred Rocks	30.00	15.00	8.25	Wh. Wyandottes	35.00	18.00	9.50

W. F. HILLPOT, Box 25, FRENCHTOWN, N. J.

Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Vaginal Polypus.—We have a mare 12 years old that had colt in June, 1919. Some 4 months before bled from vagina or womb, but at no time did much blood come. When her colt was 4 months old she commenced to drip a little blood again, but was over it in a week. Now for the past two weeks she has bled a little and I might add she is not now in foal, as she was not bred this year. Her general health is good and her appetite is fine. What had I better do for her? H. R. Dushore, Pa. Doubtless she suffers from small vaginal polypus, which can perhaps be easily removed; however if left alone she might get well without treatment.

Wart on Steer.—Last fall we bought a steer that had wart on heel about the size of a hen egg, now it is ten inches in circumference. On account of being low it scuffs on ground and is inclined to bleed. What can be done for him? A. B. Vernon, Pa. This kind of a wart should be cut off, or burned off with knife-shaped, red hot iron, then paint sore with a mixture which is made by dissolving half an ounce permanganate of potash in four ounces of clean water once a day. Dusting on one part powdered alum, 2 parts oxide of zinc and 3 parts boric acid, twice a day is good treatment for wound.

Scours.—My young cow has been troubled with scours nearly all winter and she is growing very thin. I fed her oat straw and hay, but no grain. E. L. K. Forest City, Pa. Give her a teaspoonful dried powdered sulphate of iron, a teaspoonful of powdered catechu and a tablespoonful ground or powdered gentian at dose in feed 3 times a day. Have her tested with tuberculin. She may have tuberculosis.

Indigestion.—Would like to have you prescribe a remedy for several lambs that are not doing well. Last fall they were troubled with worms but were treated for them and recovered but have remained thin. They are fed equal parts corn, oats and bran, with all the good clover they will eat. A. A. R. Rea, Pa. Give each sheep twenty drops of Fowler's solution of arsenic at a dose 2 or 3 times a day also give each one ½ teaspoonful salt daily and be sure that they have access to good water. If you have roots feed them some once a day.

Crib Biting Wind-Sucking.—I have a horse coming 7 years old that started last fall to suck wind. He is a horse that weighs 1500 lbs, but is not inclined to crib much. Please tell me how to prevent him sucking wind. T. H. B. Reynoldsville, Pa. Have him wear neck strap, with perhaps few tacks or nails in it, when he expands neck muscles and dilate throat the tacks will prick him, then he will let up. A vice of this kind is not easily corrected.

Lice on Cattle.—My cattle are troubled with lice and I would like to know of a reliable remedy. .. D. Queenstown, Md. If you will apply one part coal tar and twenty parts water it will kill the lice, or smear on one part kerosene and two parts lard to the parts most affected. Your cow stable should be washed with fresh made lime wash.

Bruised Cheek.—One of my cows bumped a calf four months old, bruising his cheek and making a bunch which fails to go away. This calf has no symptoms of sickness. F. L. Richfield, Pa. Apply one part iodin and ten parts lard to bunch three times a week.

Barrenness.—Have two Holstein cows that came fresh ten months ago, neither one has been in heat since. C. O. Angelica, N. Y. If they are unprofitable for dairy purposes, market them for feef. Shy breeders are seldom profitable cows to keep, but yours are seemingly barren.

Parsons
Pure Bred Sheep

IT PAYS TO BUY PURE BRED SHEEP OF PARSONS "The Sheepman of the East." I sell and ship everywhere and pay express charges. I will start one man in each twp. Write for club offer and descriptive price list. Oxfords, Shropshires, Rambouillets, Karakuls and Polled-Delaines. PARSONS, Grand Ledge, Michigan R

Makefield Farms Quality Durocs

Will furnish you with foundation stock, registered and of most approved blood lines. Address, Makefield Farms, 803 Broad Street Bank Bldg., Trenton, N. J. Farms nearby at Yardley, Pa.

For sale, the big type Flemish Giants, also high class New Zealand Reds; and R. R. Belgian Hares; Guinea Pigs, Ferrets; Pigeons; White Mice and Rats; Thoroughbred dogs, puppies a specialty; Blooded hogs. Write for prices, 10c for booklet. MOHAWK RABBITRY, Dep't. O, Indianapolis, Ind.

PENNS VALLEY STOCK FARM Percherons Berkshires Holsteins Ready for service, High Class Boars. 15 sows and gilts bred for March and April farrow. W. F. BISHEL, CENTRE HALL, PA.

REG. P. CHINAS, BERKSHIRES, C. WHITES, large strains, all ages, mated, not akin; 8-wk. pigs, br. sows, service boars. Beagles and Collies. Write for circ. P. F. HAMILTON, COCHRANVILLE, PA.

FOR SALE: COLLIE DOGS, 1 to 3 years old, broken on stock. Beagle Pups wanted, two to three months old. I. R. TANGER, YORK SPRINGS, PA.

For Sale: Registered C. W. gilts and serviceable boars and pigs. Also Jersey Bulls, all ages. J. A. BOAK, NEW CASTLE, PA. R. 4.

Chester Whites and HAMPSHIRE SHEEP. Write your wants. We can please you. TWIN BROOK FARM, Newville, Pa.

LARGE ENGLISH YORKSHIRES, purebred. The bacon hog. Good feeders, gentle and prolific. J. Homer Reams, Luthersburg, Pa.

100 Shetland and larger Ponies. Colts $50 to $75; broken ponies $75 to $150. List for stamp. F. B. STEWART, ESPYVILLE, PA.

BARRED ROCK COCKERELS; Muscovy Ducks; Eggs for hatching, 12 varieties; Duroc Jersey Hogs, all ages. Free list. Kahler & Son, Hughesville, Pa.

Chester White Hogs, All Ages Shorthorn Bulls. R. L. MUNCE, Canonsburg, Pa.

Reg. Berkshire Bred Sows. Shipment June first. L. C. Tomkins, Ellenton, Lyc. Co., Pa.

Buy Big Berkshires of quality. Special offer on spring pigs. M. J. KELLY, Honesdale, Pa., R. I.

REG. BIG TYPE POLAND CHINAS. Special price on Oct. pigs this month; also spring pigs. Giant Buster and Blue Valley Blood. Prices reasonable. C. E. SECHLER, Markleton, Pa., Somerset Co.

Poultry

EGGS FOR HATCHING NONE SUCH WHITE LEGHORNS. For 18 years, NONE SUCH WHITE LEGHORNS have been trapnested and bred to lay more eggs. FERRIS WHITE strain, mated to Grandsons of Prince Eglatine, a son of the world's famous Lady Eglatine. Hatching eggs, fertility guaranteed.
300 egg strain $3.00 for 15. $25.00 per hundred.
260 egg strain $2.50 for 15. $15.00 per hundred.
THE H. M. SPAHR BREEDING ESTATE, Dept. C, Woodsboro, Maryland.

Selby Service Satisfies Ship us your produce, poultry and eggs. Penna. Potatoes a specialty. Returns day goods are sold. Ask for our market letter. SELBY PRODUCE CO., PHILADELPHIA

Hampton's Black Leghorn Chicks. Get my free circular before you order chicks. Tells why the Black Leghorn is the greatest layer and most profitable breed on earth. Write today. A. E. Hampton, Box P, Pittstown, N. J.

Eggs $1 Setting Barred, White and Buff Rocks; White and Brown Leghorns; Reds, White Wyandottes, Buff Minorcas; Black Langshans; Buff Orpingtons. Philip Condon, Box 119, West Chester, O.

HATCHING EGGS from free farm range Poultry. Rocks, Reds, Wyandottes, Leghorns, Minorcas, Brahmas, Hamburgs, Anconas, Ducks, etc., also Hares, Cavies and Holstein cattle. Cat. free. H. A. Souder, Sellersville, Pa.

CHICKS Deduct $2 per 100 chicks from list price in placing your order or when sending in balance. Barred P. Rocks, Leghorns & mixed chicks. Booklet free. THE CYCLONE HATCHERY, Millerstown, Pa.

MAMMOTH White Pekin Duck Eggs. Splendid stock. High fertility. $12 per hundred, cash with order. Beech Dale Duck Farm, BIRD-IN-HAND, LANC. CO., PA.

Bronze, Narragansett, Bourbon Red, Black and White Holland breeding turkeys from the finest flocks in America. Write for special prices to close them out. F. A. CLARK, Xenia, Ohio, R. 5.

Barred Ply. Rocks. Chicago winners. Great winter layers. 100 choice Cockerels. Eggs for Hatching. Prices reasonable. Satisfaction guaranteed. 28th year. G. EARL HOOVER, R. 5, MATTHEWS, IND.

Hatching Eggs of Pure-Bred Poultry Prices reasonable. Catalog free. H. H. FREED, TELFORD, PA. BOX C

SHIREY'S S. C. White Leghorn Baby Chicks 11c and up according to season. They make the greatest egg producers on earth. C. P. Shirey, Stewartstown, Pa.

White Rock Chicks from good stock, $25 per 100 postpaid. Also Fawn and White Indian Runner ducklings 30 cents each. MRS. I. F. GRIFFITH, R 2, MORNTON, PA.

Hummer's Famous Baby Chicks. Big Healthy fellows. They live and grow. Six varieties. Circular free. E. R. HUMMER & CO., FRENCHTOWN, N. J.

Ringlet— BARRED ROCK COCKERELS—PULLET bred, $4 to $8. C. T. DOWNING, WEST CHESTER, PA.

For Sale BABY Chicks, Barred Rocks, R. I. Reds, Buff Orpingtons, and White Leghorns. Buckeye Hatchery, Millerstown, Perry Co., Pa.

Nice Lot Barred Plymouth Rock Cockerels, also 900 settings from special mated pens. Write for prices. EUGENE A. GROVE, Lime Kiln, Frederick Co., Md.

COMPLETE DISPERSAL SALE
50 Head High-Class Pure-Bred Holsteins

King Korndyke Sadie Vale 8th heads the herd. He is a 34-lb. bull, one of the best sons of King Korndyke Sadie Vale and out of a daughter of Sir Veeman Hengerveld (Stella Veeman Hengerveld.)
27 Cows of milking age, all heavy producers milking from 50 to 81 lbs. per day.
12 Cows with A. R. O. records, most of them above 21-lbs. of butter in 7 days.
SPECIAL FEATURES: A 24-lb. cow with her heifer calf.
A 28-lb. cow and 2 of her daughters.
A 21.50 lh. Show Cow and 3 of her daughters.
A 2-year-old daughter of a 30-lb. cow. This heifer has 2 30-lb. sisters.
17 Head of heifers from 2-year-old to calves, most of them by my herd sire.
6 Bulls and bull calves.
A yearling son of Spring Farm King. His 8 nearest dams average 30-lb.
For breeding and individuality this herd is undoubtedly the best ever offered in this part of the State. Entire herd for sale.
SALE MARCH 17, 1920 At 12.30 P. M. sharp at my farm close to Lebanon, Pa. Easton and Lebanon trolley from Lebanon passes thru the farm. F. W. FERNSLER, Ferndale Farm, R. 1, Lebanon, Pa.

PERFECTION 1st JR.
ONE OF OUR MANY GREAT SOWS

The Famous O. I. C. Swine

We have the undefeated herd of the world. Winning premier breeder and exhibitor at every fair shown in 1919, 1918, 1917 including the following state fairs—Ohio, Michigan, Indiana, Illinois, Missouri, Kentucky, Tennessee, Oklahoma, New York, Alabama, Tri-State Fair at Memphis, and the National O. I. C. twice. Stock of all ages for sale, registered free in the O. I. C. Association. Order now. We will ship any of our stock on approval and allow you to keep three days before you have to pay for it. You will be your judge on your own farm.

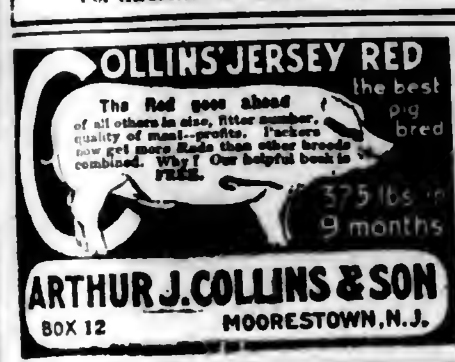
Crandell's Prize Hogs, Cass City, Mich.

HAMPSHIRES AT PUBLIC SALE

MARCH 18, 1920
Spruce Villa Farm, Lititz, Pa.
60 Head Bred Sows and Gilts

Sixty head of choice sows and gilts have been selected from the best herds in the East for consignment to this sale. They come from fashionable strains of the breed and most of them are bred to good boars carrying champion blood.

—THE—
LANCASTER COUNTY HAMPSHIRE SWINE BREEDERS' CO-OPERATIVE ASSOCIATION
For information and catalog address: S. R. ZUG, Secretary, Lampeter, Pa.



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HAMPSHIRES All ages, free circular. Reg. Guernsey Bull Calves from tested herd. LOCUST LAWN FARM, BIRD-IN-HAND, BOX 2, LANC. CO., PA.

Registered Durocs Best blood lines. Sold out at present. Will book orders for spring pigs. Northumberland County Duroc-Jersey Breeders' Association, J. M. FRY, Corresponding Secretary, Sunbury, Pa.

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REG. DUROCS Large size, heavy bone, best blood lines, prices reasonable, satisfaction guaranteed. JOHN W. COX & SON, New Wilmington, Pa.

BERKSHIRES—Longfellow and Masterhood breeding stock. Superior length, depth and extra thick hams. All ages. Booking orders for spring shipment. Mariandale Farms, A. L. Hostetter, Manheim, Pa. R. 1.

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Reg. Big Type SPOTTED POLAND-CHINA pigs, bred from a son of O. K.'s Pride No. 20. R. C. KYMER, R. 4, Shippensburg, Penn'a.

REG. O. I. C. and C. W. PIGS and Service Boars. Satisfaction and safe delivery guaranteed. JOHN L. VAN HORN, TROY, PA.

Reg. O. I. C. Pigs January farrow. Big stock. Quality guaranteed. I. D. LAUSHEY, SMOKETOWN, PA.

Large Berkshire Swine Registered High Grade. Prices reasonable. Write HOME FARM, CENTER VALLEY, PA.

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Fine Reg. Duroc Pigs of Ohio Chief and Cherry King. Also fine young boars. Prices reasonable. JAMES F. ROBINSON, Rt. 1, Amelia, Ohio

For Sale Registered O. I. C. Boars, six months old. Good breeding. J. W. SNYDER, WHITEFORD, MD.

REGISTERED DUROC-JERSEY PIGS $10 each while they last, all from imported Southern stock, none better. Bargains in bred gilts, service boars, brood sows and spring pigs. C. W. Ellis, Jr., Maple Lawn Farm, Cortland, N. Y.

Large Type Reg. Berkshires of all ages for sale Select a breeder from a thirteen pig litter. Pay when you see stock. No cash in advance. DAVID WIANT, HUNTINGTON MILLS, PA.

VIEWMONT FARM, MAINVILLE, PA. offers choice O. I. C. Oct. pigs, 100 to 120 lbs., from Schoolmaster boar and Callaway Edd sows, (Crandell's Champion boars). Good enough to ship anywhere C. O. D.

POLAND CHINA Will sell 2 Purebred Sows at farmers' prices, good breeders. Healthy. POQUESSING FARM, CORNWELLS, PA.

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O. I. C.'s of the very best breeding, strictly big, short-nosed type. Every one guaranteed to please and registered free. C. E. CASSEL, HERSHEY, PA.

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Quality Growthiness Prolificacy
We guarantee satisfaction.
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Prolific Berkshires with size and type. Priced to sell. JOHN C. BREAM, GETTYSBURG, PA., R. D. No. 4

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REG. O. I. C.'S ALL AGES. Booking orders for September, October and November Pigs. BLACK DIAMOND MINORCA FARM, MT. BETHEL, PA.

Durocs.—Boars ready for service. Spring gilts, bred for March, April and May litters. Fall pigs, either sex. All immuned. I. D. Jackson, Van Wert, Ohio.

CHESHIRES.—The high-quality home-market and home-table breed. Our type pleases. Pigs and service boars. Morningside Farm, Sylvania, Pa.

Closing Out Sale OF MY Pure Bred Guernsey Herd

It will pay you well and you will get stock that will be a credit to your herd. Sale will be held **TUESDAY, MARCH 23, 1920** at my farm at Hollo (near Nazareth), Northampton County. Excellent trolley service from either Bethlehem or Easton. Only a few minutes walk from trolley. A postal will bring you a catalog. P. S. TRUMBOWER, Nazareth, Pa.

DISPERSAL SALE MARCH 23, 1920
—OF—
40 Head Registered Holstein Friesian Cattle

consisting of fifteen cows; four two-year olds; ten yearlings; balance calves, male and female, from dams with official records up to 23 lbs. butter and 561 lbs. milk in 7 days, and yearly records from 9,000 to 14,000 lbs. milk; one two-year-old having 9,000 lbs. her first year (she will be fresh by day of sale); and my herd sire, Allamuchy K. A. Posch, No. 168489; whose dam was Minnie De Kol Posch No. 116555, 461.7 lbs. milk, 22.57 lbs. butter in 7 days, his sire Korndyke Abbekerk No. 34503, with 30 A. R. O. daughters and 8 A. R. O. sons and a ¾ brother to King of the Pontiacs; his grandsire was Pontiac Korndyke No. 25982, 147 A. R. O. D., 110 A. R. O. sons, one of the best bulls of the breed.

My entire herd will be sold and I know that any one interested in Holsteins will do well by coming to this sale. Trolley service direct to the farm. Catalogs sent anywhere on request.

J. A. RAUDABAUGH, R. No. 9, Carlisle, Pa.

GUERNSEYS $546

was the average price paid for all Guernseys sold at public auction in 1919. This figure indicates the buyers' high estimation of the value of the breed. Let us tell why Guernseys lead in popular favor.

The American Guernsey Cattle Club
Box M 44 Peterboro, N. H.

QUALITY ECONOMY QUANTITY

Public Sale of 25 Head Registered Holsteins
Monday, March 29, 1920

We will sell our entire herd of Registered Holsteins. An opportunity of a lifetime to buy members of the DeKol, Ragapple, Korndyke, Pontiac and other famous Holstein families.

S. G. WALKER, Prop.,
Penn Spring Farm, Spring Mills, Pa.
R. R. Station, Rising Springs, Pa.

Announcing the Webster Styer and Twin Brook Herd Dispersal Sale
At Ivins C. Walker's Sales Bazaar, East Main Street, Norristown, Pa.
March 15, 1920, at 10 A. M.

75 Head Registered Holstein-Friesian Cattle including the Herd Sires, KING KORNDYKE HEBA VEEMAN, No. 116541, and TWIN BROOK KING MASTER, No. 158864, two show boys.
20 Granddaughters of KING KORNDYKE SADIE VALE.
12 Granddaughters of KING of the SADIE VALES.
2 Granddaughters of KING HENGERVELD AAGIE FAYNE.
4 Daughters of SIR KORNDYKE PONTIAC ARTIS, 3d, including TWIN BROOK LASS, Senior 2-year-old Champion Butter Cow of Pennsylvania for two years. A. R. O. 7 days 546.3 lbs. milk, 24.75 lbs. butter.

W. B. DEVANEY, Malvern, Pa.
WEBSTER STYER, Spring City, Pa.

M&P HEALTHY HOLSTEINS
FEDERAL TUBERCULIN TESTED HERD

Young bull about ready for light service. Healthy, well grown, practically all white in color and an excellent individual. Sire's ten nearest dams average 29 lbs. butter in seven days. Dam has a seven-day record of 543.7 lbs. of milk, 24.43 lbs. of butter and is a most persistent producer.

Price $250.00

Markham & Puffer, Avon, N. Y.

REAL BARGAIN

Pure Bred Ayrshire Bull Calves. We offer four handsome bull calves, large, heavy-boned and of show caliber. Big A. R. Records on both sides or now in the making. We can refer you to our satisfied customers. It will pay to get our prices.

CRESTMONT FARM, SUNBURY, PA.

Registered and High Grade Holsteins: 30 reg. heifers, bred to freshen in fall, 10 reg. heifer calves 3 mths. old, 18 reg. bulls, 2 to 15 mths. old, 60 reg. cows, fresh & springers, 60 high grade Holstein springers, federal tuberculin tested. 25 high grade heifers part of them bred. ⅞ Holstein heifer calves $20 to $25 each. The Spot to buy Holsteins worth the money. J. C. Reagan, Tully, N. Y.

MAPLE LAWN HOLSTEINS

BEST in High grades and Registered Holsteins. Elegant high grade calves $25 each. With ten calves will give choice registered bull free. Will accept Liberty Bonds and W. S. S. at par. Guarantee safe arrival and gladly ship C. O. D. Write your wants. C. W. ELLIS, JR., Cortland, N. Y.

Four HIGH-GRADE Guernseys

all due between now and Spring; one just finished yearly stable record of 10,960 lbs. milk and 487.02 lbs. fat. Two are granddaughters of Langwater Stars and Stripes. Selling grades to make room for registered ones. All straight and right. Price $575 for the four or will price separately. Amos Rothenberger, Worcester, Pa.

STEVENS' HOLSTEIN FARM
OF CORTLAND, N. Y.

King Korndyke Sadie Vale Jr., No. 20391, two nearest dams averaging 36 pounds of butter in 7 days, heads my herd. Butter records from 17 pounds two-year-olds to 34 pounds at full age. Also high grade Holstein calves, either sex, $15.00 each. Write your wants. PAUL H. STEVENS, Prop.

King Cornucopia Dekol Paul No. 204356 First prize 2-year-old bull N. Y. State Fair 1919. Dam gave 743 lbs. milk in 7 days, as a 3-year-old world record when made. Two nearest dams average 30.01 lbs. butter, 721.75 lbs. milk in 7 days. Bull and heifer calves for sale at all times. Postal brings full information. Write me before buying a bull calf for your herd. E. U. DORAN, PREBLE, N. Y.

HOLSTEIN FRIESIAN Heifer and Bull Calves, High Grade and Purebred Reg., beautifully marked, splendid individuals. Reg. Durocs, pigs, bred gilts, and service boars. BROWNCROFT FARMS, McGraw, N. Y.

Highland Stock Farm Belgian Horses, Jersey Cattle, Large Berkshires, and Indian Runner Ducks. Stock for sale at reas. prices. Anselm H. Kirsch, Nicktown, Pa.

MILKING SHORTHORN BULL CALVES of the best breeding. Also a few females for sale. C. M. KENNEDY & SONS, ULSTER, PA.

Reg. Holstein Heifer Calves, from officially tested dams and a 30 lb. sire. Write for prices, pictures and peds. Walter M. Cruttenden, Wilkes-Barre, Pa.

For Sale Registered May Rose Guernsey Bull Calf, price $150. Sired by Brookmeads Royal Master of Riverview, who is brother to the Great Bull, Langwater Stars and Stripes 2nd and grandson of the famous Imp King of the May, who has 26 A. R. daughters who exceed an average of 600 lbs. fat and is also sire of Dolly Dimples May King of Langwater. RIVERVIEW FARMS, SWARTHMORE, Del. Co., Pa. (Suburb of Phila.)

COUNT PONTIAC IT (281956) from a 33 lb. sire and from a 20 lb. 5-yr. old cow. Eighth months old, nearly all white, good individual and thrifty. Price $125. THE OAKS DAIRY FARM, Wyalusing, Pa.

Jerseys For Sale. Herd bulls, Champion Torono's Nepos and Sophie 19th Tormentor 39th. Hood breeding. GEO. P. BEVAN, Towanda, Pa. R. 3.

Registered Holstein and Guernsey bulls from calves to serviceable age. 250 animals in the herd. BONNYMEADS FARMS, R. D. I, Harrisburg, Pa.

Registered Holstein Friesian Cattle Sons of the great Finderne Sir Valdessa, a 37 lb. bull, for sale. MILLARD E. BASEHOAR, Littlestown, Pa.

Ayrshire Bull Calves From high record A. R. Dams. ROBERT TEMPLETON & SON, ULSTER, PA.

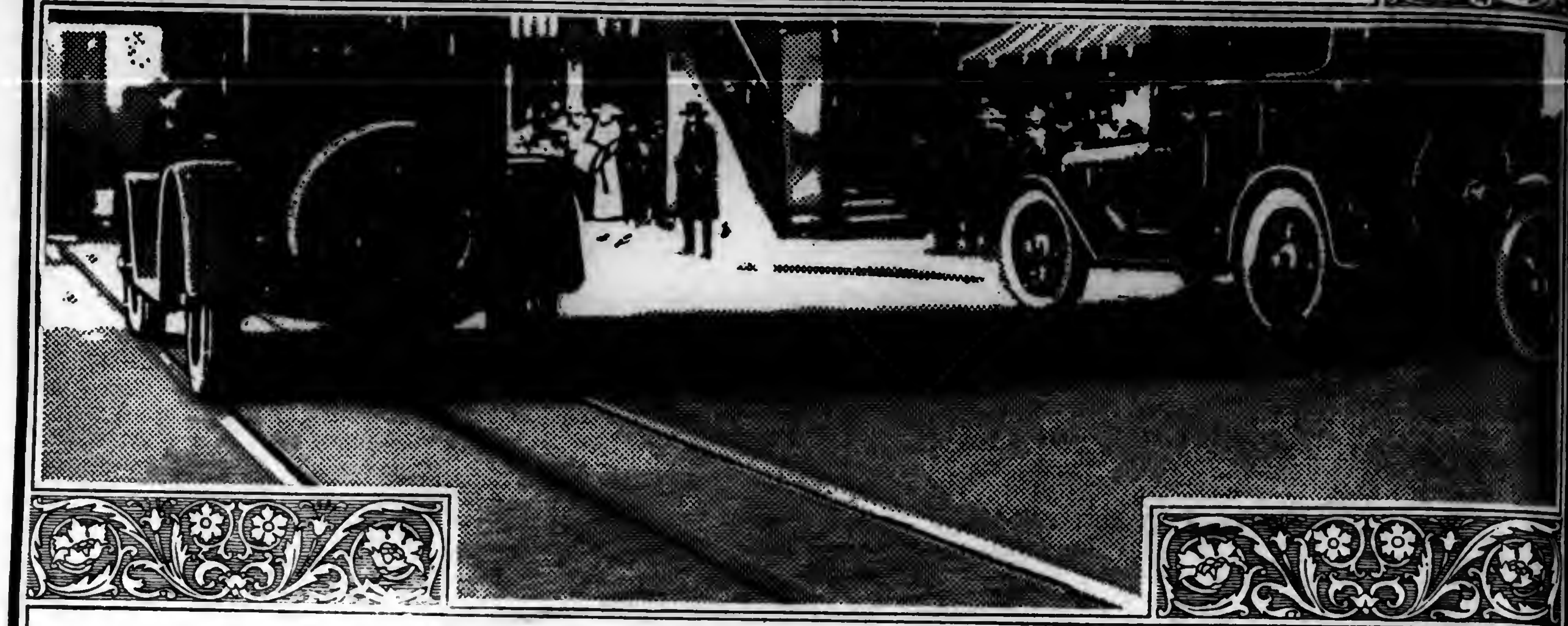
Cattle For Sale. 2 loads feeders and 2 loads yearling steers. Also any number 1, 2 and 3 yr.-olds from 600 to 1000 lbs. Isaac Shanstrom, Fairfield, Iowa, R-8.

BRADFORD COUNTY, PA. "A LAND OF GOOD LIVESTOCK"

10,000 Cow Testing Association records are available to show the quality of Bradford County Livestock. Special prices now on young registered Jersey, Holstein, Guernsey, Ayrshire and Milking Shorthorn bulls.

D. K. SLOAN, Secretary, BRADFORD COUNTY LIVESTOCK BREEDERS' ASS'N.
Office with County Farm Bureau, Towanda, Pa.

Go to a Legitimate Dealer and Get a Legitimate Tire



Every time you drive your car along a track or a rut in a country road you are taking some life out of your tires.

Worn frogs and switches often cause small cuts, which are rapidly enlarged by the action of gravel and moisture. Ruts and track slots pinch the tire, wearing away the tread where their edges strike it.

It is well to avoid such places as much as possible.

THIS year the American people will spend more than $900,000,000 for automobile tires.

Tires are one of the largest items in the motorist's budget.

The cost is making even careless buyers think and inquire.

And the more they inquire, the smaller will grow the influence of hearsay and the irresponsible tire dealer.

• • •

We have all met the man who takes his opinions readymade.

He tells everything he knows. He knows more about every car than the man who made it, where to buy the cheapest truck—how to get the biggest bargain in tires.

He always arouses a certain amount of wonder in the unknowing. They never think to ask him where he gets his secrets.

• • •

"Somebody says" and "everybody does" are responsible for more wrong impressions about tires than anything else you can think of.

It is on the people who come under the influences of these phrases that the irresponsible dealer thrives.

You generally find him with the name of a standard tire displayed in his windows to give an impression of quality.

But when you get inside the first thing he begins to talk about is price and substitution.

What the thoughtful motorist is looking for today is *better* tires.

He goes to a legitimate dealer and gets a legitimate tire.

The *quality* idea—the idea of a quality tire, of a dealer who believes in quality—is commanding a greater respect from a larger portion of the motoring public all the time.

It is the idea on which the United States Rubber Company was founded—on which it has staked a greater investment than any other rubber organization in the world.

Build a *tire* that will *do more, a better tire than was built before,* and you are sure of a large and loyal following.

We have never been able to build enough U. S. Tires to go around.

United States Tires

United States Rubber Company

Fifty-three Factories — The oldest and largest Rubber Organization in the World — Two hundred and thirty-five Branches

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PENNSYLVANIA FARMER

AGRICULTURE
THE KEYSTONE OF
NATIONAL PROSPERITY

ESTABLISHED 1880

PUBLISHED WEEKLY

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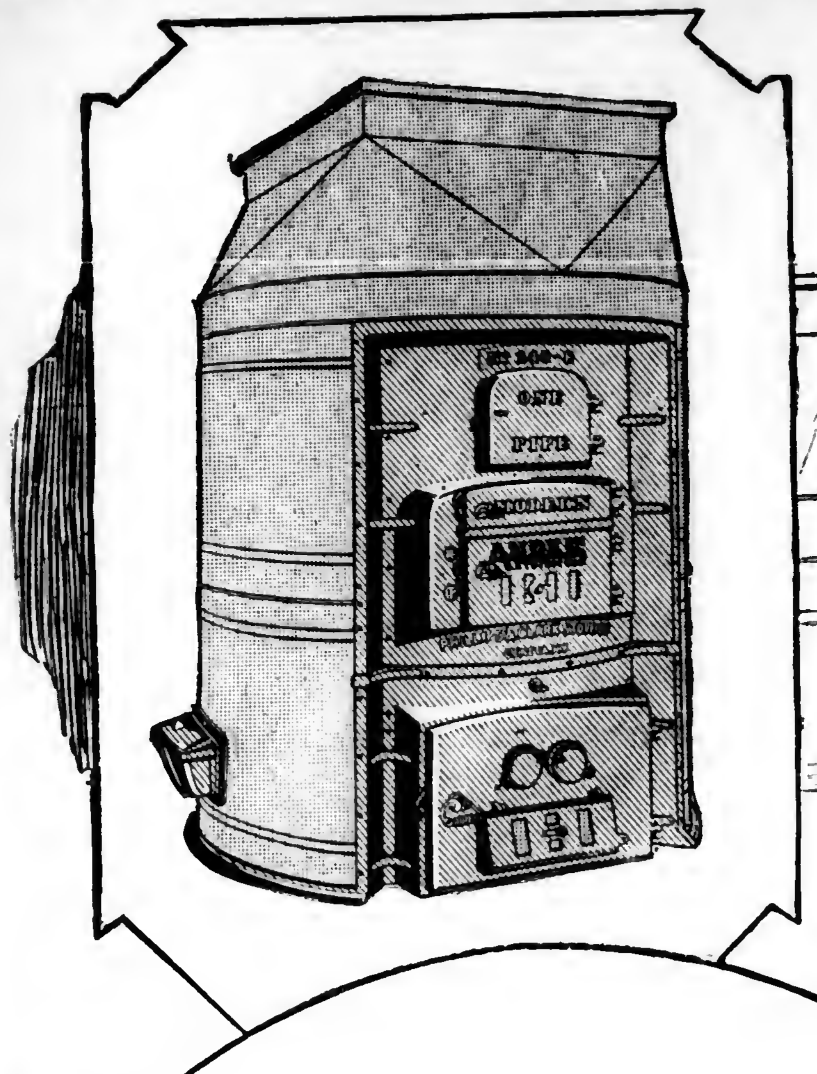

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AGRICULTURE THE KEYSTONE OF NATIONAL PROSPERITY
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Potato Prices and Prospects for 1920

A Review and a Look Into the Future

By DANIEL DEAN

TIOGA COUNTY, N. Y.

"Dear seed makes cheap potatoes" is an old saying among observant potato growers. Human nature is so short sighted that high prices for potatoes in winter and spring cause many to plant heavily the next season. They fail to see that the high prices are the result of the crop shortage the previous year. The sum of the many individual increases in planting makes up an increase for the nation as a whole that with even an average yield makes an oversupply of potatoes which must of course sell at low prices. Professor Warren and his Department of Farm Management at Cornell have studied the records of potato crops and prices for the last fifty years and find that this old growers' rule generally holds true.

Potato Planting on Daniel Dean's Farm

The lesson of 1916 should be fresh in the mind of every farmer. The potato crop of that season started out with a lower acreage than 1915, the spring was late and wet, the summer hot and dry and lastly killing frosts in early September cut down the crop before it was mature. The yield was the smallest for many years, being only equal to 2 and 82 hundredths bushels a head of our population, and only 285,437,000 bushels in all. By January 1st only 33 percent of the crop was left in the main crop states, and by the following March the crop had been so nearly eaten up that prices rose to around $3 a bushel in many shipping sections.

Every city was filled with wild reports of enormous quantities of potatoes somewhere else. Newspapers and government office-holders anxious to get city support by injuring farmers spread these stories in spite of the government reports which showed that the potatoes had been consumed. Another outbreak of lies may be expected this spring.

In the spring the government appealed to every one to produce more food. Most of us did, but we may feel sure that the appeal would have been far less successful had potatoes been at 15 cents a bushel instead of $3.

The acreage planted that year took the largest jump on record, from 3,565,000 acres in 1916 to 4,390,000 acres in 1917, an increase of over 22 percent. The increase would have been even greater but for the shortage of potatoes for use as seed. With about an average yield that season a crop of 442,000,000 bushels was harvested. This record-breaking yield caused fall prices to start so low that there were but few producing sections in the whole United States where the value of the crop paid for the heavy expense of production in a time of war prices. The price kept going lower and lower all winter until in March the very government which had urged the growers to produce the crop started in a campaign to force potato prices still lower. The wildest rumors of enormous quantities of potatoes were published in city papers, and prices fell so low in April and May that growers suffered very heavy losses. Near the end of the shipping season prices went up for the very good reason that the reported enormous surplus had never existed.

1917 and 1920

The planting situation this spring very largely parallels that of 1917. Growers should study very carefully the reports of the national Bureau of Crop Estimates on the production of potatoes for a number of seasons, not only in terms of millions of bushels, but also in terms of the per capita production of potatoes. Some western growers figure that when the crop is over 3 and ½ bushels for every person in the United States prices will fall towards the end of the shipping season, and if under 3 and ½ bushels each the price will rise. Still more important at this time of the year is the report published in January showing the amount of potatoes left on hand January 1st, and the percentage of this remaining stock to the total crop. These last figures have till lately been given only for the principal main crop states, but reflect conditions in other states as well.

The stock on hand in the principal potato growing states on January 1 is not only the next to the smallest in percentage of total yield in those states in 10 years, 36.4 percent, but it is perilously near the 33.1 percent of the 1916 crop which was already running low by March 1st, 1917.

Western Shortage Affecting Prices There

The 1919 yield of 357,901,000 bushels 3.32 bushels to each person not only fell far short of the 412,860,000 bushels with 3.90 bushels to each person in 1918 and the 442,108,000 bushels with 4.27 bushels to each person of 1917, but the potato markets this season have been affected by the fact that the shortage was mostly west of Chicago. The big Eastern potato producing states, New York, Maine, Pennsylvania and Michigan did as well or better than in 1918 and nearly as well as in 1917. It was in the row of potato producing states from Wisconsin thru to Washington that the shortage of 1919 occurred.

This Western potato shortage has had a very striking effect on the season's prices, and will greatly affect next season's planting there. Since New Year's, potato prices have been high in the east, but in comparison with other years the rise in price has been far greater in the west than here. In normal seasons the price of potatoes east of the Rockies in each of the great producing sections is governed mainly by its distance and consequently the cost of freight to the great consuming centers of the east. New York, Philadelphia and Boston with the many smaller cities between them make up a mass of city population numbering close to 15,000,000 people. The great potato producing sections are Maine, northern New York and Pennsylvania, Michigan, Wisconsin, Minnesota and several states of smaller production further west. In most years the price of potatoes in fall, winter and spring in these sec-

(Continued on Page 8.)

These Two Lots of Potatoes Were Found in Market, But Did Not Come From the Same Farmer

Spraying Potatoes on Farm of Jean Casper, Cumberland Co., New Jersey.

Soil and Seed-bed for Potatoes

Some Important Factors Which Are Frequently Overlooked

One of the most common traits of those who today presume to assist the producing farmer by lecture, demonstration, journalism or otherwise is that of emphasizing the utopia, the finished product rather than the raw material, the cart rather than the horse, the results to be obtained rather than the underlying causes by which these results are obtained. In groping for things that appear uncertain, we commonly overlook or at least minimize the fundamental truths closest to us. Applying this to potato production, we find that the factors most emphasized as fundamental to success have been and still are disease control, seed selection to increase yield, the choosing of varieties and the preparation and handling of seed for planting. The importance of none of these factors can be overestimated as they are without any doubt most contributory to maximum yields. However, the factors of climate, elevation, soil and growing season all exercise a vastly greater influence on each of the above factors than is commonly appreciated. These factors are too little emphasized.

The potato crop, being the one and only commercially important field crop of the United States which developes underground, is one naturally much influenced by soil type. Soil temperature, texture, humus and moisture content all play a part in moulding the ultimate tuber. The ideal potato soil is that which is medium in texture, well drained, porous and fairly high in humus content. This may sound like the average dogmatic definition but there is a reason in each of the qualifications enumerated. Such a soil will maintain uniform moisture and temperature conditions thruout the growing season. Without such uniformity, we invariably harvest tubers which are not only knobby and otherwise ill-shaped but also of uneven texture and lower than average quality. Heavy, clay soils or especially light soils in years of drought periods followed by late rains produce dum-bell shaped and angular tubers. This is because the tuber growth is principally terminal and when growth is not uniform, but rather periodic, each new growth of the tuber is of a different proportion than the last.

Soil Types Used

In the general farming systems practiced in our leading eastern potato states it is hardly possible to choose between the soils available so long as a definite rotation is maintained. In general, however, the heavier soils are avoided for potatoes.

By E. V. HARDENBURG

Potato Specialist N. Y. State College of Agriculture

Any soil, regardless of texture, may be used for this crop provided it is well drained either thru a porous subsoil or artificially. One of the heaviest producing sections of New York is Steuben and Allegany Counties the soil types in which are relatively heavy. Most of the crop is here produced on the Lordstown and Volusia soil series which are inherently heavy and low in fertility. However, the good air drainage, the prevalence of slopes affording good surface drainage and the high elevations make it possible to obtain fair yields. The potato soils of Northern New York are rather lighter than the average and of a sandy to coarse silt loam texture. This coupled with the factor of cool growing season temperatures results in the highest natural yields in the state. The potato regions of Long Island are noted for their large yields of high quality tubers. Contrary to common opinion, the soils here are not sandy but light silt loam in texture and underlain with sand. It is this ideal soil texture and the long equable growing season temperatures that make success possible to the Long Island grower. The soils of the famous Aroostook County region of Maine are porous and high in humus because of their glacial drift origin. This factor is largely responsible for the quality of Maine potatoes while the cool temperature of this northerly latitude accounts in the main for the record yields. The writer is firmly convinced that of the two factors, soil and climate, soil is the greatest single factor influencing shape and quality while climate is the most influential determiner of yield.

Much false emphasis has been placed on the idea that this or that variety of potato is higher in quality than some other. Also, some of our more enthusiastic breeders have indulged in the theory that by continued selection of desirable shaped and quality tubers from existing varieties, a strain improved in both of these characters would eventually result. There is as yet little if any evidence to show that improvement can result in this way. In fact the work of the Department of Plant Breeding at Cornell University covering several years, indicates that selection to change the characters shape and number of eyes is not effective, within the ordinary tuber line. Furthermore, if some possible improvement were obtained in this way under favorable circumstances, a year of extremely wet periods or drought periods with potatoes on heavy soils might very easily and doubtless would alter these characters far beyond the point at which such improvement would be nullified.

Soil, Dates of Planting and Maturity

It is a fairly well known fact that potatoes may be planted earlier on light soils than on heavy soils. Light soils dry out and warm up quicker in the spring. Excess moisture is more readily disposed of. This is one reason why the Long Island crop is planted nearly six weeks before that of Pennsylvania and other parts of New York. The same principle operates in the case of earlier maturity on light soils. The soil moisture supply being more readily checked in light than in heavy soils, the plants tend to mature at a correspondingly earlier date. Right here then may be answered the question of best date of planting. There is no best calendar date. Nor is there any best phase of the moon for planting. Potatoes should be planted as early in the spring as the soil is warm enough and dry enough and the seed bed sufficiently well prepared.

Soil and Potato Diseases

Until a very few years ago, it might have been said that no potato disease common to this country is normally associated with any particular soil type or series. Today it is fairly well established that an occasional virgin soil may contain the organisms causing potato wilt and rhizoctoniose or black scurf. In such soils the crop cannot be grown with any reasonable safety from these diseases. Seed disinfection could scarcely be recommended as having any value in such cases. However, common scab may be almost entirely avoided by proper seed treatment, crop rotation and avoiding the use of lime or stable manure just before planting the crop. Applying manure the summer or fall before planting and plowing under at once will largely eliminate the tendency to produce scab.

Soil has a marked influence on the spread of and injury from the late blight organism. Soils retentive of moisture are especially conducive to the spread of late blight as evidenced by the much greater percent of rot on heavy soils in wet years over that prevailing on light soils.

Fall Versus Spring Plowing

For many years, such advantages as in-

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The Fertilizer Situation

Off hand, the farmer who has watched the fertilizer market and bought his supply at an increased price, each winter, would naturally infer that the supply of raw materials used for fertilizer manufacture had become scarce, but statistics, show that the demand has increased very greatly since 1910 even tho there has been some decrease since the high year of 1914. Five and seven-tenths million tons were used in 1910 as compared with 7.5 million tons in 1914 and 6.4 million tons in 1917. No figures are available for 1918 and 1919.

The war has wrought many changes in fertilizer practice. Prior to 1914 farmers had developed a fairly stable system based clearly on underlying principles and there was little change from year to year. Experience had taught what crops would pay a profit from the use of fertilizer and what elements should be used for the various crops under existing conditions. The use of artificial fertilizers had become a part of the routine, system, and planning of each farm.

When the war started, however, changes began to occur. The first of importance was the shortage of potash which soon developed after it became impossible to secure the salts of potash from Germany. Existing stocks rose to fabulous prices which made its purchase prohibitive to farmers. Some farmers' organizations had moderate sized stocks on hand and many manufacturers were fortunate in this respect but the result was that the amount of potash was decreased in all goods to as low as one-half percent and much material was sold containing no potash at all.

There was great alarm regarding this shortage and as a result the farmer turned to his manure pile, and straw stock, the government manufacturer, and individual to undeveloped home sources, and the unscrupulous to low grade waste materials. Beside this the lime manufacturer increased and stressed his claim that lime liberates soil potash for use of plants.

The shortage of potash was only one of the difficulties arising from the war. It would seem that we should have all the phosphate necessary at low prices but when the war broke out the demand for sulphur increased for use in the manufacture of munitions and when the United States entered the war munition manufacturing increased still further and sulphur and sulphuric acid became even more scarce.

Following this the demand for nitrates became very great and big factories were erected to manufacture nitrogen from the air. These plants hardly came into use when the armistice was signed and in the meantime materials commonly used for agricultural nitrogen were absorbed for the manufacture of munitions. Indeed, the situation became so serious that the government set aside a small amount of nitrate of soda for distribution among farmers at omparatively moderate prices.

All and all the situation was very serious be- use all farm supplies rose to high prices hardly mmensurate with the increased prices of farm roducts. In spite of this farmers worked more nd, more hours and produced more crops, even o their income was proportionately no greater. t the same time many lessons were learned. rior to the war it was a general practice to use n percent of potash on potatoes, tomatoes and many other market garden crops.

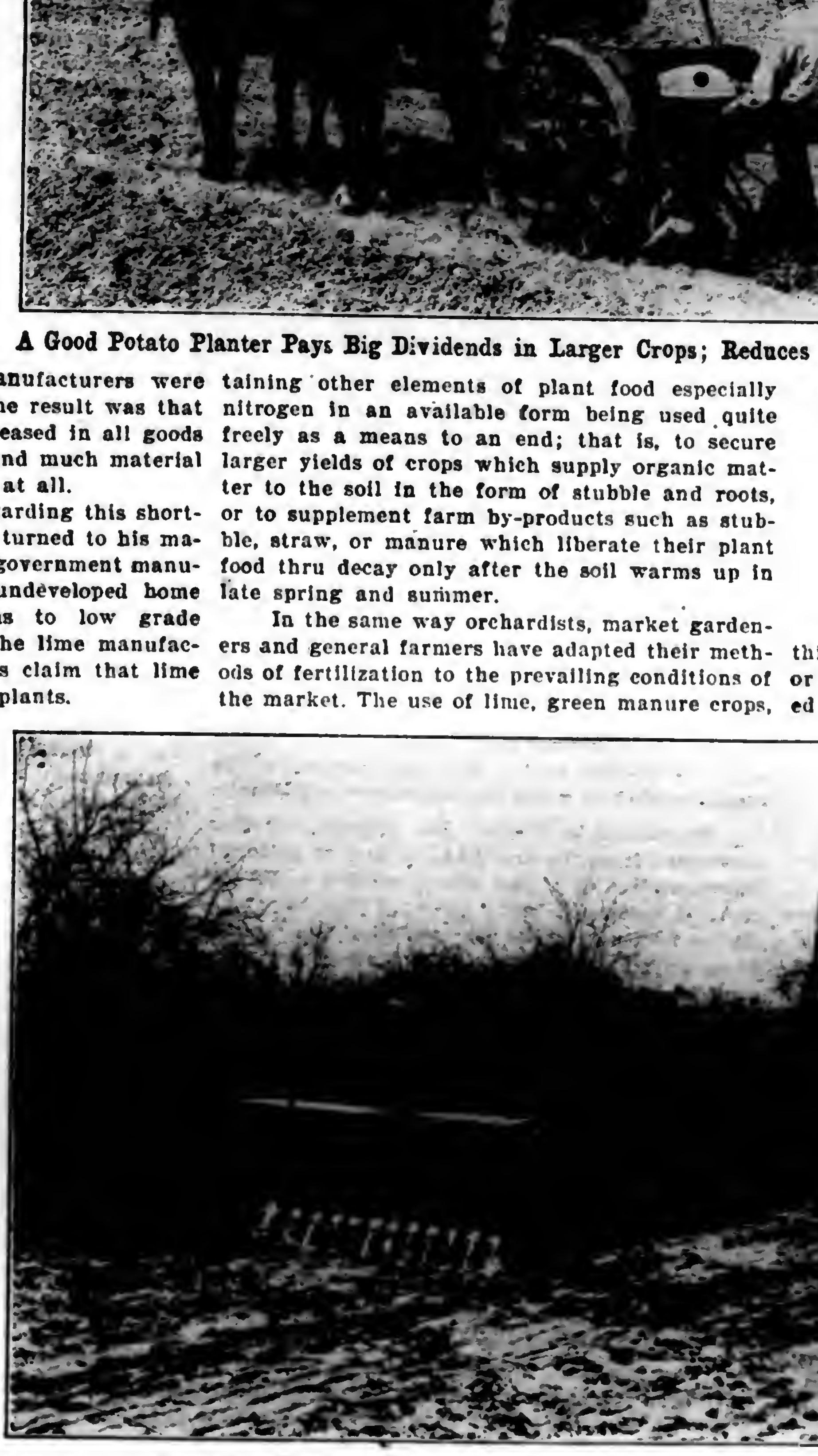
It developed the first year that most potatoes yielded nearly as well with little or no potash as they had done prior to the shortage of potash. Experiments conducted since then have shown that at least three percent of potash was necessary on many soils, and farmers today believe they have exhausted this excess of potash and they are anxiously awaiting a liberal supply at reasonable prices.

Dairy farmers have come to use more acid phosphate and lime. They have learned that they can maintain fertility almost entirely by growing a good clover crop with these materials and with the proper use of manure. Fertilizers containing other elements of plant food especially nitrogen in an available form being used quite freely as a means to an end; that is, to secure larger yields of crops which supply organic matter to the soil in the form of stubble and roots, or to supplement farm by-products such as stubble, straw, or manure which liberate their plant food thru decay only after the soil warms up in late spring and summer.

A Good Potato Planter Pays Big Dividends in Larger Crops; Reduces Planting Costs

In the same way orchardists, market gardeners and general farmers have adapted their methods of fertilization to the prevailing conditions of the market. The use of lime, green manure crops, and farm by-products have been used and conserved more efficiently and liberally than at any previous time. These materials are valuable for their indirect function, especially, of making the mineral elements of soils available and this fact has become clearly recognized.

Today, the outlook is better, prices have decreased slightly, raw materials are available in greater abundance, but still there is much to be done before pre-war conditions return, if they ever do.



Spreading Lime or Fertilizer Quickly, Easily and Evenly

As market conditions change it is necessary for the welfare of the farmer that he understand the underlying principles of the use of fertilizers, not only so he may purchase intelligently, but so he may produce crops efficiently with profit, and at the same time improve his land. It is to be expected that the supply of nitrogenous and phosphatic materials will in time return to their former basis, or at least, to their former comparative basis. The demand for these materials may be greater but the supply, tho in a raw state, is very large. Recent discoveries of phosphate fields in the Northwest and erection of plants for the manufacture of nitrogenous products from the air guarantee an adequate supply for years to come. Recent strikes in the phosphate fields have checked production and manufacture of acid phosphate, and the government disposition of its nitrate plants is still in the balance. Labor charges, both in manufacture and transportation, too, are high. These, however, are matters awaiting adjustment.

The development of domestic sources of potash appears to have attracted much attention. It is variously estimated that from twenty to thirty millions of dollars have been used in the development of potash projects and the construction of plants in this country. The following table shows the imports and production of potash (K20) from 1913 to 1918 inclusive. It is simply an index of the conditions existing during the past five years and not necessarily a guide of expectancy.

Year	Imports Tons	Domestic Production in Tons
1913	270,720	Nominal
1914	207,089	Nominal
1915	48,867	1,090
1916	7,885	9,720
1917	8,100	32,573
1918	7,957	54,562

The greatest part of the potash produced in this country in 1918 came from the natural brines or saline lakes of Nebraska. Plants already erected have an annual capacity of 50,000 tons of actual potash but the supply is not inexhaustable, the lakes are scattered, and the cost of extracting and marketing is great.

Searles Lake, California, is now marketing limited amounts of potash. This product is in the form of salts, containing 40 percent of actual potash but the material sold has been contaminated with soda ash, common salt borax and sodium sulphate. Because borax is injurious to plant growth, the U. S. Department of Agriculture has found it necessary to restrict the sale of potash salts to those containing five-tenths of one percent of borax or less, and has ordered that mixed goods containing more than two pounds of borax to the ton shall be so labelled on the container. This necessitates the installation of machinery and methods for removing borax and other salts at the Searles Lake plant which will retard production but should in the long run prove an asset because these substances have a commercial value for use in the arts.

There are many other domestic sources of potash including cement mill dust, blast furnace dust, by-products from molasses distilleries and beet-sugar refineries, alunite from Marysvale, Utah, leucite from Wyoming, the Georgia shales, kelp on the Pacific Coast and green sand in New Jersey. Of these the conditions of manufacture

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PHILADELPHIA, PA., MARCH 20, 1920
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Our job is to serve our readers. Whenever and wherever we can help you, write us.—The Editors.

Outlaw Bad Seed

WE ARE in need of a federal pure seed law. The abnormally high prices of grass seed offers a fertile field for the unscrupulous to sell seed of inferior quality at prices below those of first-class seed. The state authorities have no jurisdiction over the sale of seed outside of their own state, nor can they prevent the entrance of seed in original packages when ordered for individual use. The only way the traffic in poor and adulterated seed can be controlled is by a law prohibiting the transportation of inferior seed in interstate commerce, or at least requiring the plain marking of such seed with the percent of germination, weed seed, impurities, etc. The officers of the Board of Farm Organizations has taken this matter up with certain Senators and it is likely that a bill to this end will be introduced shortly. Farmers should write their congressmen on this subject and insist upon its passage.

Commissioner Pinchot

NO MORE fitting appointment to position has been made by Governor Sproul since his election than that of Gifford Pinchot for Commissioner of Forestry for Pennsylvania. It is fitting first, because he is the best equipped man for the position in the state; second, because he has a deep, heartfelt interest in the subject and recognizes its relation to the future welfare of the people. He has the necessary prophetic vision as to the needs of the future and recognizes the influence that forests have upon all economic and productive enterprises. Mr. Pinchot's work in the national forestry department during Roosevelt's administration was of inestimable value and it is to be regretted that the influence of certain selfish interests prevented the full accomplishment of his purpose. Few men have given of their time, service and means more than has Gifford Pinchot and this recognition of his ability and public benefactions is eminently fitting. Now let the people back him up.

Clean up the Fairs

IT IS not too soon for farmers to begin demanding of their fair managers that they eliminate the objectionable features heretofore permitted at many fairs. Immoral shows, fake exhibitions and straightout gambling are winked at if not actually licensed by too many fair managers. This moral laxness of agricultural fairs is proverbial and is of such long standing that the general public has become apathetic instead of disgusted. However, many of the very best people in some counties ignore the county fair entirely because of the low moral standard. Farmers cannot afford to bear the stigma of having an institution which passes as theirs known as permitting conditions which are outlawed every place else; and they need not if they make their demands known in time, and now is the time. Write personal letters to the Secretary if you have noticed things at your fair which should not be permitted, pass resolutions calling for a clean county fair, buttonhole the officials—any way so as to impress them with your opinions on this matter.

The District Attorney in Clearfield County, Pa., has given public notice that the practice of maintaining and operating gambling devices at carnivals, fairs and other places is a direct violation of law and he proposes to stop it. Here is a suggestion to people of other counties. Pressure brought to bear upon the District Attorney will help to stiffen his backbone. Will you back up a campaign to clean up the fairs? Let us hear from you.

The N. B. F. O.

A VALUABLE worker in the National Board of Farm Organizations calls our attention to statements made in our Washington Letter appearing March 6 which he fears will leave a wrong impression concerning that organization and the building of the proposed Temple of Agriculture. We are sure that our correspondent had no intention of questioning the value and the possibilities of that organization. The criticism made was that there is need of a larger and more authoritative representation of the many farmer organizations of the nation at the semi-annual meetings if it is to be most efficient and influencial.

As the name indicates, the purpose of the National Board of Farm Organizations is to act as the head of a federation of all the farmers' organziations in the country. The board is to be compbsed of representatives from the different local, county or state bodies, of whatever name. Unfortunately, other "national headquarters" were established by different organizations and instead of federating there are now three. viz: the National Board of Farm Organizations, the National Grange Headquarters, and the National Farmers' Council, each claiming to represent the farmers of the nation. These claims are justified when they agree, but when they present counter demands before congressional committees as they so often do they nullify the effect of each other. This situation cannot be endured. Opposing interests are already noting the fact, analyzing the claims made and value the testimony accordingly.

Pennsylvania Farmer has championed this movement from the first and has had an editorial representative at almost every meeting. We approve it because it seems the only plan by which all the farmers may be represented at the capitol, since no single, existing organization can ever hope to become national in extent. We believe that the accomplishment of such a federation is the FIRST thing to achieve, and all efforts of the present nucleus should be directed toward that end.

The building of a temple seems to us second in importance, or rather in achievement. The factor that will be really efficacious with the government and the public in impressing them with the importance of farmers' interests will be the reality of a concrete federation of farmer organizations—one with authority to speak for all farmers. The presence of a temple without this factor will avail but little.

The Board of Farm Organizations seems to have been fortunate in securing the fine building which it now occupies and which, for the time being, seems to serve all needs. This valuable property on Eye Street, N. W., was bought for $57,200, and the last report of the auditing committee shows that $37,783.77 has been raised by contributions and this, so far as possible, has been applied to liquidating the purchase price. It is the purpose of the committee to complete the payment as fast as contributions are received. In addition to this investment it will be necessary to have a considerable sum, the income of which would be used for operating expenses, so that there is need for every one who has an interest in this matter to contribute to this worthy purpose.

Our Washington Letter

Farm loan legislation has lately received considerable attention in Congress. The Federal Farm Loan act when it was passed by the House contained several amendments purporting to correct defects that had appeared in the Farm Loan law. When the bill came back from the conference committee, after having been passed by the Senate, Representative Otis Wingo of Arkansas discovered that a brand new provision had been added to it by the committee.

This revised amendment gave the Federal Farm Loan Board authority to levy a one percent assessment on all borrowers to pay the expenses of the local associations. Representative Platt of New York state said the Federal Farm Loan Board was very anxious to have this clause in the bill, and that the assessment is now being made in some instances. Representative Wingo replied that it was without authority in law and that it was probably done in some isolated cases where the secretary-treasurer is putting something over on the farmer. "One of the objects of the Farm Loan act," he said, "was to relieve the farmers of certain burdens, one of which was paying a local loan agent that had money for insurance, and loan companies, a commission of one percent. Why fasten on the system one of the evils to eradicate which the system was created.

The present law limits the loan to provide for the purchases of land, equipment, buildings and other farm improvements. The Senate amendments cut out these limitations. Had these amendments passed the loan could have been used for the purchase of automobiles, oil stocks, or anything else.

* * *

George W. Norris of Philadelphia, a member of the Farm Loan Board has resigned to become President of the Federal Reserve Bank, and it is suggested by the Washington representative of a farm organization that a farmer ought to be appointed in his place. But as Norris is a banker it is probable that the administration will appoint a banker to fill the vacancy. It is not at all likely that the president will change his long established policy of ignoring farmers in making his appointments.

* * *

The Longworth Dye Licensing bill may not be strictly along the line of farm legislation, but it has a bearing on problems in which the farmers are interested. It seems that the producers of dyestuffs in this country are not satisfied with a protective tariff, but had a bill prepared providing that no dyes shall be imported into this country except under license and a licensing commission is named in this bill. The potash people also had the same scheme, but it was defeated by action of the grange.

The House has turned down the bill in its present form, having substituted the tariff board for the commission, and the measure is now up in the Senate. Several Western Senators who are opposed to it, have decided that if it comes onto the floor again they will offer an amendment which will provide that no wool shall come into this country from foreign ports unless the importer gets a license. If we have to have a license to get the dyes, they reason, why not a license to get the material on which the dyes are used.

* * *

Upon invitation of Secretary of Agriculture Meredith, the executive committee of the newly organized American Federation of Farm Bureaus spent several days in Washington, getting acquainted with the United States Department of Agriculture, meeting the agricultural committees of the Senate and House, and conferring together in regard to the best methods to be employed in building up the organization for constructive work and making it of the greatest possible benefit to the farmers.

President James R. Howard in an interview told the writer that for the present the federation leaders are confining their efforts largely to organization work, developing a strong, solid foundation on which can be built a permanent, effective, working movement for the improvement of agricultural conditions and the betterment of the country. The federation now has upwards of a half million paying members and it has adopted the membership plan, insisting on a paid membership in all the states. Twenty-eight states have ratified the constitution.—E. E. Reynolds.

HARRISBURG LETTER

Will Visit Every County.—More first hand information will be assembled in regard to the agricultural conditions and possibilities of the counties of Pennsylvania this year than ever before if the plans now being worked out by Secretary of Agriculture Fred Rasmussen mature. Practically every expert in the Department will start out on the road this month to visit the sections for which their special information qualifies them to advise and reports on the manner in which the region, its stock, trees and crops passed thru the unusually severe winter will be reported upon. In some instances this will supplement the farmers' institutes, particularly those in which there was brisk questioning. The heads of bureaus will also spend considerable time in the field and it is the plan of Secretary Rasmussen to go into every county himself this year either addressing meetings or visiting districts where efforts to improve conditions have been made. It may be said in passing that while this is a big political year the plans of the department are being made without much regard to politics and if any of the men concerned intend to play a little they will have to hustle to keep up with the fast schedule outlined for them.

Pinchot As Forester.—Governor William C. Sproul's plans for the reorganization of the State Department of Forestry which everyone here has been waiting for the last six months matured rather suddenly a few days ago when he transferred Commissioner Robert S. Conklin to the State Water Supply Commission, of whose board he had been an ex officio member for a dozen years, and named Gifford Pinchot, the foremost authority on forestry in the country as chief of the department. As stated before in this column Mr. Pinchot had for months been trying to bring about a modernization of the department and to get its work into tune with the business system which prevails in the State government as well as to bring it to a point where the legislature would vote the money to extend the forests. Mr. Pinchot upon taking charge issued a statement that his aim would be to run the department on a business basis and that he wanted to demonstrate their value. Calling in every one connected with the department the new commissioner informed them that merit and not pull would rule in promotions and that he wanted the written ideas of everyone declaring that while he would not agree to follow any of them he desired suggestions and the viewpoint of the men in the field. The Commissioner gave the Capitol a treat by his whirlwind method and seemed to have the force right with him.

For Public Cooperation.—Governor Sproul, who issued a statement saying that he was in full acoerd with Mr. Pinchot's plans, will ask that fire wardens be named in all counties so that the forest fires may be reduced. Mr. Pinchot said that the fire loss in Pennsylvania is too high, the fire service has been starved and that there are districts where there are no fire wardens. Part of the forester force will be transferred to the fire fighting force, more towers and telephone systems installed to give alarms and better plans made for cooperation in fighting fires. The public will be asked to cooperate in the fire service.

Floods Cause Damage.—Floods in the Susquehanna and Juniata Valleys have caused much damage to meadows and low lying fields owing to the immense quantity of ice washed down. Roads and bridges have suffered and there have been large areas of land in the river vallys which have been flooded for the first time in twenty years. Few grain fields appear to have suffered.

Great Road Program. — State Highway engineers and inspectors here for instruction the last two weeks have gone home prepared for the greatest road construction program ever undertaken by any State. It is expected that 500 miles will be contracted for this year and that with the immense amount of work left over from last year that dirt will fly in every section as soon as the weather moderates. The weather conditions have delayed the start of operations all over the state.

Ask $5 a Day.—Several of the associations of township supervisors have decided to ask the Legislature for a law allowing $5 a day as the pay for road supervisors.—Hamilton, Harrisburg, March 15, 1920.

NEW YORK LETTER

Great Timber Loss.—The State College of Forestry is completing a survey of the timber resources of the state which shows a dangerous loss to the state of its wood. The prices on all sorts of lumber have gone to an alarming figure. Gifford Pinchot tells Northern New York civic organizations now working for forest conservation that within ten years the Pacific Coast will be furnishing the bulk of the nation's lumber with the consumer paying the freight.

American Federation Notes—This State sent 26 delegates to the Chicago meeting of the American Federation of Farm Bureaus, the second largest delegation of the 28 states there represented. The meeting demonstrated the perfect machinery of the federation and its ability to express the wishes and principles of the farmers of the whole country, also the fact that it is sufficiently financed to carry out its present program.

Farmers Lack 8,000 Hands.—Farmers of New York, New Jersey and Connecticut have already asked the American Land Service for 8,000 hands for the emergency period of the summer and the calls will continue up to the time of need. With the extension of factories farm hands are going to the cities faster all the time.

Rupture Over State Fair Needs.—The horticultural and cattle interests are at an open break in Albany, with two bills before the Legislature one calling for $500,000 for a new horticultural building and one for $600,000 for a new cattle judging arena. The Governor will veto both if he gets a chance, it is thought, together with most bills calling for money for up-state improvement. There was no painting done at the fair grounds last year. The commission and the state architect say $100,000 is needed for immediate use on the ground. In any case no new building will be begun until the close of this year's exposition.

Auto Plates and Tail Lights.—The State troopers are enforcing the use of 1920 automobile plates now, and with spring will get after all vehicles not using tail lights as required by law.

To Limit Sheep Damages.—Last year the Department of Agriculture paid $250 each for three purebred Karakul sheep owned by a member of the Bureau of Animal Industry, who now presents a claim for $16,000 damages to purebred Karakuls. The Commissioner of Agriculture assesses the latter claim at only one-tenth its original demand, thus rousing the people to the need of setting a limit to the damages that may be required for fancy fowl or livestock.

Bean Situation.—The bean market is not very good. Yet stocks are excellent and shippers are holding at $8 for mediums, hand picked; pea beans, $7.50; red kidneys, $14.50; yellow eyes, $9, all in 100 pound sacks. The bean movement to date from this state is 94 cars as compared to 59 of last year.

Cabbage and Other Markets.—Southern cabbage is coming in at the rate of 225 to 300 cars a week. State cabbage has dropped to as low as $40 a ton at some points, tho New York buyers quote $75 for best grades. Spanish importations of onions have made the state crop decline in price. Growers fear a heavy importation of Egyptian onions in April. New York state storages have more onions than any other state at present, mostly of medium grades. Best yellow globes, sacked rule at $5.50 per cwt Car shortage is affecting the apple market. Tremendous western forwardings of boxed apples are coming into the state. Transportation is so difficult that hay has sold locally in Central New York this week at $35 to $37.50 a ton.

Farm Tractors.—In 1912 this state used 1,200 farm tractors; in 1918 this number was increased to 6,000; in 1919 to over 10,000 Statistics show that where tractors are used food production is doubled.

Losses of Milk.—Thousands of dollars worth of milk was a loss to the farmers during the thaw of last week, and will be this week. A general break up is on, and the deep snow renders delivery impossible in many cases

Indian Branch of Farm Bureau.—Chief Shenandoah announces that his tribes want a branch of the Onondaga County farm bureau for their especial needs. The county bureau has helped the Indians to grow bigger crops of hay, corn, potatoes, etc., and they are alive to the educational opportunities offered by the work. The Indians prophesy big crops everywhere in 1920. Chief Shenandoah is a direct descendant of the Oneida Chief Shenandoah, who ruled in Columbus time and he is locally famed for his modern ideas and dress.—M. G. F.

NEW JERSEY NEWS

May Kill Daylight Bills.—The nearer the time for adjournment of the New Jersey Legislature, the more conclusive is the belief that the lawmakers will not pass either of two daylight saving bills that have been introduced in the Senate and House by Senator William B. Mackay, of Bergen, and Assemblyman Sidney W. Eldridge, of Union. Strong sentiment against the enactment of such a law coming from among the farmers in various parts of the state is apparently having an effect towards changing the views of many of the legislators on the question. They are also figuring on how much less produce will be raised in the agricultural sections and what consequent high prices will follow to them in the city markets next summer, if an hour is cut off the morning time. It is certain, that if either of the bills comes up for third reading and final passage in either of the two branches of the Legislature, the ballots of the representatives of the rural districts will be reinforced by many from the ranks of the legislators from the populous centres and defeat may result to the measures.

Eggs Prices Drop.—Jerseymen are now eating eggs at less cost than during the extreme cold weather. Reports from various rural sections of the New Jersey indicate that there has been more or less reduction in price and that despite the near approach of Easter the cost of eggs will not be as far out of the reach of the average householder as they were during war-time conditions. Eggs have gone down in price to the city residents from one to seven cents per dozen There has also been a decrease in the price of butter in some of the principal markets and mercantile establishments.

Potato Growers Plan.—The forming of a cooperative association or to work with such an organization already in the field were considered at a meeting of the Giant Potato Growers' Association hold at Highstown in Mercer County, and while no definite action was taken, it is believed that plans will be developed whereby greater strength will be obtained by affiliation soon. Many members of the Giant Potato Growers' Association are allied with the Mercer County Co-operate Association, and they may adopt the latter organization as their own as it is purely of a cooperative type. It is said that the Monmouth County Farmers' Exchange is a strong organization, but it is a stock company organized for profit and not strictely co-operative and therefore would not appeal to the potato growers like the Mercer County association. It is claimed, that if the Monmouth exchange could be reorganized on a strictly co-operative basis, it would permit the growers to centre on that organization as their own.

Pass Farmers' Bills.—The New Jersey Assembly has passed a bill providing for payment to owners of cattle that are slaughtered by the health department after they have been found to be infected with tuberculosis and another bill of much interest to farmers in the southern section of New Jersey introduced by Assemblyman Roberts, regulates the marketing of farm products. The House has "killed" a bill, which had for its object the regulating of sign boards on farm lands, while still another passed provides for the establishment and maintenance of free county libraries. Mr. Roberts being the introducer of this measure.—Kelly.

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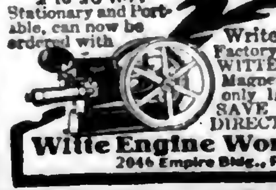

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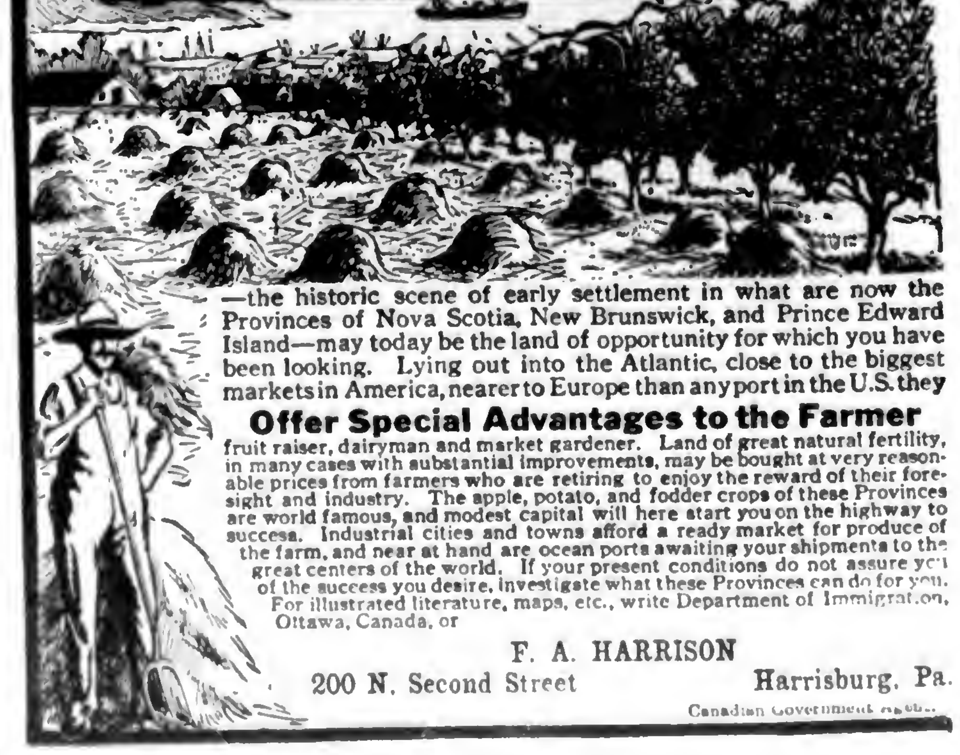

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POTATO PRICES AND PROSPECTS FOR 1920.

(Continued from Page 3.

tions is practically the same for quotations delivered in the principal consuming centers. The local price in each varies with the cost of freight. For example, with potatoes at $1.00 a bushel before the war delivered in New York city, and freight rates of 9 and 15 cents a bushel, from up-state New York and Michigan, the shippers respectively netted 91 and 95 cents if the stock was of equal quality.

The western shortage is so severe this season that neither Michigan nor any state west has shipped potatoes to New York or Philadelphia, all the crop there being needed for Chicago and the other western cities. Pittsburgh, which ordinarily is supplied from Michigan and Wisconsin, is drawing most of its supplies from western New York, which in turn is sending but few potatoes to its usual market, New York city. Much of the time potatoes have been actually higher in price in western shipping sections like those around Waupaca in Wisconsin, Cadillac in Michigan, Greeley in Colorado or the Red River valley than in some parts of New York and Pennsylvania close to the greatest cities of the continent. We know that the east will plant heavier in 1920, and may be sure that the unusual prices in the west will stimulate an even greater increase there.

Importations

Europe has again begun shipping potatoes here as it used to in the years before the war. Heavy imports of Danish potatoes have been arriving in New York city and selling at prices below the best of ours and about the same as our poorest stock. This competition has had very little effect on the prices of our potatoes because European growers are accustomed to different market standards than ours and the imported stock is field run, containing from 20 to 25 per cent of our number two and number three sizes. European potatoes are often of very poor quality and shape as judged by the standards of the American housewife. Canada has been shipping in 15 to 20 cars a day since early fall, but the total imports will be less than in a number of other years before the war.

Costs and Prices for the 1920 Crop

Census reports from about 4000 New York farms studied by the Cornell Department of Farm Management show 17 per cent fewer hired men than last year, and a number of vacant houses which would mean 24,000 vacant, habitable houses on the farms of the whole state. At the same time the cities are so crowded that it is most difficult to rent a house or a flat at the highest rates, and it is even necessary to reserve a room at a hotel in advance. Farmers, their sons and their hired men are now crowding to the cities for the very good reason that food prices are too low to pay wages for its production equal to city wages for the production of articles often far less necessary to the life of our nation. The prices of new farm tools and the cost of replacing the wear on the old is the highest for many years.

It is possible that prices will be high should we have a specially poor crop season like that of 1916. But if the crop is even normal, let alone such a bumper yield as those of 1914 or 1909, we must expect low prices from several reasons.

1. Dear seed has meant a big acreage in the past and may be expected to again.

2. The fact that the west will have a big surplus in all probability instead of the shortage this year will make foreign competition much more severe. Today a New York or Pennsylvania grower may ship west where the freight rate affords at least some protection against imported stock.

3. It is probable that importers will take a lesson and have their stock carefully graded before shipment making their competition greater.

4. Past great wars have had their periods of price inflation like the present and each has been followed by a period of sudden low prices called a panic. We may be certain that the present period of high prices will be followed by another such crisis as has followed the other great wars of history. The farmer must hire labor and buy tools, teams, seed, fertilizer and other potato growing costs a number of months before the first dollar comes back from the crop. Should a panic such as those of 1893, 1873, 1857, 1837, or 1819 arrive before he can sell his crop there will be few who will get expenses back.

Canadian Solution of Potato Problem

Up to 1913 American potato growers were partly protected against foreign competition by a tariff of 25 cents a bushel, equal to 50 cents of our inflated prices now. The "Free dinner-pail" tariff removed this protection. Food and clothing are equally necessaries of life, but the American farmer who produces food to sell to the city must do so in the face of the competition of the whole earth, while his brother in the city producing clothing to sell to the farmer must have heavy tariff duties to protect him from competition of foreign "pauper labor."

In the effort to get the cheapest possible food, American cities have been responsible for the importation of many diseases and insects which injure or destroy our crops. The late blight and rot of the potato came from South America and the wart disease from Europe. Other very dangerous troubles lately imported are the corn-borer from Europe and the "take-all" disease of wheat from Australia. The cost of fighting such imported pests as the gypsy-moth and the brown-tail moth in New England is very heavy. The late blight and rot and the common potato bug are troubles which we must spend many millions of dollars to fight each year.

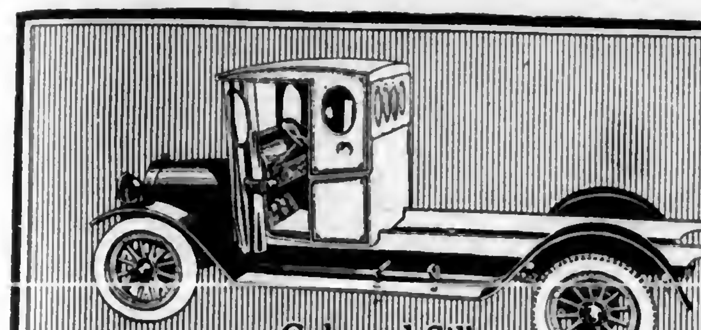
Canada has solved the problem by the absolute embargo against the importation of potatoes from Europe. We know that Europe has a number of very serious potato diseases. Canada figures that the national loss from an imported potato disease is far greater than the temporary gain from reducing prices to its cities in poor crop seasons.

STATE COLLEGE SURVEY SHOWS 75 P. C. SOILS ACID

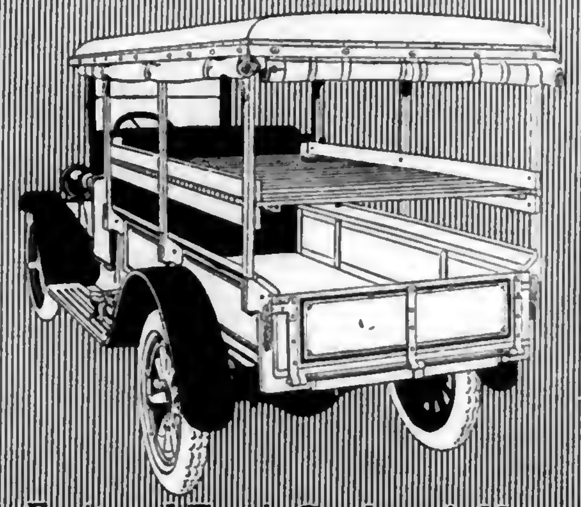
A lime requirement survey of Pennsylvania has been made by the Agronomy Department at State College in cooperation with the county agents of the state. Sixteen hundred samples of soil, representing 50 counties and including all the important soil series of the state, were examined. The results show that 75 per cent of the soils are acid. The soils included within the most fertile farming sections, embracing the southeastern counties and those lying within the limestone valleys of the state, as a rule showed the need of very little lime when compared with the soils of the central and northern counties embracing the Volusia and DeKalb soil series. In the great fertile acreas mentioned, few soils, tho never limed, showed a lime requirement of more than 20 bushels per acre, altho in past years the farmers who have burned their own lime have applied from 100 to 500 bushels per acre. In the less fertile area the soils as an average showed an acidity which would require approximately 100 bushels of lime per acre. On these soils the farmers have either applied not enough lime or none at all.

The result of the lime requirement survey emphasizes the important role of lime in the productivity of the land. In every area of the state where the soils showed a deficiency of basic lime as indicated by a high acidity, the fertility of the land is far below the more prosperous sections where limestone is found as a native constituent of the soil.

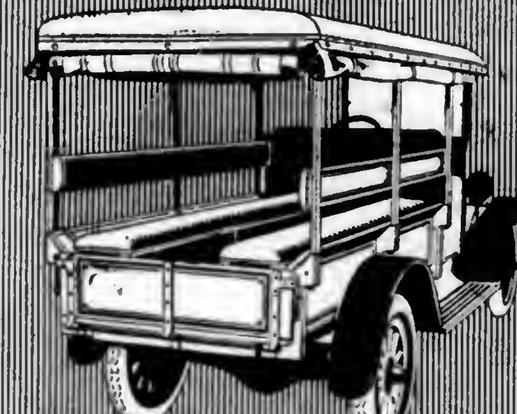
The most economical use of lime for soil improvement can be brought about only by a careful syste[illegible] study of the [illegible]ous soils. The farmer not only wants to know if his soil is acid but he must know the extent and degree of that acidity in order to correct it economically.



Cab and Sills



Fruit and Truck Gardener's Van



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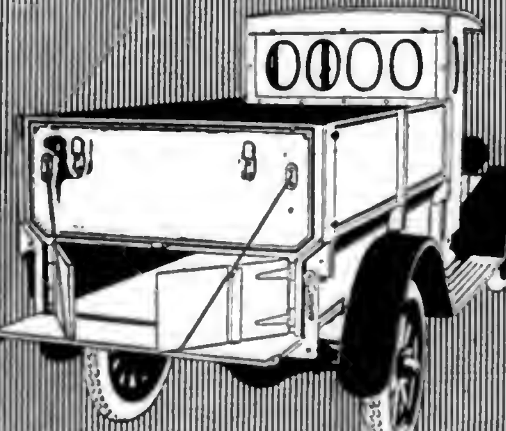

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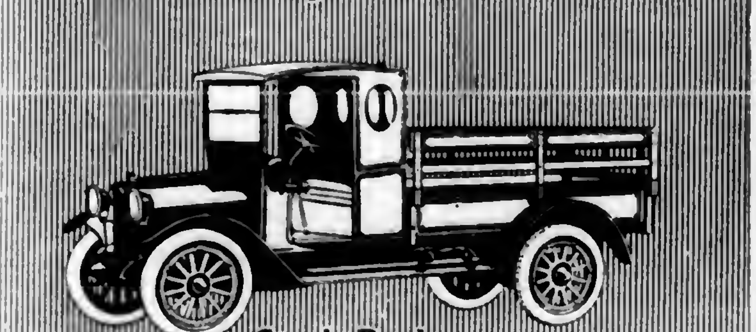
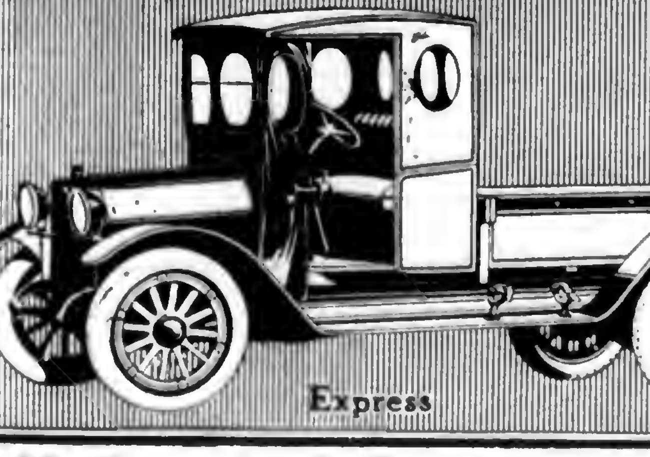


Stock Rack



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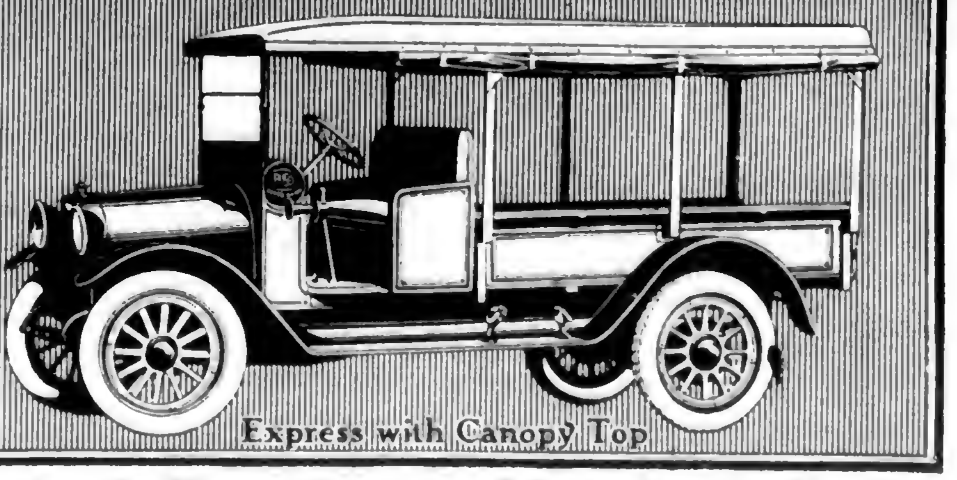

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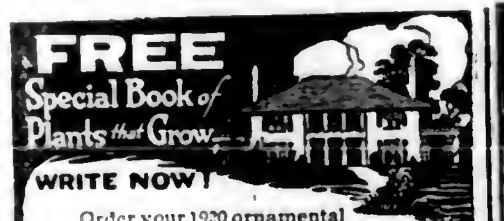

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HORTICULTURE

N. Y. Horticultural Society Meeting

Interest in tractors, dusting and other methods which promised to offset the growing shortage of labor on the farm was especially keen among the fruit growers at the annual eastern meeting of the New York State Horticultural Society, at Poughkeepsie, N. Y. February 25 to 27.

The labor question has given fruit growers considerable concern during the last few years, both at time of harvest and during the entire season. Interest was therefore especially high in the possibilities of machinery or methods which might help to overcome the labor shortage.

Speaking on the agricultural outlook, Dean A. R. Mann, of the New York State College of Agriculture, at Cornell, stated that due to the scarcity and high cost of labor, food prices would continue to be high. Foreigners in this country are leaving by the thousand to return to their native lands, and immigrants who make up a large proportion of our farm labor are not coming to this country in any large numbers. "Wages are 14 per cent higher than in 1919," said Dean Mann, "and in that year they were 18 per cent higher than during the war." The average farm hand is getting $52 a month and board; and married help are getting $80 a month and a house. We must produce more or use less. We must save more of what we do produce, so that the losses will not cut into our returns."

Faith in Tractors.

That there is a growing sentiment in favor of tractors in orchard work was brought out at a special session devoted to a discussion of tractor problems. While experiences of the growers differed widely with the various makes of tractors, used under different soil conditions, it seemed to be the consensus of opinion that these machines are labor savers in the orchard, provided the acreage is sufficiently large to warrant their use.

Speaking from experience with different makes of tractors used over a number of years, L. L. Morrell of Kinderhook, N. Y., said that one man and a tractor could do as much work in the orchard as four men and four teams. The quantity of kerosene required on his farm was ten gallons a day. To get the best results from tractors Mr. Morrell believes that the growers should collectively demand real service from tractor manufacturrs, both in obtaining repairs and in the supply of extra parts which are apt to break.

The tractor is the only solution for the labor shortage in the Hudson valley district, according to Vice-president T. E. Cross, of Lagrangeville, N. Y. Farmers do not hesitate to buy grain or corn harvesters costing three or four thousand dollars, which are used only three or four days out of the year, he pointed out, whereas an investment of $1000 to $1500 in a tractor would give them a power machine which can be used two or three hundred days out of the 365. A number of factors must be considered in selecting a tractor. First of all, the grower must make sure that he has a sufficient acreage to warrant the purchase of such a machine; this acreage should be sufficient to require the use of at least two teams, he believes. If the land is too rough or hilly the purchase may not be worth while. It is also very necessary that a thoroly competent driver be put in charge of the tractor to keep all the parts in good working order.

Dusting Given Strong Endorsement.

Speaking on dusting, a subject which aroused keen interest, Professor H. H. Whetzel of Cornell University, who has studied the dusting situation since 1912, said that so far as experimental evidence is concerned dusting has proved as effective in controlling apple scab and codling moth as has liquid spray. He contends however that as the status of dusting is still undetermined each grower should decide for himself. A survey of the orchards in New York State that were dusted last season shows that 95 per cent of the owners will use the dusting method again this year. Of the 73 growers who dusted apples last year, 49 answered that the dusting method controlled apple scab as well if not better than spraying; 9 replied that it was less effective; 3 were undecided and the remaining 12 failed to answer. With codling moth, 51 were in favor of dusting; 6 were dissatisfied; 2 were in doubt, and 14 did not reply.

Manufacturers must make improvements in their machines, and finer dust particles produced before the best results are obtained, according to Professor Whetzel. An improved fan and a more flexible delivery tube are needed. The time of application is a factor in dusting that must be given careful consideration if best results are to be obtained, the most favorable hours being in the morning before 9 A. M. and just before sundown when the air is quiet. If dusting is to take the place of liquid sprays there must be developed a contract dust which will kill sucking insects such as red bug, aphis and psyllar. If this problem is successfully worked out it will do much to bring dusting into more general use. When the time saved by dusting over that consumed by liquid spraying is taken into consideration, the saving to the grower is greater than the cost figures which are now available would indicate.

Talking on the problem of eradicating cedar rust Professor F. C. Stewart of the Geneva, N. Y. Experiment Station said that there were three possible methods of controlling this disease, namely; spraying with fungicides; planting resistant varieties and destroying red cedar in the vicinity of the orchards. The period during which the foliage must be protected from cedar rust is practically the same as for the protection from apple scab and he believes that it would pay to spray thoroly to secure protection from both of these diseases, which would require the customary four applications. Growers in Virginia and West Virginia have more trouble from cedar rust than our New York orchards and these two states have already enacted special protective laws to guard against this disease.

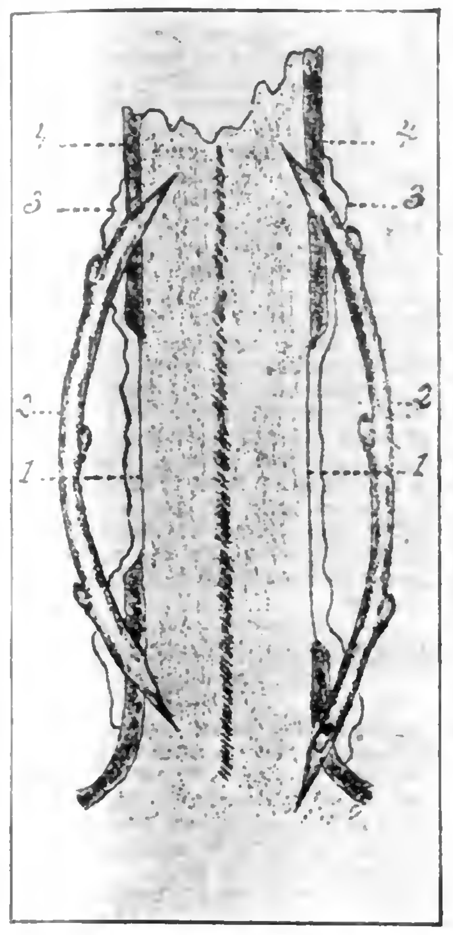
Growers followed with interest the talk on orchard fertilization by Professor W. H. Chandler, of the New York State College of Agriculture. In summing up the results to date he said, "So far as the apple is concerned in the cultivated orchard, the soil must be more infertile before the trees will show response to nitrogen applications, than it would have to be for grain crops to show such response. On the other hand if the soil was so poor that the trees do not make a healthy green foliage we can be reasonably certain that a response to nitrogen will be shown."

Peach trees will show a much more definite response to nitrogen applications than apples and the use of nitrate of soda at least on the weaker trees should prove profitable. Plums and sour cherry trees also respond quite well to nitrogen.

It has not been shown conclusively from experiments that potassium will benefit the orchard, according to Professor Chandler. If it does help the orchard it has not shown the benefit sufficiently to overcome experimental error. On sandy or gravelly soils however it might be well to use a fertilizer containing some potassium. Cover crops are coming more into use.—H. T. B.

BRIDGE GRAFTING

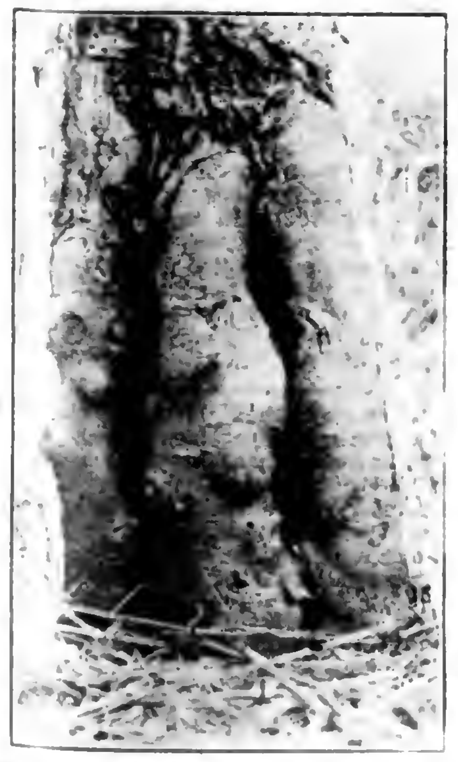
Apple trees that have been gnawed by mice heavily during the winter may be saved by the process of bridge grafting. The principle of the graft works the same in bridge grafting as with cleft and whip grafting, but it may be necessary to use a little more skill in order to do a better job. The scions are inserted into the bark, the lower end of the scion into the sound bark below the injury and the upper end pretty well above into the uninjured bark. Both ends of the scions are cut wedge shaped and cuts are also made into the bark of the tree with a chisel to receive them. The scions should be bent so that they will spring into place and hold tightly.



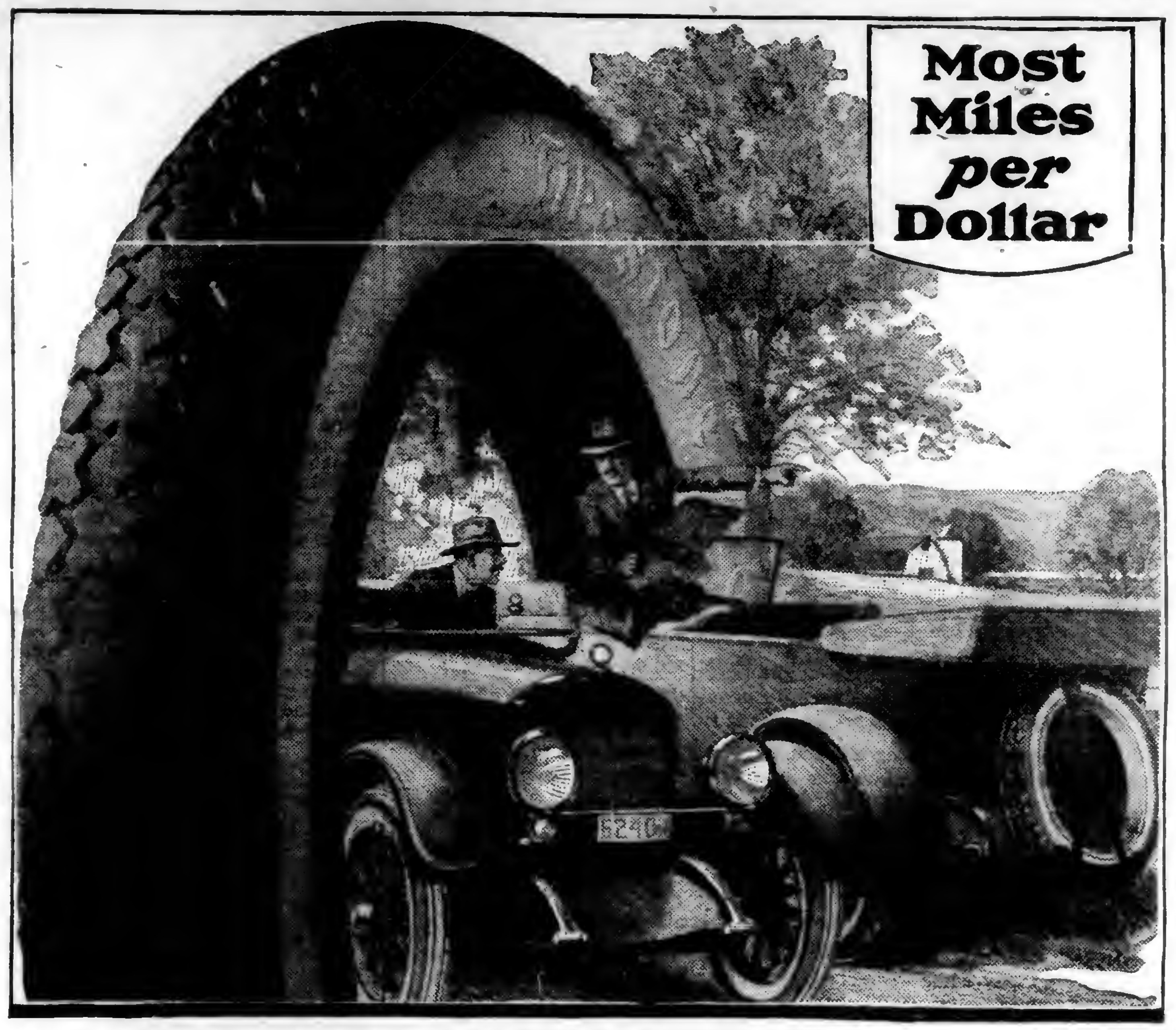
Bridge-Grafting in Detail:
1.—Wound; 2.—Scion; 3.—Wax;
4.—Bark.

The bark should be waxed well at both ends of the scions to insure a quick union. They should be at least one inch to an inch and a half apart and cover all parts where the bark has been gnawed away. The illustration shows the result of mice injury 2 years after bridge grafting.

The formula for making grafting wax is resin, 4 parts, beeswax, 2 parts and tallow, one part. The materials are melted together but not allowed to boil. They are then cooled by pouring into cold water; the operator should grease his hands and pull the wax in the same manner taffy is worked. The wax at any time may be hardened by using more resin or softened by using more tallow. It should be kept in warm water when in use.—C. M. B.



Bridge Graft After 2 Year's Growth



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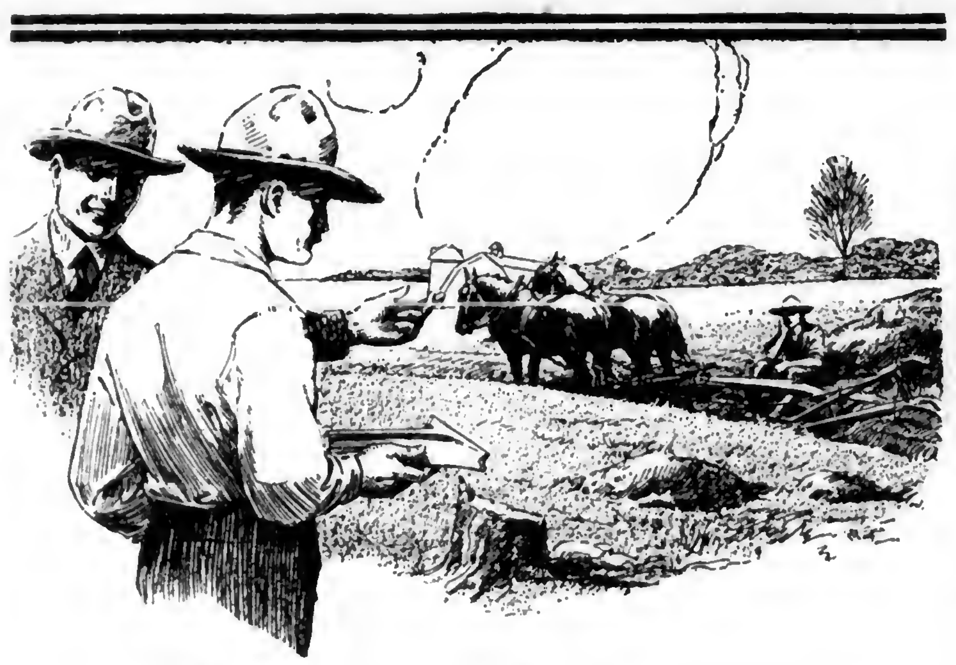

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CUTTING OUT THE LOSS TIME IN SPRAYING

By J. P. STEWART.

In the packing house of a certain large grower of fruit, I recently observed this maximum, "TIME AND FRUIT ARE MONEY, DO NOT WASTE OR TAKE EITHER." One of the commonest points at which the time-waste occurs in fruit production is in the important practice of spraying, and the principal spot at which the waste occurs is in the refilling of the tanks. Many schemes have been devised to overcome this difficulty, among which may be mentioned the development of overhead tanks, pipe lines to deliver the liquids at convenient points in the orchard, and the use of several spraying carts which are relayed as fast as exhausted in the field by men specially delegated for that purpose, as is commonly provided for in the compressed air system. The spray gun is also a step in the same direction.

The best scheme that has come to the writer's attention, however, is a large conveyor holding about four hundred gallons, fitted with a centrifugal pump and about a three-inch hose, which has been devised by a large grower in Illinois. With this outfit and a couple of overhead casks, he fills and makes up a charge of bordeaux mixture in about five minutes, and transfers half of it to a 200-gallon spray tank in two minutes or less. With this conveyor he can keep two spray outfits going all the time, within any reasonable distance of his central filling point. I understand that the plan is being studied and perfected by one of the state experiment stations, and that detailed plans for its construction may be available very shortly. In the grower's own outfit, a small gasoline engine and an old Ford radiator were used to supply the power.

Cutting Back Peach Trees

His method of making the bordeaux departs slightly from the usual recommendations, but it is much more expeditious and makes fully as good a product. He first puts in the proper amount of slaked lime and starts his centrifugal pump, keeping it going until the conveyor is about half full. He then starts the partially diluted copper-sulfate solution flowing slowing into the conveyor, and continues the centrifugal pumping until the conveyor is filled, which is timed so as to be accomplished slightly after the sulfate solution has all flowed in. This avoids bringing together either of the ingredients in an undiluted condition, which is the essential requirement for good bordeaux.

As might be expected, this grower is also making his own lime-sulphur, both the concentrated solution and the self-boiled. It is surprising as well as gratifying to see how many of the larger growers are now making their own sulphur solutions. The only unusual features in the case under discussion appear in the fact that he stores his concentrate in a large underground concrete tank immediately under the cooker, and utilizes the rear axle of an old automobile for agitation, both in the cooker and the tank. The latter is to stir the contents before pumping up to a smaller intermediate tank overhead. He has been bothered a little by sediment at times, but this is chiefly because he has been following the original formula put out for this solution, which called for one pound of lime to two pounds of sulphur to one gallon of final product.

This difficulty can be practically entirely removed by increasing the amount of water sufficiently to obtain about one and one-third gallons of final product, and keeping the volume at or above this point thruout the boiling. In other words, the 1-2-1⅓ formula, properly carried out with a good high-calcium lime, will make the sediment practically negligible, and will give nearly as dense a solution. The particular formula of 45-90-60 is now regularly used by the writer in a 75-gallon cooker with excellent results.

He also had installed a large closed laundry washer on the platform overhead for trial in making the self-boiled lime-sulphur. It had not been used, however, on account of the big freeze which had greatly reduced his peach crop this year. This piece of apparatus is worth looking into, in my opinion however, as the self-boiled, or its equivalent the so-called "Atomic" sulphur, is the only fungicide that can be safely used in liquid spraying in connection with any of our present arsenicals on the peach. Some of the fine sulphur dusts may be satisfactory, in combination with arsenicals on peaches, but in the liquid applications one is simply courting disaster when he tries anything except the fungicides above mentioned in this combination. I have observed some further demonstrations of this fact on a large scale within the past week, in spite of the vigorous and repeated warnings already issued by the writer for the past several years. And the sad part of it is that the owners in at least half of the cases do not realize the cause of their trouble, and are likely to do the same thing again, the next time they have a crop to spray.

FARMER SHOULD GROW HIS OWN VEGETABLES

A good vegetable garden on the farm saves times and money, and promotes health. Vegetables often are not sold in country stores. Crops which a farmer grows and consumes at home, sells to himself as it were, are almost sure to pay.

All the expense of marketing and all the profits of middlemen are eliminated and it takes a good field crop, to make as good a showing in actual returns. The dollar received by the farmer for the sale of products may be a 35 cent dollar but the one he pays for food which could have been raised at home is a hundred-cent dollar every time. He sees and handles the dollars when he sells a load of hogs, but the dollars saved by the garden are no less real.

Time Required Not Great

Moreover, the time required for a successful garden is not so great as many farmers suppose. If one plants in short, close rows, or in raised beds, the work is, of course, exceedingly tedious. Such methods may be good for the city where land is scarce, but on the farm, where land is plenty and labor scarce, it is best to plant in long straight rows for wheel hoe or horse cultivation.

The garden should preferably be near the house where it is handy for the housewife, but if one can do no better, a corner of some field can be used for vegetables by spacing the rows like those of the rest of the field and cultivating at the same time.

"The garden promotes health as well as wealth." "A varied diet tends to keep the body in good condition. Indigestion is common in rural districts and is often largely due to a monotonous diet of bread, meat, potatoes, coffee and pie. Even if grown people can worry along on this, it is not right to expect children to do so. They should have plenty of fruit and vegetables.

They say that lettuce, spinach, and similar vegetables furnish certain elements which are important in the nutrition of human beings, especially children. Some folks have thought that lettuce was a luxury and not of much value. The home garden means health.

Dollars in farm manure represent money just as much as dollars in the bank. The manure which has accumulated in the barnyard should be spread on the fields at the earliest possible moment. Warm spring rains reduce its fertilizer value rapidly.

THE FERTILIZER SITUATION

(Continued from Page 5.)

are practically the same. The material is greatly removed from the market or the process of manufacture is very expensive. The kelp beds of the Pacific might be made to furnish an enormous quantity of potash but they are greatly removed from the Eastern market and economy of development depends upon the recovery of by-products, such as iodine, acetone, ammonia and charcoal. Two plants are now operating to develop the green sand deposits of New Jersey. It is estimated that these deposits contain two billion tons of actual potash. It is highly possible that this material may become our main source of domestic potash because it is located in the heart of the fertilizer market, and because the process includes the manufacture of building bricks, close to a market with demand of large proportions, and of lime as a by-product.

The outlook for potash during this spring is some what better than during the war. There has been much discussion in newspapers and other circles regarding the development of domestic supplies. Means of protecting our own industry from foreign competition and rules, restrictions and tariffs to regulate the importation of foreign potash have been proposed from time to time. It seems now that the importation of German and Alsatian potash will not be great under any circumstances because the foreign countries are just as badly in need of potash as the United States. It is very probable that foreign potash will be consumed almost entirely by foreign countries which are near the source of supply. It would seem therefore, that no tariff or other regulations are necessary to protect our embargo potash industry, and further that there will not be enough potash to go around for several years to come. Furthermore, the German and Alsatian supplies are not inexhaustable, and still more important is the urgent necessity of securing materials as cheaply as consistent with good economy. Furthermore, it would hardly be just to tax American production by a tariff on potash simply for the sake of a few interested in very doubtful projects of home development.—John H. Voorhees.

PROTECT QUAILS AND SKUNKS

I am a friend of Bob White. It is a shame that this bird is allowed to be slaughtered each year when it does so much good. Our laws protect the robin and some other birds which are of very little use to the farmer. The robin is more of a detriment than a benefit as he is a destroyer of small fruits.

I read the article on the damages of field mice and meadow moles in your last issue by A. H. Pulver. Tell Mr. Pulver to keep a few skunks on his farm and he will soon get rid of the mice and moles also the grub if he has any. When I purchased this place it was alive with meadow moles. I got some cats and got them cleared up around the buildings and land near the buildings. While these helped to destroy some of them I saw that they were not making a clean job of it in the fields as the cat is no digger. To destroy the mole he must be dug out, this the skunk will do. I prohibited trapping and hunting and succeeded in getting a few of these animals and they are doing the work finely. In one corn field last fall one morning I found 21 places where they had dug up the nests of mice and moles.

Regarding the grub worm I think the skunk is the only remedy. He is crazy for the bug which lays the egg which produces the worm and will also burrow for the grub in plowed fields.

The farmers should protect the skunk and not allow any trapping if he gets too many he can do his own trapping. I have heard some farmers say that they will kill chickens. Once in a while one will learn to catch small poultry but this is rare. He is not a chicken killer by nature. Sometimes a dog will learn to eat eggs but this does not hold that all dogs eat eggs. The skunk and the quail are the best friends a farmer has and should be protected.—W. J. B., Hunterdon Co., N. J.

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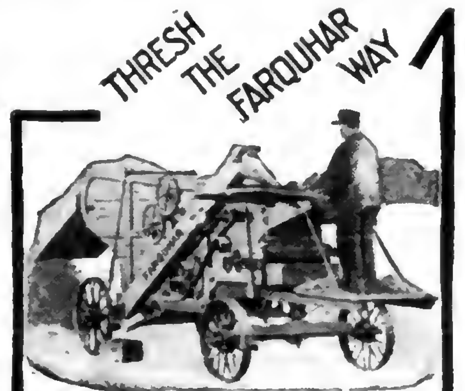

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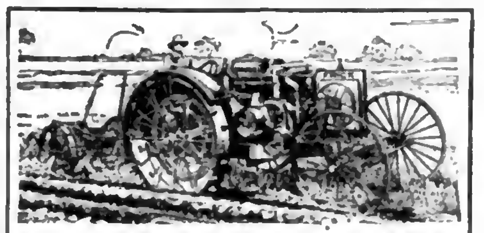

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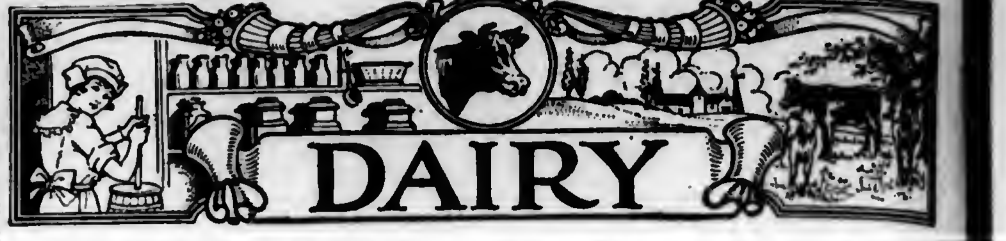

SUCCESSFUL CALF RAISING

"Well Bred and Well Raised," are the two basic prerequisites of a dairy cow. Often breeding is lacking, but it may be partly recompensed by the best of rearing, and on the other hand breeding is often annulled by improper rearing. If we have to judge by some of the calves and heifers we sometimes see it requires a fertile imagination to be able to conceive how these scrawny, stunted animals will ever develop into profitable dairy cows. The milk producer who hopes to get good cows from calves that are scrub bred and poorly raised is doomed to disappointment. Specialized breeders have long ago awakened to the fact that successful calf raising and bringing the heifer up to the size of an ordinary cow when she calves the first time is perhaps the most important factor in their success, granting of course that a high class bull is used. Many a breeding establishment has been converted from failure to prosperity, by full realization and careful practice of proper methods of calf raising.

Jap's Fontaine Dorcas, Record, 14,492 lbs. Milk, 853 lbs. Fat.

How Jim Did It

Sometime ago in the capacity of dairy instructor at a government institution it was my pleasure to be associated with a herdsman who at three agricultural colleges had earned the reputation of being not only an excellent all around dairyman, but who bore the distinction of raising nearly a 100 percent crop of calves in all the long years of his experience. He had just shortly before pulled one high class Guernsey establishment out of the hole, by improving their portion of calves raised from less than one-third to a full crop. Naturally I thought there must be something mysterious about this wonderful herdsmen. For a while I watched him handle the 22 calves we had at the institution, but I couldn't see anything about his handling of them that was different from methods I had used myself or with which I was acquainted. One day after he had fed his "Babies" as he called them, I said to him, "Jim, I want you to tell me just what it is that you do to get the results in calf raising that you get. Start right with the dry cow and tell your story all the way up to the time the heifer has her first calf. "All right," he agreed, and I took out a pencil ready to take down any points that was new to me. He had finished before I knew it, and I asked him if that was all. "Why," I said "that is no different from what we learned at State College and is what common sense should tell anyone is the right way to do it, if it is only done." "That's it," he added, "actually doing what ought to be done, and using common sense in doing it are the things that lots of folks fail to carry out. It's simple, just like lots of other things about animals and crops, only there are lots of people who think they can fool nature and know better than she does or else they are too lazy to do what she demands."

Begin With the Cow While Dry

First of all, his work in raising the calf begins with the dry cow, weak calves that had to be pampered and coaxed to make up their minds that they wanted to live, he declared, were largely the result of lack of proper care of and fitting the dry cow for maternity. Six weeks to two months before calving he dries the cow off, even if she is giving a good flow of milk. She is given all the good roughage she will eat, and about four to six pounds daily of a mixture of 100 pounds of corameal, 100 pounds of bran, 100 pounds of ground oats, and 30 pounds of oil-meal. "That cornmeal or hominy if you can get it, is the stuff to put the fat on them," he observed, as he stroked the fat sides of a cow that stood in the maternity pen. "Every pound of fat she has now will go into the pail when she comes fresh. The farmer, especially, doesn't realize the value of oats for a pregnant animal. It builds up the foetus. Why its criminal to expect a cow to maintain herself, develop a foetus and get herself ready for a good year's work, the way most farmers do by turning her out in the barnyard in winter to pick up corn stalks, without a bit of grain after she has gone dry."

Precautions at Calving Time

A week before freshening the cow is put into a box stall, that has been well cleaned, disinfected, and well bedded. Unless there is trouble he never interferes at calving and rarely before several hours, and in difficult cases he calls the veterinarian. As soon as the calf is dropped he rubs the mucus from its nostrils and removes the afterbirth and all other filth from the stall, and disinfects it, the udder and rump of the cow with coal tar disinfectant, the calf's navel he disinfects with iodine to prevent white scours. The cow is given all the water, with the chill taken off, that she wants to drink and in four to six hours afterward is given a warm bran mash, with enough salt to make it tasty. She is allowed all the hay she wants, and this feed continued until the animal is in good milking condition. Whether or not the calf is to remain with its mother, it is always given the first seven milkings. He followed the practice of most dairymen of taking the calf away from its mother after the first day, and fitting the cow for milking as soon as possible, usually in about a week. The ordinary farm practice is to allow the calf to suck the cow until it is old enough to be vealed or put on grain entirely. This does not give the opportunity to develop the milk production of the mother and build her up for a good year's work.—Paul T. Menzel, Harford Co., Md.

Color Sells Butter

Add a rich "June shade" to the splendid taste of your butter and get top prices. Try it! It pays!

Dandelion BRAND Butter Color

gives that even, golden shade everybody wants. *Purely vegetable.* Harmless. Meets all laws. Small bottle costs few cents at any store. Enough to color 500 lbs.

PHILADELPHIA SILOS

4"x6" Posts, Bevelled Doors, Iron Ladder, selected material, strong hoops. A Real Silo.
Opening Roof for a full Silo without refilling.
Ensilage Cutters, Feed Trucks, Wood Tanks.
Write for catlogue and prices.
E. F. SCHLICTER CO.
10 S. 18th St. Phila. Pa.

SEED TIME AND HARVEST NEVER FAILED YET

"It's good to know at planting time," says Silas Law "that no matter how big the corn crop, there won't be any waste on my farm because I've got

HARDER SILOS

"The shucks and stalks that so often go to waste go into my Harder Silos and come out fine, sweet silage that keeps my cows 100% fit all winter."

Write today for free booklet on Silos and the story of Silas Law.

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Box 18, Cobleskill, New York

BARN PAINT $1.22 PER GALLON
Get factory prices on all paints. We guarantee quality. We pay the freight.
Franklin Color Works, Dept. 16 Franklin, Ind.

For Cows Only

KOW-KURE

A Dangerous Condition Easily Remedied

To permit Retained Afterbirth in a cow is taking big chances with her health and a sure loss in the milk yield.

The calving period is a severe strain on a cow's system. The best dairymen have found that they can prevent this and most other diseases of cows by using KOW-KURE, the great cow medicine, just before calving. It stimulates healthy action of the digestive and genital organs, making them function as nature intended. KOW-KURE is also widely used for prevention and treatment of Abortion, Barrenness, Milk Fever, Bunches, Scours, etc. Feed Dealers and druggists sell it; 60 cents and $1.20.

Write for free book, "The Home Cow Doctor."

DAIRY ASSOCIATION CO., Lyndonville, Vt.

It's Easy to Expel
RETAINED AFTERBIRTH

THE GENUINE CHAMPION
Improves Milk Quality
This milk cooler halts bacterial growth, removes odors, insures uniform product. Saves its cost in one week. Recommended by leading producers. Write for special offer. Folder free.
CHAMPION MILK COOLER CO.
Dept Y Cortland, N. Y.

HELP WANTED: Three single men to work in barn with large herd registered Holsteins. Must be good dry hand milkers. $60.00 per month and board. State age.
WINTERTHUR FARMS. Winterthur, Del.

MILK, BUTTER AND OLEO

We have received notices that the price for March milk is to be $3.36 at 201 miles from the city with the usual allowances on freight and test. This makes our milk of 3.8 test in this region of average distance $3.64 a hundred. We are told that this is nine cents more than we had a year ago which I presume is correct. It is regarded by dairymen as below the cost of production this year since feeds are higher than at any previous period and labor is at a higher wage and more scarce.

It is likely that the following month will show a break more pronounced that the month of March as butter is coming in from abroad and a break is expected in cheese. We are exporting less than for a long time and imports are on the increase. There may be a surplus of milk but it is noticed that as a world proposition there is no surplus. The trouble seems to be just what some of us have been saying would result, that foreign people cannot buy for lack of money with which to buy. The rationing of people in some countries and the rate of exchange go far to depress our markets. So far as our local conditions are concerned there is a surplus of milk. Buyers are looking around to see how they can turn away some of the milk they are getting.

In some instances notice has already been passed informing certain farmers that they will have to look elsewhere for a market. What these men can do is a question. What the League can do for them in certain instances is another question. Now we want the plants in League hands for manufacturing. Mr. Bradley Fuller told League folks how it can be worked out in several splendid addresses recently. We already need some of the plants in working order. Of course there are a few now doing good work, but they are not in position to handle the milk of the men scattered about who will be turned down shortly or are now out. The turning down may not be so complete in all sections as now seems, but I know of men who will most likely have to go. Where will they go? The local plants should be in the hands of the local farmers.

Today I went about town a little to see how much butter and oleo is being sold. I was unable to get figures that I would care to print, but it is safe to say that here where every bit of the wealth of the people comes pretty direct from the dairy farms twice as much oleo is used as of butter, and I think the proportion is greater than that. Farmers are doing better than a year or two ago but some of them still buy a portion if not all of oleo instead of butter. I tried to get one concern that depends very largely on farmer trade to cut out the oleo but was unsuccessful. If we could get all farmers to discard oleo entirely it would help the milk market somewhat especially if they buy local butter. Then if we could make the village people see that they would be healthier and more consistent to use butter of state make we might soon be able to sell our milk

Again, we better patronize our own League butter factories. We can do this soon if not now, as I understand the situation. Insist that we have butter from League milk if it can be found and see that it is sold at the right price, and if not at the stores buy direct and in cooperation. Then get it bought by the townspeople on the basis of fair play and of healthfulness. Not many people yet understand the food value of dairy products unless it may be farm people. Villagers are slow to catch on. They still doubt if oleo is not just as good a food as butter. It is poor butter on the market also that has given butter a black eye and is the friend of oleo. This League butter must be up to standard. Then let us get townspeople eating it.

Advertising dairy products is now in order. It is time to get at it in real earnest. Farmers ought to get the facts in the local paper. They need to go there often and forcefully. Local papers have their troubles and they need help. They may not be in position to use long articles but a good farmer can get a short statement pointedly put in his local paper. Show what Dr. McCullom and others have found out. Get it straight and strong.—H. H. Lyon.

GRAMM PIONEER BERNSTEIN
Ship by Truck

Two-ton Gramm Bernstein with 5-in-1 Combination Farm Body as used in sugar beet fields in Putnam County, Ohio

"Extras" are Standard on the Gramm-Bernstein

Gramm-Bernstein Worm-Drive Trucks carry, at the listed sale price, $500 to $550 worth of equipment, according to type and size.

This equipment is all essential to truck efficiency and economy. Any truck must have it.

On the Gramm-Bernstein it is listed as follows:—

Standard Gramm-Bernstein cab, with doors and storm curtains.

Exceptionally rugged metal ventilating wind shield.

Front fenders and steps.

Sturdy radiator guard, attached to frame independent of radiator.

Radiator shutter, operated from seat—facilitates starting, saves gasoline.

Boyce motometer, to indicate temperature of engine.

Army type towing hooks at front end.

Spring trailer drawbar at rear, on all capacities above 1½ ton.

Electric generator. Electric side lights with dimmers and non-glare lenses; dash light; bullseye tail light, protected in frame; electric horn.

Patented Gramm-Bernstein always-in-mesh transmission, with extension oil filler spout.

Patented dirt-proof wick oilers on all spring bolts.

Metal license brackets, front and rear.

100,000-mile hub odometer.

All Gramm-Bernstein Transmissions are trouble-proof and are provided with a pad for attaching Gramm's Basic Patent Power Take-off. Dealers and truck owners should assure themselves that any trucks purchased with power take-off do not infringe B. A. Gramm's Basic Patent No. 1194994

Ready for the Body—Not an Extra to Buy

Again Gramm-Bernstein is pioneering, in selling its trucks completely equipped.

This means that Gramm-Bernstein savings begin before the truck is put to work. They actually begin with the purchase of the chassis itself.

No one, we believe, appreciates better than farmers themselves the need of trucks on the farm, nor the time and money a good truck will save.

All truck buyers have always had to invest upwards of $500 in extras before they could put their machines to work.

Nothing of the sort with Gramm-Bernstein. It comes to you completely equipped—ready for the body—*not a single extra to buy.*

In this, as in the industry itself and most of its forward steps, B. A. Gramm has led the way.

Gramm-Bernstein records fairly bristle with figures that show these trucks *haul for less,* both in operation and upkeep; that they *last longer;* that they are actually *better built;* that they do require *far less* service and repairs.

Every farmer owes it to himself, before he buys a truck, to be sure he is making the best investment he can make.

On that score, we recommend the Gramm-Bernstein—most earnestly.

We sincerely believe that the Gramm-Bernstein far excels in downright, honest, dollar-value.

The nearest Gramm-Bernstein dealer will be glad to give you the benefit of his knowledge; or we will direct you to him if you will write us.

Gramm-Bernstein Truck Co. of Philadelphia, 217 N. 22nd St., Philadelphia, Pa.
Hull's Fireproof Garage, 119 W. 18th St., Erie, Pa.
Edw. W. Mitchell, 617 N. Cedar St., New Castle, Pa.
Stellar Motor Co., 5872 Ellsworth Ave., Pittsburgh, Pa.
Macy Motor Co., 30 Halsey St., Newark, N. J.
Twin Valley Motor Co., Inc., Johnstown, Pa.
City Storage Co., Hagerstown, Pa.
Crawford Auto Co., 137 W. Jefferson Ave., Butler, Pa.
Schuylkill Motor Co., Pottsville, Pa.
Chas. J. Kirchman, Hazleton, Pa.
E. W. & L. I. Bridegam, Reading, Pa.
L. L. Weaver, Woodward, Pa.
E. A. Clark Auto Co., York, Pa.

The Gramm-Bernstein Motor Truck Co., Lima, Ohio
Pioneers Since 1901—Builders of the First Liberty (U. S. A.) Truck

GRAMM-BERNSTEIN TRUCKS

Insulated — Heat Proof

Make Safe Long Cream Shipments

You can trust this Sturges Refrigerator Can to hold its contents at a safe temperature from 12 to 24 hours in extremely hot weather. Built with special heat and cold proof insulation between its heavy outer and inner walls. Twice as efficient as felt jackets. No icing. Just the can to widen your cream market and satisfy customers more. Saves time and work—cuts shipping bill. Superior construction of finest steel heavily tinned. Write for booklet No. 123.

STURGES & BURN MFG. CO.
Makers of Sturges Guaranteed Capacity Milk Cans
Chicago, Illinois
New York Office and Warehouse
30 Church St., New York City, N. Y.

Sturges Refrigerator Can

HAY Ship To The Old Reliable House
Daniel McCaffrey's Sons
823-825 Wabash Bldg., Pittsburgh, Pa.

Produce More Food

INCREASE your production of beef and dairy products with a

Preston Lansing Vitrified Tile Silo

—the silo that lasts indefinitely without upkeep expense. Never needs painting—never affected by weather conditions. Built with patented "ship-lap" blocks, reinforced with twisted steel. Steel hip roof—steel chute—fireproof. Get your silo now—beautify your farm—and be ready for your silage crop. Write for catalog.

J. M. PRESTON CO.
Dept. 345 Lansing, Mich.
Factories:
Ft. Dodge, Ia.; Uhrichsville, Ohio and Brazil, Ind.

A GUARANTEED REMEDY FOR
Contagious Abortion
Easily administered by hypodermic syringe. Kills abortion germs quickly without injuring cow. Write for free booklet with letters from users and full details of moneyback guarantee.
Aborno Laboratory Section 55 Lancaster, Wis.

SILO USER AGENTS WANTED
Men wanted in every locality to own, show and sell famous Cincinnati Silos. Liberal spare-time profits. Full details free with special introductory offer.
Hauser-Stander Tank Co. Dept. F Cincinnati, Ohio

$19.95 Upward ON TRIAL
American FULLY GUARANTEED CREAM SEPARATOR

A SOLID PROPOSITION to send new, well made, easy running, perfect skimming separator for $19.95. Closely skims warm or cold milk. Makes heavy or light cream. Different from picture, which illustrates larger capacity machines. See our easy plan of

Monthly Payments

Bowl a *sanitary marvel,* easily cleaned. Whether dairy is large or small, write for free catalog and monthly payment plan.

Western orders filled from Western points.

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Before You Buy Your Silo, investigate the reliable Green Mountain. Send for circulars describing long-life, tight construction, new Anchorage System, etc.
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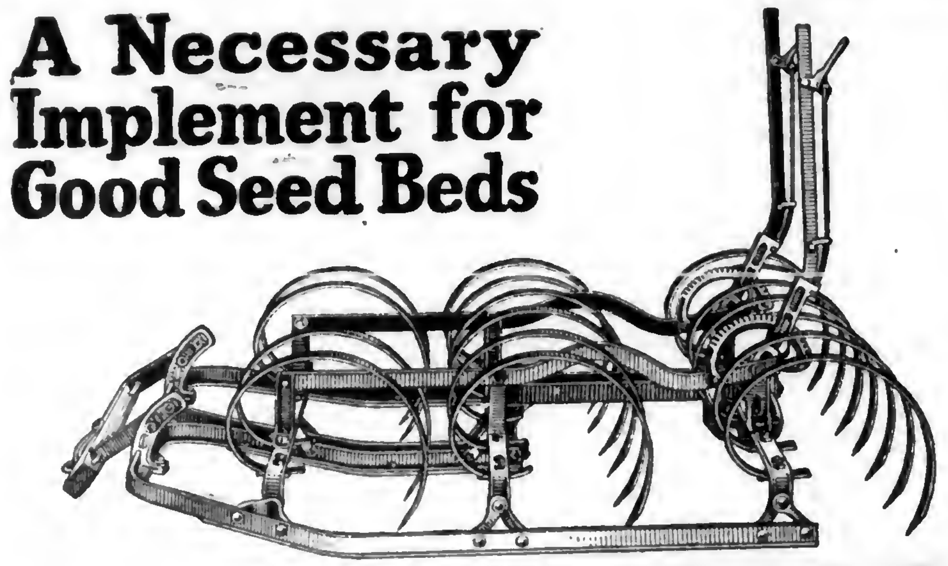
GREEN MOUNTAIN SILOS

INSYDE TYRES
—genuine inner armor for auto tires. Double mileage; prevent punctures and blowouts. Easily applied without tools. Agents wanted. Details free.
American Accessories Company Dept. 218 Cincinnati, Ohio



A Necessary Implement for Good Seed Beds

THERE is no implement that can follow the plow so effectively for better seed bed making as the Syracuse Spring Tooth Harrow. Its sharp-pointed teeth penetrate the depth desired, bringing the lower soil to the top, breaking it up and mixing it thoroughly. The Syracuse makes a fine, loose, mellow seed bed—the right foundation for a bumper crop.

JOHN DEERE
SYRACUSE SPRING TOOTH HARROW

The Syracuse does another important thing—it is a thorough weed-destroyer. It tears out underground roots, stems and weeds before they get a start.

Good work is accomplished to a greater degree with the Syracuse because it has the strength to stand the strains.

Its frame, tooth bars and teeth are made of special high grade steel—teeth have no bolt holes to weaken them.

It's non-clogging—designed so that trash works toward the center and out through openings.

Any type or number of sections can be furnished to meet your needs—tractor hitch can be furnished.

Address a card to John Deere, Moline, Ill., and get free booklet describing these harrows. Ask for booklet SH 739

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JOHN DEERE MOLINE, ILL.
THE TRADE MARK OF QUALITY MADE FAMOUS BY GOOD IMPLEMENTS

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100-Acre Farmer's Farm $2900, with Pr. Horses and 4 cows, 3 heifers, sow, mower, rake, plows, cultivators, long list tools, wagons, hay, grain; part cash, easy terms; near R.R. and market town, high school, splendid milk plant, &c. Machine-worked loam fields, creek and spring-watered pasture, wire-fenced, wood, much fruit. Good 10-room house, 100 ft. basement stock barn, silo, granary, corn, poultry houses. Details page 29 Strout's Spring Catalog Bargains 33 States; copy free. STROUT FARM AGENCY, 1422 B E. Land Title Bldg., Philadelphia, Pa.

100 Acres, 3 Horses, 10 Cows, and Pigs, chickens, complete line machinery, crops, included. 5 acres timber. Water to buildings by gravity. Superior chestnut loam soil. Shows farm buildings. On stone road. Snap $8500. Illustrated catalog describes this and 200 offerings in four counties surrounding Phila. Write today. REESE & LINDERMAN, 6 E. J. Airy Street, Norristown, Pa.

Ohio Farms

If interested in a farm write for new catalogue of 500 Farms fully described in free catalogue, any size and price you want.
H. H. MASTERS, Farm Agent, CAMBRIDGE, O.

Farms in South Jersey. "Beautiful Vineland" leads in Poultry, Fruit and Truck, Stock, Grain and General farms in all counties of Sunny Southern Jersey also described in our free illustrated catalogs just out. NEW JERSEY FARM AGENCY, DEPT. F. VINELAND, N. J.

New York State Farms. Write for complete list. We have a size, location and price to please you. Stock and tools included on many. MANDEVILLE REAL ESTATE AGENCY, INC., Dept. M, OLEAN, N. Y.

The Best Farms for the money, all sizes $50 to $100 per acre, good buildings. Cent. Schools good soil. List free.
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Your earning power when it rains is made sure by TOWER'S
TRADE FISH BRAND MARK
REFLEX SLICKER
Look for the Reflex Edge
A. J. Tower Co.
Established 1836
Boston, Mass.

PURE FARM SEEDS
That conform strictly to OHIO'S NEW PURE SEED LAW.
Clover, Alsike, Timothy, Alfalfa, Oats and all kinds of PURE FARM SEEDS. Direct from producer to consumer. Ask for free samples.
BE PROTECTED. BUY YOUR SEEDS IN OHIO
From
THE A. C. HOYT COMPANY
FOSTORIA, OHIO

Put Three Acres In Fruit

Get our fruit trees which we can furnish in any standard variety; prepare three acres of ground; plant them—in ten years you'll wish you had your whole farm in apples and pears. It is quite possible to clear up $300 an acre from fruit. Many farmers are now making

Lots of Money From Fifteen Acres

of fruit, while under the old "wheat and corn" they required 40 to 50 acres to eke out a bare existence. Write us today, or consult our salesman who will be in your vicinity soon.

Hoopes, Bro. & Thomas Co. 41 Maple Ave. West Chester, Pa

SOIL AND SEED-BED FOR POTATOES

(Continued from Page 4.)

creased liberation of plant food, elimination of injurious insects and improved soil texture have been pointed out in favor of fall plowing. For several reasons fall plowing for potatoes is to be recommended especially for fields of old sod or corn stubble to be used for this crop. Such injurious insects as white grubs, wire worms and slugs are usually very prevalent on land which has been in sod more than two years. Exposing the larvae to winter freezing is the one principal means of control. Also, fall plowing better accomplishes the decomposition and availability for potatoes of the trash and stubble that prevails on old sod and corn stubble land. In the case of our heavier soils fall plowing will do much to make the granulation of puddling soils possible thru winter freezing. These are obvious advantages, but actual experimental evidence to substantiate them is decidedly limited. The Kansas Experiment Station in 1913 reports data covering two year's work at five different substations all showing marked increases in yield from fall plowing in preference to spring plowing.

In practice, fall plowing is little done except in years in which autumn weather is fair and the freezing period late. Pressure of harvest operations is the real reason why more fall plowing is not practiced. During the years 1913 and 1914, the Crops Department at Cornell made a potato crop survey of 1300 farms in six counties of New York and obtained detailed data on the crops of 1912 and 1913. In four of the six counties, over 90 per cent of the plowing for potatoes was done in the spring. In Franklin and Clinton Counties nearly 60 per cent of the acreage was plowed for potatoes in the fall. This acreage produced an average of 10 bushels per acre more than spring plowed land in the same region.

Depth of Plowing.

This is a factor which has been almost entirely neglected by experiment stations, judging by the absence of experiments reported. The Kansas station reports best results from shallow plowing on loamy soil while the Cornell station reports that deep plowing on Dunkirk gravelly soil gave best yields. Generally speaking, shallow plowing on heavy soils and deep plowing on light soils have been recommended. Obviously, a gradual increase in depth from year to year would increase the soil area available for tuber formation in the heavier soils. Uniformly porous and friable soils do not require as much attention of this factor. The Ontario Experiment Station has shown that irrespective of depth of planting of potatoes, the tubers tend to form at the four inch depth, tho depth of formation is influenced to some extent by depth of planting. This all indicates that most favorable soil conditions exist at approximately the four inch depth. Briefly then, plowing should be just deep enough to facilitate planting at the depth of optimum soil conditions.

A study of this factor on the 1300 potato farms of New York which were visited, reveals the fact that in all cases yields were increased as depth of plowing increased up to the eight inch depth. In some regions it apparently did not pay to plow deeper, possibly because of the fact that deeper plowing made subsoil of low fertility available.

Preparation versus Cultivation

Too few potato growers today realize the actual economy in thoro preparation of the seed bed. After a late wet spring during which it has been almost impossible to get on to the land at all, many growers become alarmed over the fact that June first has arrived and still no potato crop planted. As a result, the seed is finally planted in cold wet, clammy and poorly prepared soil at the earliest opportunity. Plowing, harrowing and planting all may be done the same week. We heave a sigh of satisfaction that the crop is at last planted. Too often this is all that could well be said however, for the potato crop is both an intensive and an expensive crop to raise. And by such methods of planting, we have insured ourselves of needless worry and labor for the remainder of the growing season. Cold wet soil means retarded germination, poor stand and often the rotting of seed pieces thru the introduction of soil fungi or bacteria. Too hasty preparation often means in heavy soils a lumpy seed bed which remains so thruout the season. A late plowed and little harrowed seed-bed also means a prolific crop of weeds to be battled unnecessarily. Weeds can be controlled most easily before planting when tillage implements of broad sweep can be employed. The cutaway harrow and the weeder used before planting will save labor by the single row cultivator and the hand hoe after the crop is up than is ordinarily appreciated. The resulting crop will be actually more advanced and the stand more perfect by postponing the planting date until the soil is properly fitted and of the right temperature and moisture content even tho the date be July first. Later planting in New York and Pennsylvania would very often mean less growing season, damage from potato insects, tip burn, drought and late blight. One other advantage in proper preparation of the seed-bed that is too little appreciated is that weeds are sufficiently well subdued by mid-season to make it unnecessary to cultivate late in the growing season, a time when the feeding roots of the potato plant interlace between the rows and fill the soil area near the surface. Late cultivation, often thought necessary because of weeds, results in pruning not only these important surface feeding roots but also the tuber bearing stolons.

MAKING GOOD CONCRETE

Good concrete for posts, blocks, floors and troughs can be made by observing a few simple rules.

Use cement that has been kept dry.

Use clean sand and gravel or crushed rock.

Measure the cement, sand and gravel in the proper proportions.

Mix the cement and sand thoroughly thn add the gravel and mix thoroughly.

Place the concrete immediately, and tamp or spade thoroughly.

Protect from freezing for two days or from drying for four days.

"It is poor economy to try to save by not using the proper amount of cement in the mixture. The labor, forms, sand and gravel cost as much for a lean, weak mixture, which will not be permanent, as they do for a rich mixture which is suited to the place where it is to be used and which gives at a slight additional cost for cement both permanence and satisfaction."—Minn. Farm Press.

TO PROTECT FARMS FROM WILD ANIMALS

Every year deer do a certain amount of damage to fruit trees and other crops in Southern New Jersey but there is no redress or any means whereby the farmer may obtain damages. The deers are protected by law while the farmer is compelled to suffer the losses.

In view of this fact and the fact that the injury caused by deers is increasing each year, the Atlantic County Board of Agriculture has drafted a bill which it is circulating among legislators for the protection of farm property from wild animals.

If enacted into law this bill will permit farm property owners to shoot and kill wild animals on their own land. It also provides means whereby the Fish and Game Commission of New Jersey may award damages for injury to any property owner for damage from wild animals.

EVER NOTICE IT?

A man that's really interested in his work will read sound material pertaining to his business. The uninterested man will read trash and spend his spare time at the movies.

The old-time wooden spoons still have their advantages. They are lighter than metal

DELCO-LIGHT

A complete electric light and power plant for farms and country homes, self-cranking—air cooled—ball bearings—no belts—only one place to oil—thick plates—long-lived battery.

Valve-in-Head Motor Runs on Kerosene

"DELCO-LIGHT is the Best Time and Labor Saver on My Farm"

Delco-Light users, everywhere---over 100,000 of them---think and say this about Delco-Light. Nearly every testimonial letter contains such a sentence. It is proof of the satisfactory service Delco-Light gives. It is an indication of the place taken by Delco-Light in the hearts of those who have installed it.

The clear rays of electric lights make the house, the barn or the barnyard bright as day, at the touch of a button. The electric current pumps and carries the water just where you want it, and performs a score of other jobs swiftly and silently while you do something else.

The experience of Delco-Light Users and their combined opinion is the best proof we have to offer of two things---that Delco-Light is mechanically correct---and that it is a paying investment.

DELCO-LIGHT COMPANY
DAYTON, OHIO
J. J. POCOCK, 824 N. Broad St., Phila., Pa.

There's a Satisfied User near you

With President and Engineer Hamiltons are equally popular

The railroad president, with his many appointments and hurried trips 'cross country, finds an accurate watch one of his greatest aids. And on the accuracy of the engineer's watch depends the safety of his many passengers.

Because of their day-in-and-day-out dependability, Hamilton Watches are in demand in every branch of railroading, from executive office to lonely signal tower.

The "Lackawanna Limited," crack train into New York City on the D. L. & W. is piloted by a veteran engineer and run on Hamilton time. Engineer Charles Stevenson has been at the throttle for nearly three decades, and for 19 years has relied upon his Hamilton Watch for the right time.

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POULTRY

EXPERIENCES AND ACCOUNTS WITH A FARM PULLET FLOCK

Many farmers were forced out of the poultry business as a result of war-time prices of feeds while many reduced their flocks to the bare needs of the family. The average farm flock in pre-war times just about paid its way if all feeds used were charged at market values. With special care some flocks did pay a fair profit but when feeds doubled in price, better feed and care and a better type of birds was needed to avoid an actual loss. It seemed to the writer that the advance in egg prices under war-time conditions and for several years after, would more than equal the increased cost of feeds.

In 1917 our family started on a new farm venture and from the start we decided to make poultry an important part of the farm livestock. With a little care we found it possible to keep an accurate account of rearing pullets and a full account with the first year's pullet flock. The rearing costs ended at six months of age and the pullet year of costs and profits included the next full year.

An Unique Brooder House

As a bred-to-la flock was wanted we gave considerable thought to the question of breeds. Owing to the habit of early maturity and to the fact that we decided to market white eggs the white Leghorn breed was chosen as the best money makers. As the conditions at the farm were not favorable for hatching the purchase of day-old chicks seemed the next best plan. All offers of chicks hatched from pullets eggs were refused as we were certain that chicks from two and three year old birds would be stronger and more vigorous.

Housing.

The next point was to engage the chicks to be ready at a time when we thought conditions would be most favorable for brooding. In our climate this would be the early part of May and so arrangements were made to have the hatch come off about May 10th.

The only available building for use as a brooder house was a small structure built for a garage. The building was about 10 by 12 feet, rather small for a flock of 400 except that we were able to give outside run after a few days. A coal-stove brooder provided a good supply of heat. Very little signs of white diarrhea were seen and the losses for the first four weeks were only 33. In early June, when the weather had become very warm the fire in the brooder stove was allowed to go out. Everything went well until about the 20th of June when there came a cool day followed by an unusually cold night. Although they had been without heat for two weeks the chicks crowded and huddled in one of the corners and the next morning we found thirty-one large chicks smoothered. Had a little care been used in noting the outside temperature and a small fire been started in the brooder in the evening this loss might have been avoided.

With most poultrymen the losses in rearing will run from 15 to 30 per cent of the number hatched. In our case the losses at six months of age were found to be 17 percent.

Feeding

Our plan of feeding was to provide a healthy growing ration and to allow free range after the first two or three weeks. Buttermilk mash was the first feed used with plenty of sour milk given as a drink. A commercial chick grain was added in a few days and was fed in the litter several times each day. During the second month a mixture of wheat bran and middlings was substituted for a part of the buttermilk mash. The chick grain was continued during the first two months or until the chicks were old enough to eat cracked corn.

When the chicks were about two months old a dry mash consisting of equal parts of bran, middlings, corn meal and glutten feed was used. The sour milk supply ran out the latter part of July and no animal feed was given from this time until the birds were about four months old. We believe now it would have been wise to have fed some beef scrap as soon as the skim milk gave out but the high prices prevailing developed a desire to economize. When the pullets were four months old a good growing ration was fed in liberal amonnts in order to develop strong vigorous birds. Wheat and oats from the farm and cracked corn from the trade, was fed in about equal proportions and to the dry mash mixture given above 15 per cent of beef scrap was added. This resulted in the development of unusually large vigorous pullets at six months of age.

The cockerels were separated from the pullets when two months old and were fed a forcing ration mixed with skim milk and were kept in close confinement. These were disposed of at one of the local summer hotels at 85 cnts each, going to market in two lots of 75 and 70. The income from cockerels more than paid for all feeds for the entire flock for the first three months.

Preparing the Flock for Winter Egg Production.

When the pullets were 5 months old they were confined in their winter quarters and forced for winter egg production. We found it required two to three weeks for the birds to become accustomed to being handled in close quarters.

Our aim was to get them to consume a large amount of dry mash and grain and to get them to become active in the litter and at the same time tame. We consider it a big mistake to let the pullet flock run at large until one is forced to take them in by snow or cold weather.

Unless the flock becomes settled down in winter quarters and begins laying before cold weather comes they are apt not to lay until January or February. On the other hand if one can get the flock laying well in November they will generally lay well all winter. A Leghorn flock hatched in early May should be producing enough to pay for the feed at six months of age. Our flock was doing this at five days past six months of age.

After crediting the income from the cockerels and five small broilers and ten discarded pullets used by the family it was found that the cost of rearing 172 pullets up to six months amounted to 73 cents each not including labor. Estimating the time as nearly as possible and charging 25 cents an hour cost amounted to 70 cents each making a total cost of $1.43 cents for each pullet.

(To be Continued.)

UNIQUE BROOD HOUSE

The combination brood and egg-laying house shown in the accompanying photo is the invention of one of my friends. He uses the brood house in combination with a 14 by 40 foot poultry house, raising between five and seven hundred chickens a year. At first glance, this looks like a large number to raise with that equipment, but since he has his first hatches to come early in February or March and utilizes the handy brood house he is able to care for two large hatches very easily.

The brood house is 8 by 14 feet, with a front height of 7 feet. It sets on a concrete foundation, but the floor was dug out and filled up with about eight inches of cinders. This insures an absolutely dry footing for chicks when straw is spread over it. The construction of the house is simple as can be seen, all framing material being of 2 by 4 stuff.

The house was made perfectly warm and free from drafts—first, by siding it with all tongue-and-grooved stuff; second, by fitting nicely every joint, door and window; third, by sheathing the rafters solid and applying a heavy quality of asbestos roofing. The front faces to the south, and two 2 by 2 foot windows let in the sunlight.

The two doors were not essential, but they proved to be very convenient when the brood house had a wire netting partition put in it and a system of runways were built round the stove. The brooder stove is a regularly equipped hard-coal brood stove which is placed in one end of the house rather than in the middle, making it possible to keep two broods in the house at one time.—J. L. J.

CONTROLLING SCALY LEG

Hens that are housed in damp coops are the most apt to be infested with the mite which burrows beneath the scales of the legs causing the rough incrustations known as scaly legs. This can usually be cured in a short time by washing the legs with warm soap and water and then rubbing them with a solution of some coal-tar disinfectant or with kerosene oil.

The mite may spread from one bird to another either on the perches or on the nests. It is not a dangerous trouble but ruins the birds for exhibition purposes until they are cured and must cause them some discomfort which will retard egg production.

Prevention is the best system with scaly leg. If the sanitation of the house is right it will seldom occur. Birds that show a tendency to have rough legs should not be used as breeders. This seems to eliminate rapidly the pest from the flock. There are many flocks of poultry where a scaly legged fowl is never seen. The birds seem to be immune to it due to the clean conditions in the house and on the range over a period of several generations.—R. G. Kirby.

Washington was a good farmer and always wanted to learn. As America had produced no books on agriculture at that early date, he was forced to try many experiments. The year when he was busy with the making of the federal constitution he experimented with oats, his diary shows.

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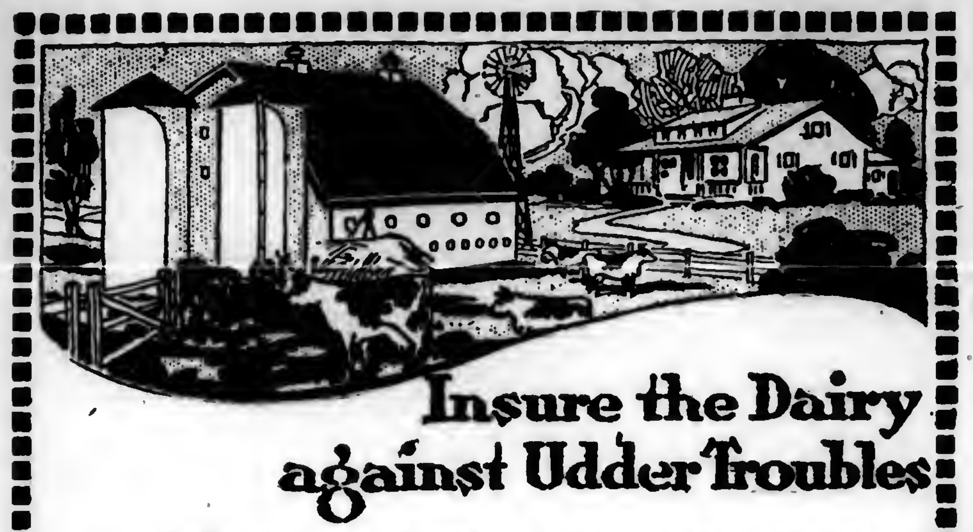

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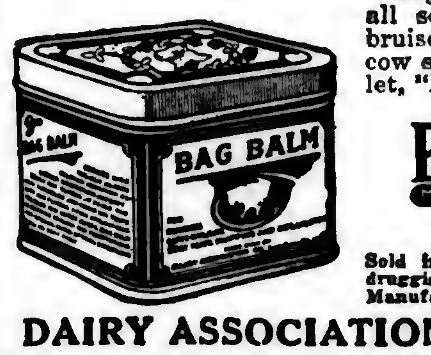
Bag Balm is a great healer, too, for all scratches, cuts, chaps, sores and bruises. It should be on hand in every cow stable. Write for our useful booklet, "Dairy Wrinkles"—sent free.



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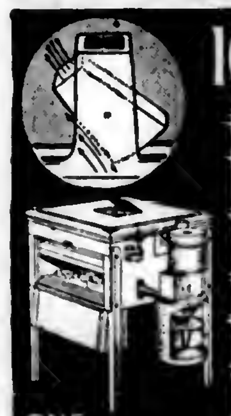

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Take any quantity of pure olive oil filling the bottle not over half full. Put in all the camphor gum that will dissolve; in fact I make the oil about thick with the gum. Shake often if needed for immediate use. Bathe the caked parts freely rubbing them for some minutes. This mixture has a tendency to dry the milk to a certain extent, but it will never fail to cure, if enough of it is used, and the parts rubbed thoroly, but gently. Do this several times a day if the case is severe. Care should be taken to remove all the milk possible from the udder, each time. It cools the inflammation, and will soon restore the cow to normal. Give the cow all the water she will drink, but do not have it cold. Add some hot water to each pailful, to take off the chill, making it tepid.

Several years ago, we had a cow that was due to freshen in June. She was turned in a pasture with some young stock the pasture being (as we supposed) quite thin and poor. About one week before she freshened we found her with a badly swollen and caked udder. She was removed from the pasture and put in the barn and fed hay. But the damage was done, and the next move was, to undo it. She was very thirsty, and eagerly drank from eight to ten pails of water daily, but not one drop of cold water passed her lips for two weeks I never saw a cow so swollen. The udder was hard all over and of immense size; a large ridge from the udder to the front legs, and both front and hind legs badly swollen. We did not think it possible the cow could recover. But we kept her in the barn in a large, cool, well ventilated box stall. Nothing but hay to eat, and all the tepid water she would drink. All the medicine we used was the camphorated olive oil. That was used each hour during daylight, and I also drew all the milk that I could each time. I think I spent full fifteen minutes each time bathing and rubbing softly the caked udder. When she freshened she came out much better than was expected. We let the calf run with her for two weeks, and that attended to the milking and we still kept her in the box stall on hay and tepid water and continued the bathing and rubbing. Great care had to be taken when turning her out to pasture. We let her out only an hour at a time, on very thin picking in the barn lot. But we saved the cow. This camphorated oil has been our standby for many years. It was given us by one of the best practicing physicians of the country.

One of our neighbors had a fine cow freshen in warm weather. She went to the spring, drank her fill of the sparkling cool water and was taken sick. A veterinary was called, but nothing could save her. All due to the chill, the cold water gave her.

When we do return to cold water, we usually give the cow the first pail of water with the chill removed, each time for a day or two; and we have never had any bad results at freshening time.—M. I. C. A.

HELPS CREAMERIES SAVE COAL

The practical value of using exhaust steam in various creamery operations is being demonstrated by the Dairy Division, United States Department of Agriculture. Last year 45 creameries installed exhaust steam water heaters and hot-water boiler-feed pumps, assistance being given and, in some cases, plans furnished by Government specialists. Equipment for using exhaust steam to pasteurize cream was installed by six creameries and a number of others introduced similar economies.

The result of such efforts, it is pointed out, makes possible more economical operation. The high prices of coal and electric power have given added importance to the utilization of steam formerly wasted.

LANCASTER FARMERS FAVOR SILO

An experiment in steer feeding has been carried on in Lancaster County for the last four years by farmers of the county cooperating with the Pennsylvania State College to obtain additional information on the comparative value of silage and dry feed for fattening steers. One hundred farmers used the dry feed method, while 90 others based their feeding operations on corn silage and cottonseed meal.

The silage fed steers made the more efficient gains, it being estimated that the use of a silo was worth $15 for every steer fed. These demonstrations carried on under actual farming conditions convinced the farmers of Lancaster County that silos were a necessity in their business, and as a result five times as many steers are fed from silos now as was the case in 1914. The results of ten years' experimental work along this same line at State College indicate that an acre of corn in the silo will make one and a half times as much feed as an acre of corn not so preserved. It is known that silage-fed cattle have as high a dressing percentage as dry fed steers. Both cotton-seed meal and linseed meal are efficient sources of protein, and their use with silage appears to be the cheapest way of making beef in this state.

Another result of the feeding tests in Lancaster County is the tendency toward feeding steers in open sheds instead of in barns. At least 75 farmers are now using open feeding quarters. Since 75,000 cattle are fed in this country every year, it is the most important feeding center of the state, and methods which prove practicable here will be considered seriously by farmers in other sections. Even where conditions are not so favorable for beef production a cheaper system of feeding might make possible a profit large enough to justify farmers in giving more attention to the beef breeds.

HOLSTEIN BREEDERS MEET

The Cumberland County Holstein Friesian Breeders' Association held their second annual meeting at Carlisle, Pa., February 18th and elected following officers for the year: President, W. S. Kerr; Vice-President, S. U. Lear; Treasurer, I. V. Otto; Secretary, R. L. Shenk; Executive Committee, J. D. McCullough, A. L. Bierbower, Harvey Shughart, Fred Lehman and G. L. Strock.

This association has done good work in bettering conditions in the dairy line in this county by encouraging better sires and advising members to join cow testing associations as well as doing more official testing. The association has offered a cup to the owner of the cow making the best seven-day record butter fat. Also, cup to the highest butter fat record cow, cup to pass from present holder when record is beaten.

This association is now planning a big scale of pure bred cattle to be held this spring.—R. L. S.

FEW IMPORTED CATTLE REACT

Federal tuberculin tests of cattle reaching the United States from foreign countries show relative freedom from the disease. Last year, 885 cattle intended for import were tested and all except 16 passed the test. Thru arrangements with the British Government the bureau has for several years maintained an inspector in Great Britain, among whose duties is the tuberculin testing of cattle intended for shipment to the United States. Cattle not accompanied by tuberculin-test certificates or approved by the bureau inspector in Great Britain must be tested in quarantine after arrival in the United States.

WHAT'S A FARMER?

A farmer is:—

A capitalist who labors.

A patriot who is asked to produce at a loss.

A man who works eight hours a day twice a day.

A man who has every element of nature to combat every day in the year.

A man who is a biologist, an economist and a lot more ists.

Who gives more and asks less than any other human being.

Who takes unto himself for his own sustenance and that of his family, those of his products that other people will not utilize.

Who is caricatured on the stage and in the daily papers, but who can come nearer taking hold of any business and making it go than any other American alive and in captivity.

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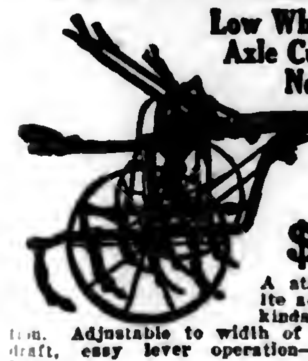
A light draft frameless sulky plow. 14-inch soft center steel mouldboard; chilled share, solid steel rear furrow wheel; light foot lift. Price.....$69.80



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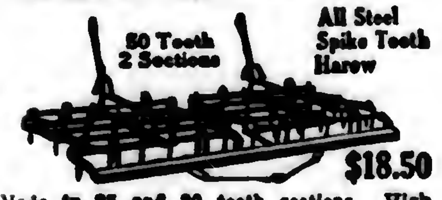

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The latest development in Spreader construction. Return apron type—all steel beater—one-piece steel frame—worm gear drive—enclosed gears running in oil bath; steel wheels. The best in manure spreaders at an amazing price.....$175.00

IN fact, if you are going to need implements within the next two years, *RIGHT NOW* is the time to buy them. Our prices today are lower than the same implements can be bought for from any other source—and they are now much lower than even our own prices can possibly be later.

Our stocks are now fully complete—big shipments have been received and are in our warehouse ready for immediate shipment. These implements all were bought from six to eight months ago. The manufacturing cost of every article in our stock is today from 10 to 15 per cent higher than we paid for it—and is increasing every week.

Compare the prices of the tools shown on this page with prices you can obtain elsewhere—bearing in mind that our unqualified guarantee—"money back unless you are entirely satisfied"—safeguards you absolutely as to the *quality* of our implements.

The samples on this page are in no sense "special offers." They are representative tools from the National Farm Equipment Catalog, which contains hundreds of offerings equally as attractively priced. Thousands of farmers are saving money ordering their tools and equipment for farm, dairy, orchard, garden, and poultry yard direct from this catalog. If you have a copy get it out and make up your Spring order *now*, before our stocks are run down. If you have not received a copy, cut out and mail coupon printed at bottom of this page.

OUR UNQUALIFIED GUARANTEE

Satisfaction with every purchase or your money back with freight both ways. No sale is complete until *YOU* are satisfied.

Lime and Fertilizer Spreader

Only $37.50

Easy to Fill Sows Evenly

Every farmer needs a dependable lime and fertilizer spreader. The N. F. E. Spreader is strong, accurate and durable. For complete description see N. F. E. Catalog, page 15.

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The best hillside plow made, regardless of make or price.....$87.50

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HOUSEHOLD

NEW USE FOR APPLES

Apple Candy

Do you know that apples make a wholesome and most delectable candy? "Apple bons" were originated by a clever woman in the state of Washington during the war. The boys in the trenches needed sweets, but how were they to be supplied when sugar was so scarce? One day when she looked out her kitchen window the trees in her orchard began to beckon her. Such a wealth of Jonathons, Winesaps and Spitzenbergs as there was, and then the idea came. If oranges and watermelons could be crystalized into candy, why not apples? Instantly she set to experimenting, and evolved so delicious a confection that pretty soon all the women in her section were making "apple allies," as she called them. In due time thousands of boxes of these allies found their way to the boys of her state overseas.

Here is her recipe for the syrup in which she crystalized the apples: 3 cups sugar, 1½ cups water, ½ teaspoon salt, and coloring matter as required for the amount of apples to be made up.

All Ready! Let's Make Some Apple Candy

She used Jonathons, Winesaps and Spitzenbergs because these are most commonly raised in Washington; also because they are firm of texture, and do not fall apart when boiling in the syrup. Neither do they become tough and dry. But any of our eastern apples that will not cook to a mush in the syrup will do just as well, in fact, rather better because our apples usually have a nicer flavor than the western apples.

The apples must turn clear while boiling in the syrup, or a few minutes after being removed from it. If they do not do this, they will not candy at all well. The time required to make this candy will vary from three days to a week, according to the temperature and dryness of the room in which it is done. Dampness interferes with the crystalization of the apples.

To Make Apple Bons

For a one-pound box of apple bons peel six medium-size apples, cut into thirds and quarters as uniformly as possible. The syrup should be boiled in two separate pans, the shallower the better. The apples should be ready by the time the syrup comes to a boil. Skim off the scum from the syrup, add the coloring, red in one pan and green in the other, if these are the two colors which you are using, stirring well to insure eveness of color; put in only a tiny speck of the color at a time because it is very strong and you do not want to get in too much. This coloring may be what is known as confectioners' paste, which comes in little tubes in all hues of the rainbow; they cost only a few cents each. Then there is the liquid vegetable color which comes in little bottles which cost 15 to 30 cents each, and will last a long time because the color is so very strong. But should you not have any of these colors on hand, use canned strawberry or cherry or raspberry or beet juice for the red, and juice from your spinach or other greens for the green.

When the color is thoroly incorporated in the syrup slip the apples carefully into it, taking pains not to break them. Let them boil briskly about 15 minutes, then remove carefully with a skimmer, and drain for a few minutes in a wire basket, then lay each piece carefully on a buttered platter, taking pains to have none touch each other. After standing six or eight hours, they are ready for their first coating of granulated sugar. Then lay them on unbuttered plates, and leave to dry for 24 hours; waxed paper is excellent for this stage of the process, because the pieces will not stick to it as they may to the plates.

Turn the apples several times during the 24 hours so that they will dry thoroly on all sides. Repeat the coating process twice at intervals of 24 hours, letting them stand each time until they are perfectly dry. At the end of the third drying you will have a tempting batch of candy, deliciously jellied within and crystalized on the outside.

Easter Apple Candy

Easter gift boxes of this confection may be made very lovely with the rainbow hued color pastes. In the boxful shown at the lower right corner of the photo will be seen some eggs, two at each end of the box. The same clever Washington woman made these thus: She boiled 2 cups granulated sugar with ⅔ cup white corn syrup and ⅔ cup water until it would form a hard ball between the thumb and fingers when tried in cold water. Then she added very slowly the beaten white of one egg, in which one scant teaspoon of baking powder and a pinch of salt have been sifted and well beaten in. She flavored this with vanilla, and beat it until firm and creamy enough to mold in the form of the eggs shown. She used a small yellow candy for the yolk, and before the outside hardened she rolled the eggs in ground walnut meats to give the speckled appearance indicated. She used English walnuts because they grow them out on the Pacific Coast, but we can use black walnuts or hickorynuts just as well.

Honeyed Apple Candy

Bring to a boil 2 cups of strained honey (or you can use syrup) and stir in 2 ounce gelatin dissolved in ½ cup water. When it begins to stiffen, add the juice of one lemon, and 1 cup finely chopped figs or dates or both together. Stir until the ingredients are thoroly mixed, then pour into a pan containing a layer of apple bons dusted with cornstarch and powdered sugar and laid in neat rows. The pan should also be dusted with the same mixture. When the candy is hardened on the outside, cut it into squares, so that a piece of apple bon is in the center.

Apple Bon and Jam Paste

Ingredients. — One-eighth ounce strawberry, jam, ⅛ ounce apple jelly, 3 tablespoons powdered gelatin, 1½ cups cold water, 1 cup finely shredded pecans or other nut meats and cocoanut, and 20 pieces of apple bons.

Method.—Melt the jam and jelly together in dish set in a pan of hot water, add the gelatine dissolved in the cold water, stir and boil gently five minutes. When it begins to boil down, pour into a flat pan, in which the apple bons are arranged in rows on a coating of powdered sugar and cornstarch, as described for making the honeyed apple candy. In the morning pull out onto a bread board lightly dusted with finely shredded cocoanut, cut into inch squares and dust these with the cocoanut.

This use of apples for candy making suggests a means of making pin money at home. So far as I know it has not been done, and it would command a fancy price from city customers.—Louise E. Dew.

BUYING AND USING PAINT

The painting of farm building is a big job and expensive these days. Some of the paint on the market is made principally to sell. Some of it is what property owners want, but how are they to know the one from the other? The owners and buyers know the color or shade they want and they know that they want a paint that will stay a maximum length of time, protect the surface of the build, and hold its color. The kind or make that will give tho service is the question.

The wearing qualities of paint and its protecting power are due more to the pigment than to the oil. The finer the pigment, the longer it will wear, but it will dry more slowly. A layer of paint is about three times as thick as a layer of linseed oil, hence for this and other reasons, the paint affords a better protection than the oil. But the quality of the oil is also an important factor.. There are some substitutes for linseed oil that are practically worthless, and if these have been mixed with prepared paint, except by an experienced paint man they are hard to detect. During the past two or three years, or since the prices of white lead and other paint materials have advanced, a few manufacturers have been putting out a paint for outside use in the form of a semi-poste, containing white lead, zinc oxid and silicate. The pigments are finely ground in linseed oil. The advantage in buying paint in this form is that the property owner can buy the oil of a local dealer, thereby having an opportunity to see what the quality is and be reasonably sure of a pure article. Then the paint can be mixed by the owner to suit the requirements.

Paint should be applied only to a clean and dry surface. Paint spread on wood that contains moisture will blister or peel. Moisture between coats has the same effect. On old and rough pointed surfaces the paint should be removed, or sanded down smooth before applying new paint. In some cases a careful removal of blisters and scales is sufficient but the surface should be free from dust and dirt.

As a rule paint is best applied with a round or chissel shaped brush as it can be rubbed out best with a brush of this kind. Brushing out well serves to remove any blubbers of air, also the film of air found on all surfaces, and besides this it insures a thorough incorporation of the paint with the surface, thus affording better protection. The rusting of painted surfaces of farm implements is caused by bubbles where moisture enters through these openings in the paint and starts the rusting. A good deal of the farm machinery is "painted" by the dipping process, which accounts for these results. Also paint that is not cemented to the surface by being evenly brushed out, is easily removed mechanically.—V. M. Couch, Ithaca, N. Y.

READING TO LITTLE FOLKS

Are we as careful as we should be that our children do not get incorrect or terrifying impressions of things while they are very small? Not always, I am afraid.

It is never best to take tiny tots to funerals and should be avoided wherever possible. Wait till they are old enough to comprehend the situation to some extent at least. Consider, for a moment, the horror that would possess our own minds if we saw only the visible happenings without the ability to understand them at all. Little ones often get the idea that the corpse is sleeping—a perfectly natural conclusion for them to draw; will they not think when they go to the cemetery that the sleeper is treated rather peculiarly?

Another point on which we are very often negligent is the sort of reading we allow the tiny kiddies to hear. When my girlie was about two years old some of us read aloud an account of the devastation of Belgium in which a number of children were separated from their parents and herded together in the care of an old woman. The child was so little I didn't think anything about her but I soon found that she was terrified at the fate of those children. She clung to me much worse than usual, and the climax was reached some time after when I had some especially welcome company, an old school mate of mine was just home from the far west with his wife and I invited them to supper with us. We thought a great deal of them both and could seldom see them as they lived in Idaho. The young man was teaching but his wife came and spent the afternoon while he came in just about supper time. My girlie had gotten on finely till the gentleman appeared. He tried to make friends with her and told her he had lots of children in his school every day. She flashed him a look that spoke volumes, screamed wildly, clung to me like a burdock bur and continued to shriek till I took her to another room where she still clung to me and sobbed. My mother had to serve my company supper and I could hardly get away from the child to bid my guests goodby. I soon discovered how the situation appeared to her baby mind; she was still thinking of those Belgium children when my friend asked her to come to him and told her he had lots of children she instantly decided that he was the ogre who was doing all this and he had come after her now. He attended the same church that we did and was in my Sunday School class but I could hardly get my girlie to come to class with me and many a time during other services she would begin to scramble into my lap when I could see no reason for it till I followed the direction in which she was looking with wild, frightened eyes, and I always found them riveted on that man. She is seven now and has learned to like him as well as we do, but the incident serves well to illustrate the harm that may result from lack of caution in reading even news items before the little ones. When I was a child I heard in some similar way about cannibals and I well remember expecting to be eaten up some time. It would be well to consider how the thing we read will sound to the ears of a baby, they notice more than we think they do.—E. A.

CANNED TOMATO PULP

Every year for some time I have intended to can some thick tomato pulp to use for soups, etc., but for various reasons have always failed till this year. It proves so highly satisfactory, however, that I surely hope I shall always have a supply hereafter.

I used horseradish bottles holding a little less than half a pint, which is just the right size for our family of five; one bottle makes one soup or one gravy. Possibly not every one is familiar with our particular brand of gravy but it is almost invariably a favorite when one once makes its acquaintance. When I was teaching I boarded at one time with a dear little woman who very often served riced potatoes and tomato gravy. A combination so good that I wouldn't mind it 365 times a year. Put about a tablespoonful of butter or drippings in the frying pan and let brown slightly. Slice in three or four tomatoes or four in a bottle of pulp. If raw tomatoes are used cook them up fine. Thicken with a large tablespoon of flour stirred smooth in water. It will be very thick but should now be thinned to the desired consistency with rich milk. We prefer it about as thick as medium cream. Salt and pepper to taste just before removing from the fire. Serve piping hot.—Mrs. E. M. Anderson.

THE MODERNIZED HOME

Ho, for the country!
"It's me and mine for the country,
Hoo-rah, hoo-ray!
All city accommodations,
We're going out there to stay.
The air, unadulterated,
Comes fresh from nature's store;
Bathroom, electric lights, and car,
What mortal could ask more?"

"Say, slow up on your gushing,
Hoo-rah, hoo-ray!
I've lived out in the country
For many years and a day.
The wash-tub we lugged shedward
When weather forbade the swim;
But when that bathing suit was thru
We'd lost considerable vim.

"The lantern's ghostly shadows,
Hoo-rah, hoo-ray!
Gave tantalizing glimpses
Of cattle munching hay.
We grouped dark winter mornings
With knocks on shin and head.
The man who shouts for the country?
Well, none for me. 'Nough said!'

"Say, don't you see, good neighbor,
Hoo-rah, hoo-ray!
The rural water system
You're antedating. Say,
Equip your house and buildings
According to their 'ad,'
You'll find the country life and home
Beat anything you've had!

"But seeing is believing,
Hoo-rah, hoo-ray!
So come out home to dinner
With me this very day.
The system's all they claim it.
I'm proud to show it, too.—"
"Well, I'll be switched!" says doubting Bob,
"I'll go along with you."

Enthusiastic Robert,
Hoo-rah, hoo-ray!
Is living in the country
And has been, many a day.
The rural water system
Now keeps him company.
A happier, more contented man
You wouldn't wish to see!
—Louise White Watson.

WHEN STORIES WERE BAKED

"It's in the oven!" That was the ancient Babylonian version of the modern printer's "It's on the press." When a native of Babylon or Egypt wanted to "write," he shaped soft clay into little bricks. On these bricks he scratched signs sometimes pictures, which stood for letters, words or ideas. His "pencil" was an oyster shell or a piece of broken pot. After he finished his story, he had it baked in an oven or dried in the sun. Later the Egyptians found that the pith of the papyrus—a plant growing in the Nile Valley—made a good foundation for writing; so they scratched "papyrus letters," using a reed pen and ink made from gall-nuts and sulphate of iron. For hundreds of years papyrus was the world's "writing paper." But when Mohammed conquered Egypt, Europeans could not get papyrus; so they used a fine leather instead. Even today leather is sometimes used—only we call it parchment.—Everyland.

A TEA COLLEGE

A business college, a college of law or medicine, even a college of agriculture, yes!—but did you ever hear of a tea college? They are going to have one in China. This is because Ceylon and India have taken away nearly all China's foreign commerce in tea, and the intelligent men of this wise country have decided to form a college to study how to get this commerce back again, and how to produce a better product.—Everyland.

For the household repair kit: Hammer, Screwdriver, plane, pliers, awl, oil can, saw, soldering outfit, knife sharpener, twine, shears, tacks, nails, screws, hooks and wire.

EMPIRE
PIPELESS SYSTEM
—OF—
HOUSE WARMING

Fifty-two years experience in the production of high grade stoves and furnaces, stand back of the **EMPIRE PIPELESS HEATER.**

Incorporated in 1867, we gained, year after year, an enviable reputation for our **RED CROSS STOVES AND FURNACES**—thousands of which can be found in farm homes today.

The **EMPIRE PIPELESS** is the product of a company long famed for its reliability and service.

It is a heater that the farmer can buy with unlimited confidence because its material and workmanship are of the best. The patterns are perfectly fitted, which eliminates any difficulty when setting up. A perfect gas tight heater is the result.

Most pipeless heaters look alike when cased and ready for use. *What's inside* the casing is the vitally important part of the heater.

The inner and outer casings of the **EMPIRE** are made of heavy galvanized steel, the inner casing being thoroughly insulated with heavy sheet iron and asbestos paper.

It is an efficient heating unit from top to bottom and it's sold with the old reliable guarantee that has made the Red Cross Stoves famous. You take no "chances" when you buy an **EMPIRE PIPELESS HEATER.**

Before buying, look into the **EMPIRE.** You won't regret it. We have dealers everywhere, one near you. Write us for his name and location. It will pay you in the end to do so.

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Manufacturers of the Celebrated line of
RED CROSS STOVES, RANGES AND FURNACES

BETTER silage—at lower cost! That's what you get with the Ross Ensilage Cutter. *Clean-cut silage*—from the first hour's operation right straight through the heaviest silo-filling job, and year after year of the same high-class low-cost service.

Better Silage—at lower cost. Do you want to know why? Walk into the store of the dealer who sells

Ross Ensilage Cutters

and ask him to show you the special *Ross Ball-Bearing End Thrust* and *Extra Knife Adjustment* which forces the knives right up against the shear bar *and holds them there*—absolutely preventing shredded silage or "chewed" silage—and keeping the rich juices in the corn, where they belong—*by cutting every piece slick and clean.*

Rockwood Fibre Pulley

Note that Ross Flywheel Cutters are equipped with genuine Rockwood Drive Pulleys. These pulleys *grip* the belt perfectly and *absolutely prevent slippage.* No wasted power and no jerking—no matter how heavy the load.

Low Speed — Light Draft

The staunch, sturdy Ross is built for hard work and lots of it. Requires minimum power—and bums right through the toughest job at a steady, low speed. *No straining or racking.*

Six-Fan Blower—Wish Bone Steel Mounting. Babbited, Self-Conforming Bearings on Main Shaft. Angle Steel Frame

Study the Ross carefully. Compare it—part by part—with any other cutter on the market, selling at any price. Ask about the Ross Warranty which *guarantees absolutely satisfactory service.*

We Match Your Power

Ross Ensilage Cutters are especially designed for use with gasoline and kerosene engines. You don't need a special engine. *There is a Ross to match your present power*—from four horse-power up.

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THE humane remedy for lame and blemished horses. It's sold with signed Guarantee to refund money if it fails to cure SPAVIN, Ringbone, Thoropin and ALL Shoulder, Knee, Ankle, Hoof and Tendon Diseases, and while horse works.

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Increase your profits by using The Best Potash Fertilizer. THE JOYNT BRAND PURE UNLEACHED HARDWOOD ASHES. A complete and sure fertilizer for all growing crops. For top dressing seeding down and truck growing they have no equal. Agents wanted. Correspondence invited. JOHN JOYNT, L. B. 297, Lucknow, Ont., Canada.

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It's the light draft, easy pulling, sensible, practical Kemp-Climax Spreader that pays big profits to users. Easy to load (low down)—easy to unload—simple and durable—sells on its merits. Indestructible enclosed drum with self-sharpening teeth shreds into wide strips, spreads evenly—quickly—all barnyard manure, ashes, lime, or other fertilizer.

Write for catalog and prices—Ask for "Saving and Application of Manure," by the inventor of the Spreader.

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Delivered TO YOU FREE

Your choice of 44 styles, colors and sizes in the famous line of "RANGER" bicycles. We pay the freight from Chicago to your town.

30 Days Free Trial allowed on the bicycle you select, actual riding test.

EASY PAYMENTS if desired, at a small advance over our Special Factory-to-Rider cash prices. Do not buy until you get our *great new trial offer* and low prices and terms.

TIRES LAMPS, HORNS, pedals, single wheels and repair parts for all makes of bicycles at half usual prices. SEND NO MONEY but write today for the big new Catalog.

MEAD CYCLE COMPANY Dept.S.78, Chicago

Rider Agents Wanted

Boys make big money

Seed Oats Choice Swedish Select and Big Four Seed Oats testing 40 to 43 pounds. Price $1.50 per bu., bags extra at 20c each. THE HORN BROS. CO., MONROEVILLE, OHIO

Junior America Grain Threshers For the Farmer

Pneumatic Straw Cutter Attachments

SPECIAL PRICES THIS MONTH

DOYLESTOWN AGRICULTURAL CO.

ESTABLISHED 1851 DOYLESTOWN, PA.

FIRST ANNUAL MEETING OF THE AMERICAN FARM BUREAU FEDERATION

On March 3rd at Chicago the American Farm Bureau Federation was made a permanent organization by unanimous vote. Four hundred delegates were present. Since the Organization Meeting in November, 28 states had ratified the Constitution and were admitted to the Association by the Executive and Credentials Committees.

Below are the names of states which ratified the original constitution, giving the number of directors from each, a close estimate of the membership and approximate amount of money which will be paid into the A. F. B. F.

The total number of directors is 53. The total membership is approximately 700,000 and total budget for the first year approximately $200,000, according to the report of temporary Secretary J. W. Coverdale. States ratifying—New Jersey, Minnesota, Massachusetts, Illinois, Iowa, Colorado, South Dakota, Missouri, Kentucky, Michigan, California, Georgia, Arizona, Wyoming, New Hampshire, Vermont, Utah, Indiana, New York, West Virginia, Nebraska, Ohio, Idaho, Oklahoma, Maryland, Connecticut, Kansas and Texas.

Permanent Officers

James R. Howard of Clemons, Iowa, was elected president and S. L. Strivings of Castile, N. Y., vice president.

Executive Committee members were electd as follows, by regions: E. B. Cornwall, Middlebury, Vermont; W. H. Walker, Willows, California; E. F. Richardson, Millis, Mass.; W. E. Jamison, LaVeta, Colorado; H. E. Taylor, Freehold, N. J.; John F. Burton, Garland, Utah; O. E. Bradfute, Xenia, Ohio; Grey Silver, Martensburg, W. Va.; Chester H. Grey, Nevada, Mo.; James W. Morton, Athens, Georgia; Howard Leonard, Eureka, Ill.; George Bishop Cardell, Oklahoma.

The directors voted to pay the president $15,000 a year and allow $3000 a year for traveling expenses. It was decided that the president should be the foremost executive and leader of the organization. The executive committee will employ the secretary and determine where headquarters will be.

Provision for Different Finance

It was voted to change the manner of paying dues from the present method of ten percent of all Farm Bureau membership fees under the State Organization, to 50 cents a member, this change not to go into effect sooner than January 1921. Under the constitution, provision is made that no amendments will be effective until approved by a majority of the member states.

Dues Start April 1st

A ruling was made that dues be paid on the basis of paid membership dues by members in the County Farm Bureau belonging to the State Association on the first day of each quarter of the year, starting April 1st, 1920.

Program of Work.

At all meetings the program of work for this year was discussed. The definite projects were made in the resolutions, in the form of a recommendation to the Executive Committee.

The Executive Committee was instructed to set up without delay a business organization, under direction of trained experts, and create bureaus or divisions as follows:

1. A bureau of transportation which will look into transportation matters by both rail and water, to the end that we may secure rates on farm products which shall be fair as compared with rates on other commodities, and which shall give to the farmers of the United States ocean rates which will enable him to compete on a fair basis with the farmers of other nations of the world.

2. A bureau of trade relations which shall investigate our dealings with foreign countries to the end that the interests of agriculture may be promoted.

3. A bureau of distribution which shall make a thoro study of the distribution of farm products.

4. A bureau of statistics which shall inquire into world conditions which influence supply and demand, and which shall especially study the mechanics of prices.

5. A legislative bureau which shall have to do with matters of National legislation which affect farming and farmers.

6. A bureau of cooperation which will make a special study of cooperative methods which have been found to be successful both here and in other countries, and which shall draw up standard forms for cooperative enterprises of various kinds and aid State Federations to promote local cooperative enterprises on thoroly safe and truly cooperative lines.

Digest of Other Resolutions.

The resolutions set forth in very definite terms a pledge of full support to the Constitution of the United States, condemning radicals and reactionaries.

Increased production is essential to National well being. We stand for higher individual efficiency. In determining a compensation, we believe that the result of the day's work, rather than the hours thereof should be of paramount importance.

We pledge the farmers of America to the largest possible production consistent with good husbandry, with a view of relieving the world's dire necessities and invite the workers of all other industries to join us in this spirit of service.

We declare the strike no longer justifiable and no longer to be tolerated by a long suffering public.

We favor the creation of such arbitration boards or courts, with power and authority, to adjust controversies between labor and capital as shall safe-guard the rights of the parties directly interested, as well as the welfare of the general public.

Realizing the need of trained workers and a healthy citizenship in all walks of life, we urge such general course of instruction of our young manhood as shall call attention to and give promise of relieving general health conditions thruout the country.

We hail the American Legion as one of the most important factors in the life of America, pledge our support in its great work and welcome it to comradeship.

We pledge the full strength of this institution and its individual membership in support of the good roads movement throuout the country.

Deploring the waste and extravagance of the present day, we urge the necessity for a return to the more humble and prudent practices of the past.

Our country needs stability and the brakes must be applied to secure that much desired result. Waste breeds recklessness, a lack of responsibility, and is the best aid to the profiteer whose selfishness knows no country and who has no regard for the rights of masses.

We recommend legislation, providing that the presence of all substitutes for virgin wool in fabrics and apparel purporting to contain wool, shall be made known.

We recommend that a committee be appointed to confer with the International Revenue Department in working out a simplified form for Income Tax returns, for farmers.

We definitely and emphatically oppose the proposed legislation to levy a tax of 1 per cent on land holdings in excess of $10,000.

We demand for agriculture, at the hands of State and National legislative bodies, the privilege of collective bargaining.

We insist that in all tariff legislation, agriculture be given equal consideration with other industries.

We wish the American people to definitely understand that the organization self-styled "The Farmers' National Council" has no authority to speak in behalf of the farmers of this country.

And all efforts on the part of the Farmers' National Council to ally the agriculturists of America with the radicals in the industrial world is hereby denounced.

Here are some of the kinds of apples that are still good during the month: Greenings, Baldwins, Romes, Ben Davises, Yellow Newtowns.

PASSING EVENTS IN PICTURES

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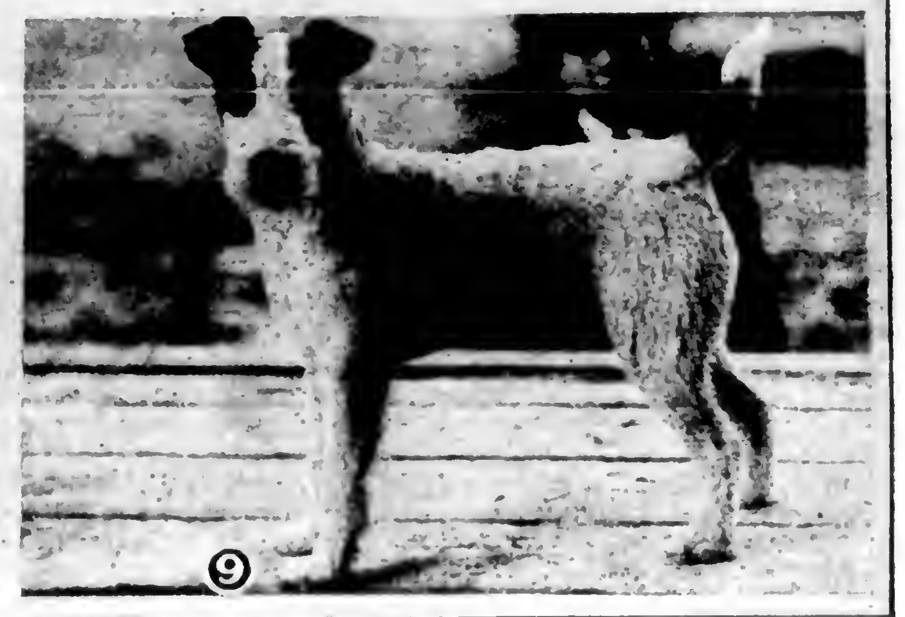
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(Photo. Copyright by Underwood & Underwood)

1. Otto Landsberg, the New German Representative to the Belgian Government.

2 and 3. The New Governor-General of Canada, the Duke of Athlone, and His Wife, Princess Alice.

4.—Dr. Kerchove de Denterohen, Belgian Charge d' Affaires to Germany.

5.—Mrs. Carrie Chapman Catt, President of the National Suffrage Association.

6.—The Earl of Liverpool, Governor-General of the Dominion of New Zealand

7.—Madame Deschanel, Wife of the New President of France.

8.—View of Monaga and Harbor at Fashionable Monte Carlo, World's Gambling Center

9.—Adjudged the Best Dog of the Hundreds at the Westminster Dog Show, New York

KEZIAH COFFIN

By JOSEPH C. LINCOLN

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(Continued from Last Week.)

And, at eleven o'clock, when the village was in bed, a horse and buggy moved down the Turn-off and stopped before the Hammond gate. A man alighted from the buggy and walked briskly up to the side door. There he knocked and then whistled shrilly.

A window overhead was opened.

"Who is it?" asked a feminine voice.

"Don't be frightened, Gracie," replied the man at the door. "It's me —Nat. I've come home again."

CHAPTER XX

In Which the Minister Receives a Letter

John Ellery was uneasy. Physically he was very much better, so much better that he was permitted to sit up a while each day. But mentally he was disturbed and excited, exactly the condition which the doctor said he must not be in. Keziah and Grace had gone away and left him, and he could not understand why.

Mrs. Higgins, Ike's mother, was at the shanty and she did her best to soothe and quiet him. She was a kind soul and capable, in her way, but she could not answer his questions satisfactorily.

"Where are they?" he demanded. "Why did they go? Has anything happened? When are they coming back?"

"I can't tell you just when, Mr. Ellery," replied Mrs. Higgins. "Grace had to go home for a—a day or so and Keziah had things to attend to at the parsonage. Don't you fret yourself about them."

"I'm not fretting, but it does seem strange. I could understand why one should go, perhaps, but not both. Didn't Gra— Miss Van Horne tell you why she went?"

"Well, now, Mr. Ellery, don't let's worry about Gracie. She's a good girl with lots of common sense and ——"

"I know that. But that doesn't answer me. Why did she go?"

"Keziah hadn't been to the parsonage sence that day when you was fust took sick, and I expect likely she felt that she'd ought to—"

"Please, Mrs. Higgins, tell me the truth. I'm not asking about Mrs. Coffin. Didn't Miss Van Horne tell you her reason for leaving?"

"No, she didn't."

"But you know the reason? You're keeping something from me. Did she say when she would come back?"

"No, not exactly, but, of course—"

"I know you're keeping something from me. What has happened?"

"Happened? Land sakes! does anything ever happen in Trumet?"

"I think a good many things have happened lately. And the longer ou keep the truth from me the more I shall suspect."

"Mr. Ellery, you set still in that chair, or, when the doctor comes, he'll put you to bed. I've got some cookin' to do and I can't set here gossipin' any longer. You behave yourself and stop frettin'. I'm skipper here now—er—for a while, anyhow—and you've got to take orders from me. There! now I cal'late you're scared, ain't you?"

He did not seem greatly frightened, nor in awe of his new skipper. Instead, he was evidently preparing to ask more questions. Mrs. Higgins hurriedly fled to the living room and closed the door behind her.

The minister heard her rattling pans and dishes at a great rate. The noise made him nervous and he wished she might be more quiet. He moved to the chair nearest the window and looked out over the dunes and the wide stretch of tumbling blue sea.

The view was a familiar one. He had seen it in all weathers, during a storm, at morning when the sun was rising, at evening when the moon came up to tip the watery ridges with frosted silver. He had liked it, tolerated it, hated it, and then, after she came, loved it. He had thought it the most beautiful scene in all the world and one never to be forgotten. The dingy old building, with its bare wooden walls, had been first a horror, then a prison, and at last a palace of contentment. With the two women, one a second mother to him, and the other dearest of all on earth, he could have lived there forever. But now the old prison feeling was coming back. He was tired of the view and of the mean little room. He felt lonely and deserted and despairing.

His nerves were still weak and it was easy, in his childish condition, to become despondent. He went over the whole situation and felt more and more sure that his hopes had been false ones and that he had builded a fool's paradise. After all, he remembered, she had given him no promise; she had found him ill and delirious and had brought him there. She had been kind and thoughtful and gracious, but that she would be to anyone, it was her nature. And he had been content, weak as he was, to have her near him, where he would see her and hear her speak. Her mere presence was so wonderful that he had been satisfied with that and not asked for more. And now she had gone. Mrs. Higgins had said "for a day or two," but that was indefinite, and she had not said she would return when those two days had passed. He was better now, almost well. Would she come back to him? After all, conditions in the village had not changed. He was still pastor of the Regular church and she was a Come-Ouster. The man she had promised to marry was dead—yes. But the other conditions were the same. And Mrs. Higgins had refused to tell him the whole truth; he was certain of that. She had run away when he questioned her.

He rose from the chair and started toward the living room. He would not be put off again. He would be answered. His hand was on the latch of the door when the door was opened. Dr. Parker came in.

The doctor was smiling broadly. His ruddy face was actually beaming. He held out his hand, seized the minister's, and shook it.

"Good morning, Mr. Ellery," he said. "It's a glorious day. Yes, sir, a bully day. Hey? isn't it?"

Ellery's answer was a question.

"Doctor," he said, "why have Mrs. Coffin and—and Miss Van Horne gone? Has anything happened? I know something has, and you must tell me what. Don't try to put me off or give me evasive answers. I wan't to know why they have gone."

Parker looked at him keenly. "Humph!" he grunted. "I'll have to get into Mrs. Higgins's wig. I told her not to let you worry, and you have worried. You're all of a shake."

"Never mind that. I asked you a question."

"I know you did. Now, Mr. Ellery, I'm disappointed in you. I thought you were a sensible man who would take care of his health, now that he'd got the most of it back again. I've got news for you—but I'm not sure that I shall tell it to you."

"Good news! Dr. Parker, if you've got news for me that is good, for Heaven's sake tell it. I've been imagining everything had that could possibly happen. Tell me, quick. My health can stand that."

"Ye-es, yes, I guess it can. They say joy doesn't kill, and that's one of the few medical proverbs made by unmedical men that are true. You come with me and sit down in that chair. Yes, you will. Sit down."

He led his patient back to the chair by the window and forced him into it.

"There!" he said. "Now, Mr. Ellery, if you think you are a man, a sensible man, who won't go to pieces like a ten-year-old youngster, I'll—I'll let you set here for a while."

"Doctor?"

"You sit still. No, I'm not going to tell you anything. You sit where you are and maybe the news'll come to you. If you move it won't. Going to obey orders? Good! I'll see you by and by, Mr. Ellery."

He walked out of the room. It seemed to Ellery that he sat in that chair for ten thousand years before the door again opened. And then—

"Grace!" he cried. "O Grace! you—you've come back."

She was blushing red, her face was radiant with quiet happiness, but her eyes were moist. She crossed the room, bent over and kissed him on the forehead.

"Yes, John," she said; "I've come back. Yes, dear, I've come back to —to you."

Outside the shanty, on the side farthest from the light and its group of buildings, the doctor and Captain Nat Hammond were talking with Mrs. Higgins. The latter was wildly excited and bubbling with joy.

"It's splendid!" she exclaimed. "It's almost too fine to believe. Now we'll keep our minister, won't we?"

"I don't see why not," observed the doctor, with quiet satisfaction. "Zeb and I had the Daniels crowd licked to a shoestring and now they'll stay licked. The parish committee is three to one for Mr. Ellery and the congregation more than that. Keep him? You bet we'll keep him! And I'll dance at his wedding—that is, unless he's got religious scruples against it."

Mrs. Higgins turned to Captain Nat.

"It's kind of hard for you, Nat," she said. "But it's awful noble and self-sacrificin' and everybody'll say so. Of course there wouldn't be much satisfaction in havin' a wife you knew cared more for another man. But still it's awful noble of you to give her up."

The captain looked at the doctor and laughed quietly.

"Don't let my nobility weight on your mind, Mrs. Higgins," he said "I'd made up my mind to do this very thing afore ever I got back to Trumet. That is, if Gracie was willin'. And when I found she was not only willin' but joyful, I—well, I decided to offer up the sacrifice right off."

"You did? You did? Why, how you talk! I never heard of such a thing in my born days."

"Nor I neither, not exactly. But there!" with a wink at Parker, "you see I've been off amongst all them Kanaka women and how do you know but I've fell in love?"

"Nat Hammond!"

"Oh, well, — What is it, Grace?"

She was standing in the doorway and beckoning to him. Her cheeks were crimson, the breeze was tossing her hair about her forehead, and she made a picture that even the practical, unromantic doctor appreciated.

"By George, Nat!" he muttered, "you've got more courage than I have. If 'twas my job to give her up to somebody else I'd think twice, I'll bet."

The captain went to meet her.

"What is it?" he asked.

"Nat," she whispered, "will you come in? He wants to see you."

John Ellery was still seated in the chair by the window, but he no longer looked like an invalid. There was no worry or care in his countenance now, merely a wondrous joy and serene happiness.

He held out his hands and the captain shook them heartily.

"Mr. Ellery," he said, "as they used to say at the circus, 'Here we are again.' And you and I have been doing all kinds of circus acrobatics since we shook last, hey? I'm glad you're pretty nigh out of the sick bay—and the doctor says you are."

"Captain," began Ellery. Hammond interrupted him.

"Hold on!" he said. "Belay right there. If you and I are to cruise in the same family—and that's what I hear is likely to happen—I cal'late we'll heave overboard the cap'ns and Misters. My name's 'Nathaniel'—'Nat' for short."

"All right. And mine is 'John.' Captain—Nat, I mean—how can I ever thank you?"

"Thank me? What do you want to thank me for? I only handed over somethin' that wasn't mine in the first place and belonged to you all along. I didn't know it, that was the only trouble."

"But your promise to your father. I feel——"

"You needn't. I told dad that it was just as Grace said. She says she's got a better man, or words to that effect. And—I don't know how you feel about such things, John—but I b'lieve there's a broader outlook up aloft than there is down here and that dad would want me to do just what I have done. Don't worry about me. I'm doin' the right thing and I know it. And don't pity me, neither. I made up my mind not to marry Grace—unless, of course, she was set on it—months ago. I'm tickled to death to know she's goin' to have as good a man as you are. She'll tell you so. Grace! Hello! she's gone."

"Yes. I told her I wanted to talk with you alone, for a few minutes. Nat, Grace tells me that Aunt Keziah was the one who——"

"She was. She met me at the Cohasset Narrows depot. I was settin' in the car, lookin' out of the window at the sand and sniffin' the Cape air. By the everlastin'! there ain't any air or sand like 'em anywheres else. I feel as if I never wanted to see a palm tree again as long as I live. I'd swap the whole of the South Pacific for one Trumet sandhill with a huckleberry bush on it. Well, as I started to say, I was settin' there lookin' out of the window when somebody tapped me on the shoulder. I looked up and 'twas her.

"You could have blown me over with a fan. By the jumpin' Moses, you could! You see, I'd been thinkin' about her—that is, I was——"

He hesitated, turned red, coughed, and went on.

"I was surprised enough to see her, I tell you. Way up there at the Narrows! I couldn't have said a word, anyway, and she never gave me a chance. 'Nat,' she says, 'don 't talk now. Come with me, quick, afore the train starts.'

"Still I didn't say anything, nothin' sane anyhow. 'Keziah!' I managed to stutter. 'Keziah!'

"'Come!' says she. 'Hurry! I want you to get off here. I've come here on purpose to meet you. I must talk with you; it's important. You can go to Trumet on the next train, tonight. But now I must talk with you. I must. Won't you please come, Nat?'

"Well, I went. The engine bell was beginnin' to ring and we had to move lively, I tell you. I swung her off the step just as the car begun to move. After the smoke had faded away around the next bend I realized that my hat had faded away along with it. Yes, sir! I'd left it on the seat. Ha! ha! ha!"

He laughed unroariously. Ellery laughed in sympathy.

"However, I wa'n't worryin' about hats, just then. All I wanted to do was stand still, like a frozen image, and stare at her. You see, John, I hadn't laid eyes on a friend, one of the real homemade kind, for more days than I wanted to count; and here was one of 'em, one of the best, passed out to me unexpected and ahead of time, like a surprise party present. So I just pumped her hand up and down and stared. I didn't have any exclusive mortgage on the starin' by no means, for the depot master and a dozen or so loafers was lookin' at us with their mouths wide open.

"I guess she noticed it, for she says, 'Don't stay here, Nat. Come in the waitin' room or somewheres where we can talk.'

"So into the waitin' room we went and come to anchor on the settee. Six or eight of the loafers settled themselves handy to the door, so's they could peek in occasionally. I remember I told one of them not to stretch his neck that way 'cause he might never get it back into shape again and in the gunnin' season that would be dangerous. 'Some nearsighted feller might take you for a goose,' I says. Ho! ho!

"And then, John, we had our talk. Seems she left Trumet Wednesday afternoon. Got the livery stable man to drive her as fur as Bayport, hired another team there and come on to Sandwich. Stayed overnight there and took the mornin' train which got to Cohasset Narrows just ahead of the one I was comin' on. She'd been so afraid of bein' late, she said. She must see me afore I got to Trumet.

"Well, she saw me and told me the whole yarn about you and Grace. She tried to break it to me gently, so I wouldn't feel too bad. She knew it would be a shock to me, she said. It was a shock, in a way, but as for feelin' bad, I didn't. I think the world of Grace. I'd do anything she wanted me to do; but most the way down on the train—yes, and long afore that—I'd been dreadin' my comin' home on one account. I dreaded tellin' her that, unless she was real set on it, she'd better not marry me.

"You see, John, I've thought a lot sence I've been away. Had consider'ble time to do it in. And the more I thought the less that promise to dad seemed right. I'd have bet my sou-wester Gracie never cared for me in the way a girl ought to care for a chap she's goin' to ship as pilot for the rest of her days. And as for me—well, I—I had my reasons for not wantin' to marry her."

He paused again, sighed, started to speak, and then sat silent, looking out of the window. Ellery laid a hand on his knee.

"Nat," said the minister, "you saved my life once, do you remember that? I do, if you don't."

"Saved your life? What are you talkin' about? Oh! that time on the flats? That wasn't savin' your life, 'twas savin' your clothes from gettin' a wettin'."

"No, it was more than that. And now I guess you've saved it again, you and Grace between you. Yes, and Aunt Keziah. Bless her! to think of her going away up there to meet you and help us!"

"Yes. 'Twas like her, wasn't it? She said she knew I'd hear the yarn when I got to Trumet, but she wanted me to hear it just as it was, and nobody but she and Grace and you knew the whole truth about it. So she come. I'm glad she did; not that I shouldn't have done the same, whoever told me, but——"

"Nat, I want to tell you something. Something that only one other person knows. Grace doesn't know it yet. Neither does Aunt Keziah—the whole of it. And if she knew I told you even a part I'm afraid she would, as she would say, 'skin me alive.' But I owe her—and you—more than I could repay if I lived a thousand years. So I'm going to tell and take the consequences."

The captain looked at him. "Well!" he exclaimed. "What's comin' now? More secrets? Blessed if this ain't gettin' more excitin' than the South Seas. I used to think excitement in Trumet was scurcer than cream in poorhouse coffee, but I'll have to change my mind."

"Nat, when—that morning after your father died and after you and Grace had agreed to— to——"

"To do somethin' neither of us wanted to do? Yes, I know. Go ahead."

"That morning Aunt Keziah came home to the parsonage and broke the news to me. She did it as only she could do such a thing, kindly and pityingly and——"

"Of course. That's Keziah."

"Yes. Well, as you can imagine, I was almost crazy. I made a fool of myself, I expect; refused to believe her, behaved disgracefully, and at last, when I had to believe it, threatened to run away and leave my work and Trumet forever, like a coward. She made me stay."

"Did, hey?"

"Yes. She showed me it was my duty to face the music. When I whimpered about my troubles she told her own story. Then I learned what trouble was and what pluck was, too. She told me about her marriage and—excuse me for speaking of what isn't my business; yet it is mine, in a way—she told me about you."

Captain Hammond did not answer. His good-natured face clouded and he shifted in his chair.

"She told me of you, Nat, all about you—and herself. And she told me something else, which explains why she felt she must send you away, why she thought your marriage to Grace would be a good thing."

"I know. She told you that that darn scamp Anse Coffin was alive."

The minister started violently. He gasped in surprise.

"You knew it? You knew it?" he stammered.

"I know it now. Have known it for over a year. My findin' it out was one of the special Providences that's been helpin' along this last voyage of mine. My second mate was a Hyannis man, name of Cahoon. One day, on that pesky island, when we was eatin' dinner together, he says to me, 'Cap'n,' he says, 'you're from Trumet, ain't you?' I owned up. 'Know anybody named Coffin there?' says he. I owned up to that, too. 'Well,' he says, 'I met her husband last trip I was in the Glory of the Wave.' I stared at him. 'Met his ghost, you mean,' I says. 'He's been dead for years, and a good thing, too. Fell overboard and, not bein' used to water, it killed him.'

"But he wouldn't have it so. 'I used to know Anse Coffin in New Bedford,' he says. 'Knew him well's I know you. And when we was in port at Havre I dropped in at a gin mill down by the water front and he come up and touched me on the arm. I thought same as you, that he was dead, but he wa'n't. He was three sheets in the wind and a regular dock rat to look at, but 'twas him sure enough. We had a long talk. He said he was comin' back to Trumet some day. Had a wife there, he said. I told him, sarcastic, that she'd be glad to see him. He laughed and said maybe not, but that she knew he was alive and sent him money when he was hard up. Wanted me to promise not to tell any Cape folks that I'd seen him, and I ain't till now.'

"Well, you can imagine how I felt when Cahoon spun me that yarn. First I wouldn't b'lieve it and then I did. It explained things, just as you say, John. I could see now why Keziah gave me my walkin' papers. I could see how she'd been sacrificin' her life for that scum."

"Yes. She wouldn't divorce him. She said she had taken him for better or worse, and must stand by him. I tried to show her she was wrong, but it was no use. She did say she would never live with him again."

"I should say not. Live with him! By the everlastin'! if he ever comes within reach of my hands then—there's times when good honest murder is justified and righteous, and it'll be done. It'll be done, you hear me!"

He looked as if he meant it. Ellery asked another question.

"Did you tell her—Aunt Keziah—when you met her at the Narrows" he asked.

"No. But I shall tell her when I see her again. She shan't spoil her life—a woman like that! by the Lord! what a woman!—for any such crazy notion. I swore it when I heard the story and I've sworn it every day since. That's what settled my mind about Grace. Keziah Coffin belongs to me. She always has belonged to me, even though my own pig-headedness lost her in the old days."

"She cares for you, Nat. I know that. She as much as told me so."

"Thank you, John. Thank you. Well, I can wait now. I can wait, for I've got something sure to wait for. I tell you, Ellery, I ain't a church-goin' man—not as dad was, anyway, but I truly believe that this thing is goin' to come out right. God won't let that cussed rascal live much longer. He won't! I know it. But if he does, if he lives a thousand years, I'll take her from him."

He was pacing the floor now, his face set like granite. Ellery rose, his own face beaming. Here was his chance. At last he could pay to this man and Keziah a part of the debt he owed.

Nat stopped in his stride. "Well!" he exclaimed. "I almost forgot, after all. Keziah sent a note to you. I've got it in my pocket. She gave it to me when she left me at Cohasset."

"Left you? Why! didn't she come back with you on the night train?"

"No. That's funny, too, and I don't understand it yet. We was together all the afternoon. I was feelin' so good at seein' her that I took her under my wing and we cruised all over that town together. Got dinner at the tavern and she went with me to buy myself a new hat, and all that.

(Continued Next Week.)

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Send the Coupon!

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NEW YORK WOOL GROWERS' MEETING

With their woolen coats buttoned tight in order to brave the worst storm of the season, delegates arrived in Syracuse, N. Y., on February 27th for the 2nd annual meeting of the New York State Federation of Wool Growers' Associations. Had there not been a real purpose for the meeting twenty-four counties would not have been represented considering the severe weather conditions which made it hazardous to leave home.

The meeting was held at the call of and presided over by Fred Porter, the popular president of the Federation whose home is in Essex County, N. Y. Mark J. Smith, secretary of the Federation, thru his acquaintance and influence with big sheep men had arranged a very attractive and worth while program. The complimentary remarks from those who attended prove this.

In New York State a number of the local county wool associations in 1919 made consignments of their wool thru J. E. McMurtry Co., New York City. Owing to slow returns for the wool they were over anxious to hear from Mr. McMurtry who represented the company and explained in detail the development of the markets and points necessary to successful consignment. It was the advice of Mr. McMurtry that consignments would be more successful if it were the uniform plan of the entire state. He intimated that those counties which made a direct sale last spring created a condition that tended to establish a price on the market that would give the dealer a profit. This, he said, did not represent the true value of the wool.

The discussion among the delegates from the several counties tended, however, to carry the impression that there was a satisfaction in those counties where a direct sale was made. The plan of sale for 1920 was not certain in the minds of all of those in attendance. 1920 will probably see both direct and consignment sales conducted in a similar manner as last year.

Ohio Sheepman Talks

The real inspiration to the meeting was given by the treasurer of the Ohio Sheep and Wool Growers' Association, W. W. Reynolds, who impressed the men with the thought, "If Americans desire to clothe themselves with woolen cloth they must grow the wool." He called attention to the presence of shoddy clothing on the market, saying, "The wool grower is today competing with the rag picker. Our virgin wool is used by the manufacturer to hold this shoddy together." In commenting on this condition Mr. Reynolds said, "We as sheepmen should thru our associations institute an energetic campaign which will acquaint the public with the value of clothing made from virgin wool. Legislation that will help to develop this point should be supported by every wool grower." In closing his remarks Mr. Reynolds urged the men to support and develop the sheep organization of this state which has proven its worth in dollars and cents to the growers.

Mr. Reynolds spoke from a richness of experience as a sheepman and one who understands organization as he is privileged to be an officer in one of the best and most successful wool growers' associations in the East.

Paper Twine Advised

There was much interesting discussion by growers on how to improve the quality of their wool. This discussion developed the value of paper twine for tying the fleece. Many local associations in the state have already purchased twine for their members use, and thru members located in the different communities of the county are distributing it. An extra premium is allowed for wool tied in this way.

Another important matter which brought out considerable discussion was the practice which many growers follow of tying up tags, matted and chaffy wool in good fleeces. This practice is very expensive to the grower where wool is consigned as such fleeces usually go in rejects. Some counties experienced considerable trouble with rejects last year thru carelessness of growers in tying fleeces. The county association's officers this year are making a special effort to cut down the amount of rejects due to unclean and improperly tied fleeces.

Officers For 1920 Elected

Along with the many discussions and resolutions was the election of officers. The following men were chosen to direct the affairs of the Association for 1920. E. L. Moody, Ontario ounty, president; R. C. Ostrander, Orleans County, vice-president; E. S. Hill, Tompkins County, secretary and treasurer. The two directors who will act with these officers are John Curry, Otsego County and A. H. North, Delaware Co.

Determined to make stronger local wool growers associations; put a better grade of wool on the market; and have the consuming public better understand the worth of virgin wool, delegates adjourned what is perhaps the most successful meeting of organized sheepmen that has been held in New York State.—E. C. W.

GET READY FOR THE LAMBING SEASON

Lambing time is the shepherd's busiest season, and the whole year's success depends largely upon the percentage and vigor of lambs born and saved. Warm quarters are necessary in cold weather. When lambs are coming rapidly, ewes may need to be watched day and night, to avoid unnecessary losses.

Quarters should be so arranged that ewes about due to lamb may be kept away from the other kinds of live stock to avoid injury that may be caused by horses and cattle, and to keep greedy hogs from devouring the young lambs. At this time, ewes need plenty of room. For ewes weighing an average of 150 pounds the shed space should provide about awelve to fifteen square feet each, unless the weather is cold, and ewes must be crowded closer to keep their quarters warm.

As lambing time approaches, the ewes should be penned at night where it is intended that she should lamb, and remain until her lambs are a few days old.—Mo. Agr. College.

INTERESTING PIG FEEDING EXPERIMENT.

Hog feeders everywhere will be interested in a test on rationing hogs, completed recently at the Ohio Experiment Station. Hoard's Dairyman makes the following report on the experiment.

The superiority of skim milk over tankage as a supplement to corn for feeding pigs has been brought out in experiments at the Ohio experiment station. A test completed some time ago compares corn alone; corn 9 parts, tankage 1 part; corn 1 part; skim milk 3 part; corn 1 part; skim milk 5 parts and corn and skim milk ad libitum.

Corn and skim milk at the rate of 3 pounds of milk to 1 pound of corn made the most economical gains. The experiment was conducted with pigs whose average initial weight was 43 pounds in practically all cases. The average daily gain when corn alone was fed was only .35 pound; when corn was supplemented with tankage at the rate of 9 parts corn to one of tankage, the gain was .89 pounds, and where the ration consisted of corn 1 part, skim milk 3 parts, the average daily gain was 1.3 pounds. With corn and skim milk, 1 and 1, the daily gain was .95 pounds; corn and skim milk, 1 and 5, 1.4 pounds. Where the pigs were given all the corn and skim milk they would consume, the daily gain was 1.6 pounds. With corn and skim milk ad libitum, the daily gain was higher than any other proportion of skim milk, but the cost of food for 100 pounds gain was too high to make this lot the most satisfactory.

It is interesting to note the amount of feed consumed under these different combinations of supplements. Where no supplement was fed, 685 pounds of corn were required for 100 pounds of gain. Contrasted with this is the comparison for corn 9, tankage 1, which required 350 pounds of corn and 39 pounds of tankage for 100 pounds of gain. When the ration consisted of skim milk, 1, corn 1, 330 pounds of corn were required for 100 pounds of gain; corn 1, milk 3, 256 pounds of corn and corn 1, skim milk 5, 233 pounds. Where the corn and skim milk were fed ad libitum, 200 pounds of corn were required for 100 pounds of gain; but the pigs consumed as a supplement to the amount of corn, 1,292 pounds of skim milk. If skim milk could be secured at a cost of only 30 cents per 100 pounds, and with corn at $1.68 per bushel, the pigs fed corn 1, skim milk 3, returned a greater profit over the cost of feed than those fed the higher proportions.

While the cost of feed and the price secured for the pigs per pound varies in many sections, the cost of feed per 100 pounds gain in this experiment a interesting to note. The prices of fed used in this case were: Corn $1.68 per bushel; tankage $120 per ton; skim milk 60 cents per 100 pounds and hogs were valued at $16 per cwt.

The cost in producing 100 pounds of gain when corn was fed alone was $20.85; a loss of $8.38 was recorded for the 5 pigs which were fed for 15 weeks, in valuing the total gains over the cost of feed. For corn 9, tankage 1, the cost per 100 pounds gain was $12.84; the gain was $14.91 for the period. The costs and gains for the other proportions of corn and skim milk are as follows: Corn 1, skim milk 1, $11.89; resulting in the value of gain over the cost of feed of $20.62 for the feeding period; corn 1, skim milk 3, $12.41, the gain being $35.59; corn 1, skim milk 5, $14.02, a gain of $14.43 for the feeding period; corn and skim milk ad libitum $13.77; this gain was $18.62.

FORAGE CROPS FOR HOG PASTURE

One acre of good pasture will carry thirteen growing pigs from the time they are weaned until they are ready to be fattened for market next fall. One of the most desirable forage crops is alfalfa. It may be pastured the entire season, can be grown on any well-drained, well-limed and fertile soil if seeded at the rate of 15 to 20 pounds to the acre in early spring or late summer in the northern counties, or in early fall in the southeastern part of Pennsilvania. Clover is another good pasture crop. It may be pastured the entire season, with the exception of two or three weeks in July. It is suited to practically all soils that are fairly well drained.

Dwarf Essex rape is a popular crop for hog pasture. It will grow on any well-drained and fertile soil but will not give satisfaction on a poor soil. It can be seeded alone from early spring to mid-summer or it may be used in combination with oats, Canada field peas or soy beans. When used with other crops it is seeded at the rate of five pounds to the acre; when seeded alone the rate is from eight to ten pounds to the acre. An early spring pasture may be obtained by sowing oats at the rate of one and one-half or two bushels to an acre. Oats sown with Canada field peas furnish good early pasture for pigs. One and a half bushels of each to the acre is about the right arount of seed to use. The addition of five pounds of rape seed will give good results. Summer pasture can be provided by sowing soy beans—one and one-half bushels to the acre broadcast—at corn planting time. Rye makes a profitable hog pasture during early spring and late fall, providing forage at seasons when little or no pasture is furnished by other crops.

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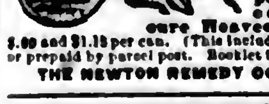

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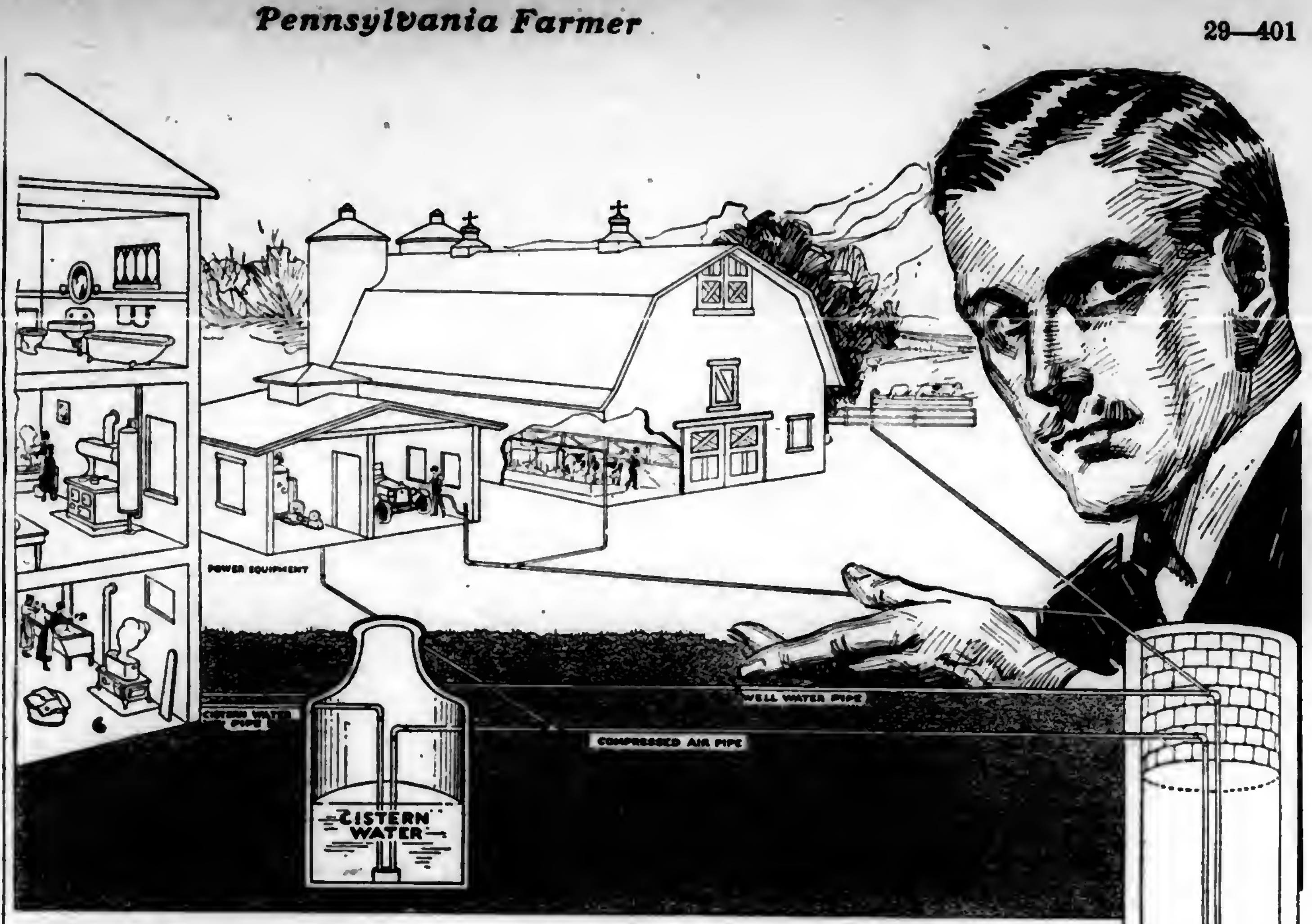

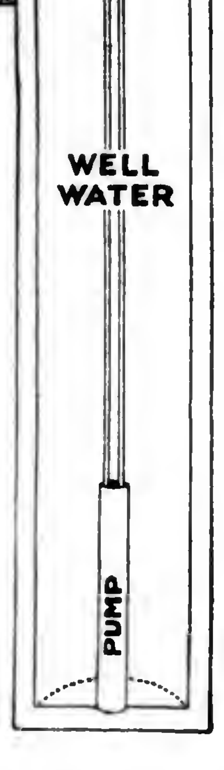

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So doing, this expert made a modern farm. He has been trained, and it costs nothing to get his advice. See him. Ask him what he can do for you; let him question you about your needs. If you decide he can help you, tell him to go ahead; and he'll increase the value of your farm and your profits.

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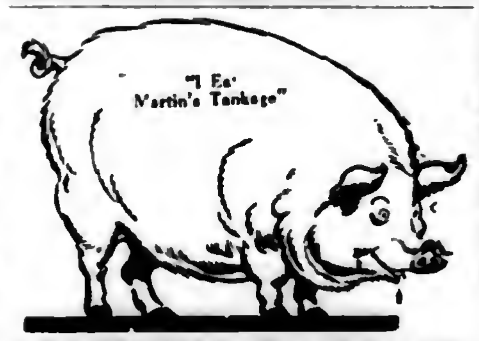

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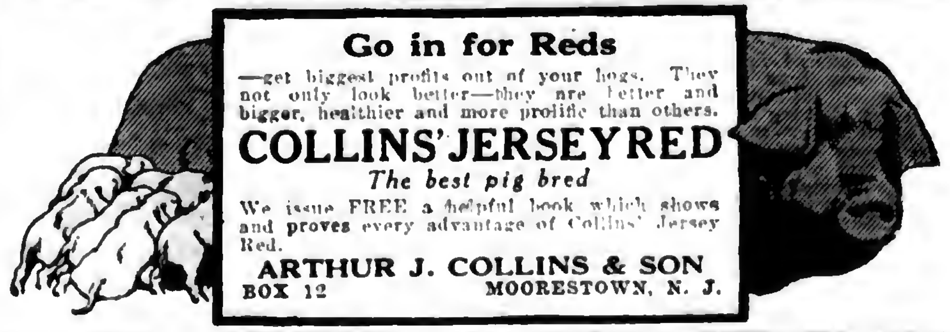

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Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., March 15, 1920

Under the continued light supplies the potato market is showing little or no material change from last week's quotations. Pennsylvania grown potatoes are selling from $5.10@5.40 per cwt., New York from $5@5.25 per cwt., with Maryland and Delaware Hoosiers at $4.90@5 per cwt.

There seems to be a rather easy feeling in the market at this time, as it is the belief that within a few days there will be additional supplies as hauling conditions are now so that the farmers can get their potatoes to the loading stations. New potatoes from Bermuda are ruling practically unchanged under light supplies at $13@14 per barrel.

Sweet potatoes are not as firm as they were a week ago. It is getting well along in the season and some are not showing quite as good quality as they did a short time back. At this writing most Maryland and Delaware No. 1 sweet potatoes are selling around $2.25 per hamper with poorer grades at $1.75@2, while the small No. 2 stock is bringing from $1@1.25 per hamper. Nearby New Jersey sweet potatoes are also a little easier at mostly $1.50@1.75 per 5/8 basket with some in poor condition selling correspondingly lower. Yams are in light supply but many of them are showing rather poor and this makes a wide range in price of $3@4.50 per barrel with the hampers bringing from $1.75@2.15.

Vegetables

There has been an increase in the supply of artichokes and prices are therefore a little lower and range from $7@8 per box, or $4@4.50 for the half box package. Asparagus is also increasing in supply from California and selling from $5@15 per dozen bunches as to size and quality. There has been no southern asparagus in yet, but shipments may soon be expected. Beans are more plentiful and the extremely high prices prevailing a week ago are gradually lowering. At this writing most good beans are selling around $7@8 per hamper, altho a few are still bringing up to $10, while at the same time some showing poor condition and spotted are selling down to $3 per hamper. Since our last week's report old beets from New Jersey and Pennsylvania points advanced and sold up to $4.25@4.50 per barrel. The market at this writing is back again to the old basis of $3.25@3.50 per barrel. New beets from the south are gradually easing off again and are now selling at 8@10c per bunch. Brussel sprouts are still scarce and selling around $8@10 per drum for good stock with poor lower as to quality. The old crop of cabbage is about cleaned up and prices are much higher than they were a week ago. Today sales were being made at $90@110 per ton. New cabbage is also firmer and higher at $2.25@3 per hamper, with crates at $5.50@5.75. Old carrots are in light supply and very firm around $5.50 for New York State rough stock with fancy washed Pennsylvania from $7@7.50 per barrel. Cauliflower is a little more plentiful than it was last week, and the market has declined about 50 cents per crate with sales now mostly $2.75@3 on fancy green cauliflower with yellow selling as low as $1.75. Celery shows another advance this week of 50@75 cents per crate and choice sizes are now selling at $4@4.50 with others at $3@3.50. Hot house cucumbers are much more plentiful than they were a week ago and as a result prices are much lower, today's sales ranging from $1.50@2.25 per dozen this being nearly 75c lower than prices prevailing a week ago. Endive and Escarole are showing practically no change from last week's prices of $7@7.50 per barrel. After remaining practically unchanged at 20@30c per pound for a long period of time garlic is firmer and higher now selling at 30@40c per pound. Horseradish continues scarce and firm at $23@25 per barrel. Most Florida lettuce is arriving in poor and irregular condition and prices take the wide range of 75c@$2 per hamper. Fancy California iceberg lettuce is firmer and higher, selling at $2.75@3 per box. There is quite a lot of poor iceberg on the market which sells from $1@2 per box. Lima beans are meeting a slow demand at $6@7.50 per hamper altho supplies are light. The market on onions shows still another advance reported in these columns last week and the week previous, and sales are now being made at $6@8.50 per 100 lbs. sacks. Nearby grown onions sets remain practically unchanged at $5 per bushel with the western steady at $3.50@3.75 per bushel. Supplies of mushrooms are more plentiful and the market is easy at $1.25@1.75 per 3 lb. basket. Parsley remains practically unchanged at mostly $6 per barrel. Supplies of peas have been more plentiful and the market is lower at $4.50@8 per drum. Peppers are also more plentiful there being two cars here this morning and sales range from $2.50@7 per box. This wide range is caused by the extremely wide range in quality of the peppers, some being very poor and small, while others are large and fancy. Romaine is firm and higher at $1.50@2.50 per hamper. Hot house radishes are in light supply and the market continues firm and active at 4@6c per dozen. Rhubarb is very scarce and fancy. Hot house stock is now selling at $1.10@1.20 per bundle. Spinach continues in moderate supply and firm at $2@2.25 per basket. Tomatoes continue to show an extremely wide range in price due to the fact that many of the tomatoes are arriving too green and this green stock is hard to sell at any price. Today there were 11 cars of tomatoes offered for sale and prices ranged all the way from $1@4.25 per crate, the outside or top prices being obtained for tomatoes showing some degree of ripeness while the inside or lower range was for the very green tomatoes. Hot house tomatoes are selling all the way from 20@40c per pound. Pennsylvania and New Jersey grown parsnips are in very light supply altho there are a few more around than a week ago. Prices now range from $5.25@6.50 per barrel. Pennsylvania and New Jersey turnips continue in light supply and the market is firm at the unchanged prices of 75c@$1.10 per 5/8 basket for the whites and $1@1.25 per 5/8 basket for the yellows. The Eastern Shore rutabagas are also firm at the unchanged price of $3.25@3.75 per barrel. Watercress is scarce and firm from 3@4c per bunch.

Fruits

The supplies of strictly fancy apples continue light and the market is ruling very firm on this grade of fruit at practically unchanged prices. There are however some apples showing poor quality and condition being offered and this grade of fruit is being sold at low and irregular values. Practically the only varieties of barreled apples on the market are Baldwins which are selling from $5@9; Ben Davis, $4@7; Greenings, $4@9; Russets, $4@7; Winesaps, $5@9; Pippins, $5@8; and Rome Beauties, $5@9; Far Western box apples are also showing a wide range in quality and condition there being five cars here this morning and sales ranged all the way from $1.25@4 per box as to variety and condition. Cranberries continue dull and neglected by the trade and prices are very irregular ranging from $3@7 per barrel. Strawberries continue in light supply. There has been no straight cars here since the one reported in these columns last week. The express receipts sold this morning from 35@50c per quart. A few pineapples have been on the market and prices have ranged from $4@9 per crate.

Poultry

The supplies of live poultry have been running light and the market is ruling firm and active at about the following range of prices: Heavy fowls, 39@42c; smaller sizes, 36@42c; smaller sizes, 36@38c; fancy roasting chickens, 40@42c; inferior quality roasting chickens, 35@39c; fancy nearby broiling chickens, 55@60c; roosters, 30@32c; ducks, 30@46c; turkeys, 40@45c.

Eggs

As we predicted in these columns last week lower prices are prevailing on eggs. Supplies have been gradually increasing from day to day but at the same time there has been a good active demand so that there has been no surplus as yet. At this writing the market is ruling steady at about the following range of prices: Pennsylvania and other nearby current receipts, 45½c; Firsts, 46½c; Western firsts, 44½c; extra firsts, 45½c; with Southern eggs at 44c.

YORK PRODUCE MARKET

York, Pa., March 15, 1920

The markets are still continuing with a 50 percent attendance on the part of farmers due to the condition of the weather and roads. This has necessarily resulted in stronger market conditions; yet eggs are off 10 to 20c per dozen. Butter is at the old mark but ready to break at the slightest increase of stocks, which is bound to come within several weeks. Very few apples are to be seen outside of cold storage supplies and these are not showing up at all good. It would appear from the looks of the fruit that many of the apples were picked before being ripened thoroly last fall and now they show up poorly as they come out of storage. The price was good and possibly growers were fearful of the fruit falling, or of a storm, and for this reason picked just a trifle too early. Potatoes are advancing, also moving in quantity. Many think this is only temporary; that they will recede in price as soon as it is possible to move them to more advantage. However, we believe that they will drop but little as there appears to be a real shortage.

Eggs.—45@55c per dozen.

Butter.—Country, 65@70c lb.; separator, 75@80c lb. Milk, 13c quart.

Poultry.—Hens, 30c lb.; dressed, $1@2 each.

Vegetables.—Potatoes, 20@40c ½ peck; $2.40@2.50 per bu.; lettuce, 10@25c head; cabbage, 10@25c head; beets, 5c box; radishes, 6c bunch; onions, 5c bunch; 20@30c ½ peck; lima beans, 30@40c quart; celery, 5@15c stalk; turnips, 15@20c ½ peck; sauer kraut, 18@20c quart; apple butter, 45@50c quart; sausage, 34@38c lb.; pudding, 30c lb.; steak, 40@45c lb.; boneless meats, 28@32c lb; lard, 30@32c lb.; dressed hogs, 20@21c lb.

Fruit.—Apples, Yorks, 30@50c ½ peck; Stayman, 50@80c ½ peck.

Retail Grain Market.—Wheat, $2.70; corn, $2; oats, $1; rye, $1.75; bran, $3 per cwt.; middlings, $3.50 per cwt.

Wholesale Grain Market.—Wheat, $2.50; corn, $1.50; oats, 90c; rye, $1.50; bran, $50@56 per ton; middlings, $55@65 per ton.

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NEW YORK PRODUCE

New York City, March 15, 1920

Butter barely steady; receipts, 2,488 tubs; creamery, higher than extras, 68@68½c; extra (92 score), 67@67½c; firsts, (88 to 91 score), 63@66½c; packing stock, current make, No. 2, 39@39½c.

Eggs.—Firmer; receipts, 14,049 cases; fresh gathered extra firsts, 46c; do., firsts, 44½@45c; state, Pennsylvania and nearby western hennery white, first to extra, 50@54c; do., brown, extra, 49@50c; do. gathered brown and mixed colors, first to extra, 45@48c.

Cheese.—Firm; receipts, 2,050 boxes; state, whole milk, flats, held, specials, 29½@31c; do., average run, 28@29c; state, whole milk, twins, held, specials, 29@30c; do., average run, 27½@28½c.

Poultry.—Live, firm; fowls, 43@44c; chickens, 26c; roosters, 22c; turkeys, 40@45c; dressed, dull; western chickens, broilers, frozen, 40@51c; western chickens, 30@40c; do., fowls, 29@40c; roosters, 27½@28c; spring turkeys, 46@55c.

Vegetables.—Potatoes, Maine, $5@5.50; per cwt.; State, $9@9.50; Long Island, $8.50@9 per 165-pound. Beets, $3.50@4.50 per barrel. Carrots, $4.50@5.50; onions, $5@7 per 100-pound bag.

Fruit.—Apples, — Ben Davis, $4.50@6.50; Winesaps, $4@9.50; Yorks, $3.50@6.50; Greenings, $4@10.50.

PITTSBURGH PRODUCE

Pittsburgh, Pa., March 15, 1920

Butter.—Prints, 74½@75c; Tubs, 73½@74c; cooking, 54½@55½c; Ohio, 68½@69c.

Cheese.—New York full cream, 36½@37c; Ohio, 35@35½c; Wisconsin Swiss, [illegible]; Philadelphia cream, $1.00 per dozen.

Eggs.—Fresh, select, 49@50c; at mark, 48@49c.

Potatoes.—Round, $8.50 per 150-pound sacks. Onions, $6@7 sack. Cabbage, $6.50@7 barrel. Sweet potatoes, $2.65@2.75 hamper, [illegible] $2.25@2.50 [illegible]

[illegible]

PHILADELPHIA LIVE STOCK

Philadelphia, Pa., March 15, 1920

Receipts of live stock for week ending March 13, were as follows:

	Beef Cattle	Sheep and Lambs	Hogs
Total for Week	2,108	2,901	9,769
Previous Week	2,163	3,406	9,929

Calves.—Receipts of calves last week were 1,249 head against 1,594 head week previous.

Beef Cattle.—Demand was firm and the market for steers and cows was steadily maintained. Desirable grades of veal were in fair request and steady, but offerings were largely of more or less unattractive stock, which was dull and irregular in value. Quotations: Steers, fair to good, $12.50@14; common to fair, $10.75@12.50; cows, lb., good to choice, corn fed, 8@9½c; do., fair to good, 6@8c; common to fair, 4@6c; calves, extra to choice, $21.50@22; do., fair to good, $16@19; do., common, $13@15; do., heavy and rough, $8@11; do., Tennessee, choice, $16@18; other southern, $9@14.

Sheep and Lambs.—The market for both sheep and lambs of fine quality ruled easy. Sheared sheep, wethers extra, $14.50@15; do., good to choice, $11@12; do., medium, $8.50@9.50; do., common, $5@6.50; heavy, fat, $11@12.50; lambs, spring, choice, $20@20.50; do.; medium grades, $18.50@20; do., culls and common, $13.50@15.50.

Hogs.—Demand was steady. Quotations; Best western, $18 per 100 pounds; hogs, nearby, good, $16.50@16.75.

City Dressed Stock.—Steers, heifers and Lambs with little change in prices. We quote: Steers, 16@23c; heifers, 15@22c; cows, 12@17c; calves, city dressed, choice, 28@30c; do., country, 24@26c; sheep, choice, 14@24c; lambs, choice, 33@35c; hogs, 23½c.

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LIVESTOCK

Pittsburgh, Pa., March 15.—Cattle—Active; supply light; prime, $14@15.50.

Sheep.—Steady; supply light; prime wethers, $15@15.50; culls and common $5@7; lambs, $14@20; veal calves, $18@19.

Hogs.—Lower; supply 40 double decks; prime heavies, $14.25@15.50; mediums and heavy yorkers, $16.75@16.85; light yorkers, $15.75@16.25; pigs, $14.25@15.50; roughs, $11@13.75.

Lancaster, Pa., March 15.—Cattle— Receipts, 1,147 head, against 1,354 head last Monday; market draggy; prices 50c lower; good to choice steers, $12.25@13.25; fair to good steers, $11@12; medium to fair steers, $10@11.50; common to medium steers, $9.25@10.15; smooth and fat bulls, $9.25@10.50; medium to good bulls, $8.40@9.25; common to medium bulls, $8.25@9; good to choice cows, $8.25@9.15; fair to good cows, $5.25@8.15; common to medium cows, $4@4.75; stock bulls, $8.25@9.40; good to prime calves, $19@21; medium to good calves, $18@19; common to medium calves, $15@17.

Hogs.—Receipts, 323 head; market active prices steady; good to prime, $16.50@17.75; light to medium, $15.50@16; roughs, $10@13.50; stags to sows, $9@11.

New York City, March 15.—Beeves — Receipts, 4,970; irregular; steers, $9@13.35; no real prime offered; bulls, $7@10.50; cows, $3.75@10.

Calves.—Receipts, 1,120; firm; veals, $17@24; culls, $12@16; little calves, $12@14; barnyards, $8@10; yearlings, $6@7.

Sheep and Lambs.—Receipts, 3,250; steady; sheep, ewes, $8@12; culls, $5@7; lambs, $17@20.50; culls, $14@16.

Hogs.—Receipts, 5,660; firm at $15.75@16.75; pigs, $15@15.50; roughs, $13.50.

PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., March 15, 1920

Baled Hay and Straw.—Receipts 132 tons of hay. Scarce and market firm. We quote: Timothy hay; No. 2, $43@44; No. 3, $40@41; sample, $34@37; No grade, $30@32. Clover, mixed hay, light mixed, $43@44; No. 1 mixed, $42@42.50.

Straw.—No. 1 straight rye, $20@21; No. 2, do., $18@19; No. 1 tangled rye, $18@18.50; No. 2 do., $17@17.50; No. 1 wheat straw, $17@17.50; No. 2, do., $15@15.50; No. 1 oat straw, $17@17.50; No. 2, do., $15@15.50.

Bran.—Firmly held. We quote car-lots, to arrive including sacks. Soft winter bran, Western, in 100-lb. sacks, per ton, $54.50@55; spring bran, in 100-lb. sacks, per ton, $54.50@55.

Corn.—No. 2, Yellow, $1.64@1.75.

Oats.—No. 2 white, $1.02@1.02½; No. 3, white, $1.01@1.01½; No. 4, white, $1@1.00½.

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NEW YORK HAY AND GRAIN

New York City, March 15, 1920

Feed.—The market for mill feed was firm and the demand was quite active. Buyers apparently have become somewhat alarmed over the reduced output at the mills and jobbers have been laying in larger supplies owing to fears of a possible shortage.

Quotations: City feed, bran $52; middlings, $56, in 100-pound sacks; red dog, $70, nominal, in 100-pound sacks; Western spring bran, $52.50; standard middlings, $57@57.50; flour middlings, $62; red dog, $69, all in 100-pound sacks, 30-day shipment. Oat feed, $32; rye middlings, $53; white hominy feed $67, all in 100-lb. sacks. Cottonseed oil meal, $76; linseed oil meal, $72.50; in 100 pound sacks.

Hay and Straw.—The market holds steady and prices are without change. There are occasional cars strictly up to grade which are exceeding quotations but, as a rule, outside figures are full and there is rather an easy feeling on low grade hay. Prices in Brooklyn are on a par with 33d Street shed, but in Harlem values are ranging $3@5 lower, necessitating a wide range in quotations. Rye and oat straw very scarce and peddling sales of the former are quoted up to $37.

Hay.—No. 1 large bales, $50@53 ton; No. 2, $48@51 ton; No. 3, $46@49; shipping, $44@46 ton. Fancy light clover mixed $49@51 ton. Clover, No. 1, mixed, $46@48; No. 2 mixed, $44@46.

Straw.—Per ton, No. 1 rye, $30; No. 1, oat $28@30.

Wheat.—No. 2, red, $2.36½.

Oats.—No. 1 white, $1.04; No. 2 white, $1.03½.

Rye.—F. O. B. $1.92¼; Barley, malting, $1.68; feeding, $1.60; Buckwheat, sound milling c and f, New York, $3.35.

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PITTSBURGH HAY AND GRAIN

Pittsburgh, Pa., March 15, 1920

Hay.—Arrivals have eased up somewhat, while the demand is steady. Markets looking better.

No. 1 Timothy, $37.50@38; Standard Timothy, $36.50@37; No. 2 Timothy, $35@36; No. 3 Timothy, $32.50@33.50; No. 1 Light Clover Mixed, $36.50@37; No. 1 Clover Mixed, $37.50@38; No. 2 Clover Mixed, $33@34; No. 1 Clover, $38.50@39; No. 2, Clover, $30@32.

Straw.—Receipts, altho light are about equal to demand, but all arrivals can be placed at quotations. Market steady.

No. 1 oat, $15@15.50; No. 2, $14.50@15; No. 1 Wheat, $14.50@15; No. 2, $14@14.50; No. 1 Rye, $15@15.50; No. 2, $14.50@15.

Ear Corn.—Not much demand. Bulk of which is for Eastern corn. Market quiet.

Yellow No. 2, $1.55@1.57; No. 3, $1.50@1.53; Mixed No. 2, $1.53@1.56.

Oats.—Demand in excess of receipts. Market stronger.

No. 2 White, 97¼@97¾c; No. 3 White, 96¼@96¾c; No. 4 White, 92½@94½c.

PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., March 15, 1920

Butter.—Receipts, 1,654 tubs. The market ruled firm under stronger outside advices, but as usual on Saturday there was not much wholesale trading. We quote:

Fresh, solid-packed creamery, fancy, high-scoring goods, 70@72c; the latter for jobbing sales; extra, 69c; extra firsts, 67@68c; firsts, 63@66c; seconds, 54@58c; sweet creamery, choice and fancy, 71@73c; fair to good, 59@70c; ladle packed, as to quality, 40@44c; packing stock, 35@39c; fancy brands of nearby prints jobbing at 77@79c; good to choice, 69@76c; fair, 66@68c.

Cheese.—Steadily held. Quotations follow: New York, whole-milk flats, held, fancy, 29½@30c; specials higher; fair to good, 28½@29c; current make nominal; Wisconsin, held, fancy, 29½@30c; specials, higher; fair to good, 28½@29c; jobbing sales of fancy held goods, 33@33c.

NEW YORK MILK MARKET

New York City, March 15, 1920

Arrivals were delayed early in the week owing to heavy snow storms upstate and in parts of Pennsylvania and New England. This created a temporary shortage which wiped out the surplus. Shipments later were fairly heavy and supply now almost normal. The March rate in 200 mile zone for 3 percent milk is $3.36 per 100 lbs.; add 4 cents per 100 pounds for each additional one-tenth of one percent butterfat.

Receipts of milk and cream in 40-quart cans for the week ending March 13, 1920, were as follows:

Railroad	Milk	Cream
Erie	47,884	2,735
Susquehanna	8,957	126
West Shore	13,005	1,098
Lackawanna	51,436	975
N. Y. Central (long haul)	130,064	2,382
Ontario	44,122	2,784
Lehigh Valley	48,030	991
New Haven	7,244	28
Pennsylvania	12,146	404
Other Sources	6,500	300
Totals	389,388	11,823
Same week last year	358,068	10,794

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INTERSTATE MILK PRICES

The basic price for 3 percent milk within 10 miles of Philadelphia is $3.28 per 100 pounds, and one cent per hundred less for each 10-miles distant. Four cents per 100 pounds is paid for each one-tenth of one percent fat above 3 percent. These are prices for the basic quantity or less. Amounts exceeding the basic quantity are paid for at a less price.

CLOVERSEED

Toledo, O., March 15, 1920

Cloverseed.—Prime cash, $33.55; March, $33.55; April, $33; October, $24.25.

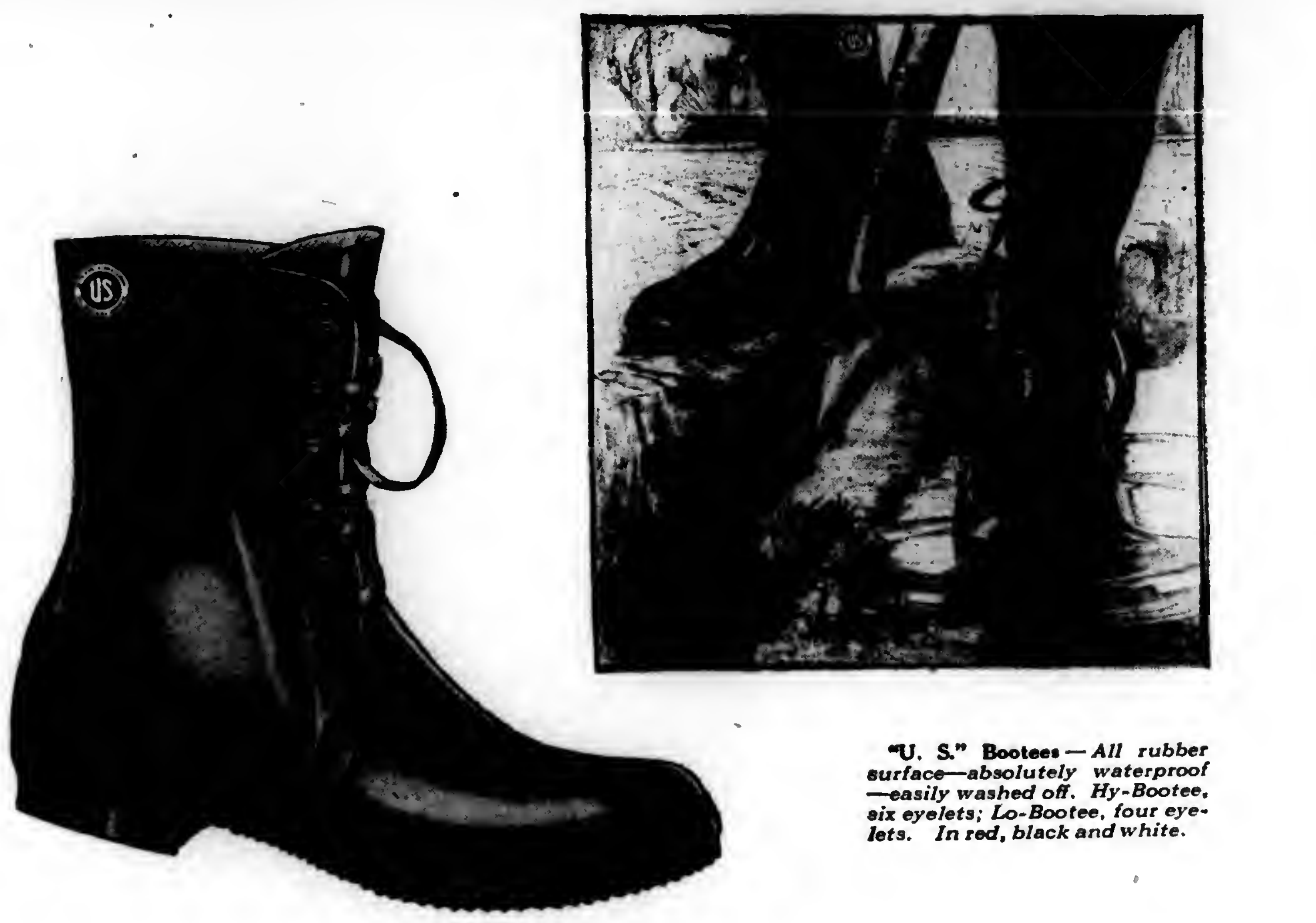
Alsike.—Prime, cash, $35; March, $35; April, $35.15.

Timothy.—Prime, cash, 1917, and 1918, $6; 1919, $6.12½; March, $6.12½; April, $6.10; May, $6.05.

Note.—It is well to remember that these are wholesale prices per bushel paid by jobbers.

TOBACCO MARKET

All tobacco interests are agreed that the greatest problem of the industry is that of impending destruction at the hands of anti-tobacco organizers in all localities. Organizations for mutual protection are being formed in many localities comprising among their number the Lions of Liberty, the Allied Tobacco League of America and the recent endorsement of the Lancaster County Tobacco Growers' Association. At a meeting of the latter it was decided to send representatives to the convention of tobacco men—manufacturers, packers, retailers and growers which meets at Washington March 19 to discuss the movement now directed against the use of tobacco and to outline some general plan of defense. It was said that the forces of the antis have already assumed immense proportions and that the same are attacking all along the line [illegible] ly occupied in the destruction of the liquor traffic. Attention was called to fact [illegible] both the subject of the eighteenth amendment and that of the now near at hand nineteenth a woman suffrage amendment were considered impossible only a short time ago. And also to the disastrous influence of female suffrage as it will be directed against the Devil's weed etc., all indicating that only prompt and efficient enlightenment can save the tobacco industry from being the subject of twentieth alteration of our heretofore sufficient and satisfactory national document. Such a decree would result in the confiscation of billions of dollars, further encroachment upon what is held to be the inherent rights of our citizens, the continued breeding of contempt which is already more or less [illegible]



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Here's an all-round rubber shoe that's strong and comfortable

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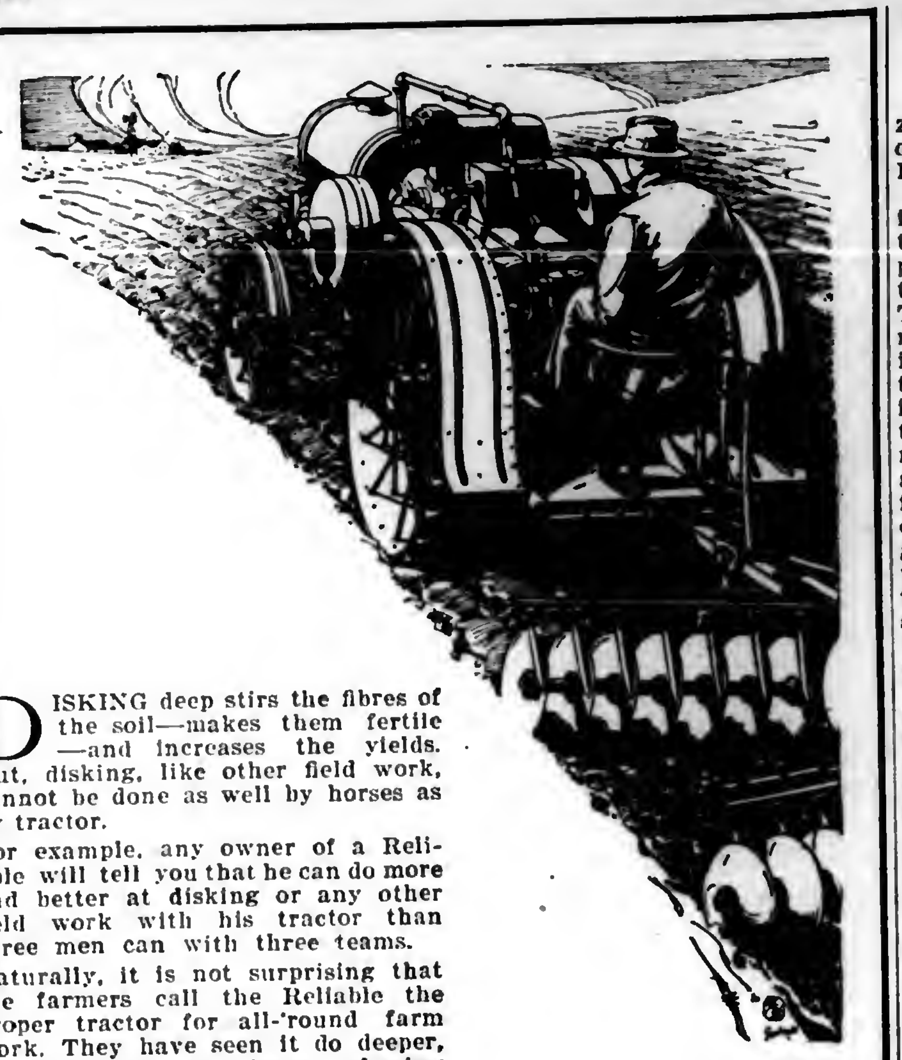

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CITIES SHOULD HAVE MARKETING FACILITIES.

Address by A. F. Meyer, Nazareth, Pa., at the annual meeting of the Northampton County Farm Bureau.

"The Farm Bureau is now in existence in this country for nearly two years, and altho it has accomplished much good, it has not made the progress that might be desired. The great majority of the people do not seem to realize what its mission is, and, while the educational institutions in other counties are rendering their farm bureaus all the assistance in their power, in this county no perceptible help has so far emanated from that source. Another fact that is astonishing is that the consuming public does not seem to grasp the possibilities and advantages that may be derived thru it, for whatever fosters production and strives to open the channels of trade, the consumer always reaps the greater benefit.

Before the war a large part of the sugar that this country consumed came from Germany and northern part of France. When the war commenced, this supply was cut off. And great has been the howl and the clamor on account of the shortage of sugar in this country in the last few years. There probably is no better soil in the world to grow the sugar beet than the gravel soil of northern Berks, Lehigh and Northampton counties, and undoubtedly there is enough suitable soil in the United States to raise many times the sugar that it needs; yet you can collect ten times as much money in a given time to finance a football or a baseball game than you could to start the sugar industry. Because of our stupidty we have no sugar.

Every one who is at all informed, knows that the food problem is the most serious problem that confronts this nation. It probably is the greatest factor in producing the agitation and discontent that prevails among the masses. But what has been done to remedy it? What have the authorities in the cities of Easton and Bethlehem ever done to supply the food need of its people? The marketing facilities of those two cities are so utterly inadequate that it is remarkable that the people had the patience to tolerate them so long. Not a single marketing place for beeves, hogs, poultry, potatoes or any other vegetables, apples or any other kind of fruit. No public storage house, either cold or warm, and if a peddler happens to have a crate of eggs or a basket of apples or potatoes more than he can sell he has to haul it back home again.

The hundred thousand or more people of those two cities must shift for themselves as well as they can so far as procuring their food is concerned. And there is hardly enough food in the two cities to tide them over a severe blizzard.

The past summer was not favorable to grow potatoes and every one who had the least bit of information knew that there were not enough potatoes grown in this county for its own consumption. Yet the farmers could not sell their potatoes in our home cities and towns. The farmers of Moore and western part of Bushkill township shipped twenty-five carloads of potatoes to Philadelphia at an average price of $1.46 per bushel. They would rather have sold them in our home county and the people in the cities and towns would have had potatoes at a reasonable price as long as they lasted, which would have been a saving to them of many thousand dollars on this one item. And the same is true with cabbage. Enough cabbage was spoiled by the cold throuout the county to supply all the demands for the whole winter. But no one would buy it last fall.

Patronizing and building up the home market would also, in a measure, solve the transportation problem; for at the same time that farmers shipped potatoes out of the county some were shipped in; unnecessarily employing two sets of freight cars. The last few years the farmers of Lehigh and a part of Northampton counties shipped their grain to Baltimore. The millers of the two counties shipped grain in to take its place. I do not know what per cent of freight cars are used in unnecessary traffic thruout the county, but it is considerable.

As possessors of the soil it is the duty of the farmers to raise and deliver at certain points every article of food that the consumer needs and at reasonable prices. But there his obligation ends. It is not his duty to canvass the cities and towns to hunt the customers.

The fear that the population of this country will soon be so great that it can not be properly fed is unfounded. It is easier to raise crops than boys and girls. There isn't a farm in the whole United States that is farmed to its full capacity. But it is imperative that a system to bring the different kinds of food from the producer to the consumer be worked out. If that problem will not be solved the danger of actual famine will be great, for the dissatisfaction among the producers is as great as among the consumers.

Centers of population like Easton and Bethlehem should have a municipal food storage plant, not in their city limits, but conveniently located, where fat cattle, hogs, and all kinds of poultry would be bought at all times in the year, operated by competent disinterested inspectors who would grade these animals and pay the wholesale prices as quoted in the Chicago markets plus the cost of transportation. Butter and eggs and all kinds of produce should be bought and ample cold storage room should be provided to store such produce in seasons when production is greater than consumption and from this source grocers and butchers from the cities should be supplied. A report of the business transacted, prices paid, expenses and deterioration and what the wholesale prices should be, should be made to the city authorities from time to time, and these reports should be printed in the daily papers to inform the public.

Then the consumer would pay one price for the same kind of goods. There is nothing more discouraging than to find out that your neighbor received more for his produce than you did. This one reason has driven many good producers out of the business.

With satisfactory marketing conditions the production of meats and produce in this county would double itself in five years.

Such food stations should be self-sustaining. They should not be a financial burden to the cities to which they belong. I do not see why an industry that makes millionaires out of individuals should bankrupt municipalities.

During the war the farmers were urged to raise all the food they could by the government. Food will win the war was the slogan and they overdid themselves. Now they are worn out, which accounts for the pessimistic report which the fourth assistant postmaster general, Mr. Blakslee, submitted to the government. A reaction in production of farm products can be expected; and the nation is not in a position for any curtailment. It is therefore indispensible that everything possible is done to encourage and relieve the producer of the vexatious task of marketing his products in every way possible."

BROOME COUNTY, N. Y.

A very severe winter so far. March 1st it was 20 below zero. Snow is at least 3 feet deep on the level. Many loads of goods are going by this week and a great many auctions are being held. The price for milk for March has been reduced one-half cent, being now 8½ cents per quart for March. Eggs have dropped to 65 cents per dozen, but potatoes have gone up. Store keepers today offering $2.50 per bushel. Hay is $20@25 per ton and in great demand. Cows bring $100@200 each. Pork 20 cents dressed. Beef, .14@.15 cents per pound. Maple syrup makers north of here are figuring on $2.50 per gallon or better. Bran cost $2.60 per cwt. Corn meal, $3.50; glutten, $3.90. A great many farmers from all around are attending the Johnson City Market. The prices for each day are fixed by the market master then each one is paid a bonus on all sales made.—C. H.

Love of home and knowledge of what the home stands for make the drudgery of daily routine a high order of social service.

"BOB WHITE"

There is something more to Bob White than gameness and six ounces. This is news to lawmakers, but lawmakers have been taking their cue from gunners, and gunners cannot afford to know. But Dr. Silvester Judd, of the Biological Survey, has held autopsy over Bob White dead, and Mrs Margaret Mores Nice of Clark University, has played detective on Bob White living, and Bob White is innocent—innocent not merely, but marvelously beneficient to humankind. Such another little combination of scourge to insects and exterminator of weed seed never left the hand of nature under feathers.

Nonmigratory, he will be found 12 months in the year on the little plot of grount lucky enough to have him for tenant.

On his bill of fare are 141 species of insects and 129 of weed seed. The gunner who shoots him in the stubble imagines that grain is about all that he eats, but as a matter of fact, it amounts to only one-sixth of his food for the year, and this is taken not from the standing crop nor among the sheaves at harvest time, but from what escapes the reaper. When grain is sprouting, and when the crop is in the milk, Bob White has other concerns, for in the late spring and summer one to two-thirds of his food consists of the field's insect foes, which make fifteen per cent of the year's total in the wild, or more than one-third in captivity. It is an important list, too, for birds not of his order eschew many of his favorites. Potato beetles he likes, and the cucumber beetle, squash ladybird, corn billbug, cutworms, the tobacco worm, army worm, cotton boll worm clover weevil, cotton boll weevil, imbricated snout beetle, May beetle, plant lice, grasshoppers, Rocky Mountain locust and chinch bug. The chick, eating 44 per cent of his weight daily, lives for six weeks on insects, and in this time one consumes some 30,000 and increases in weight tenfold. One a week old ate 2,326 plant lice and 20 meal worms, but was not done for the day.

Here are some single meals of adults: Forty-seven cotton boll weevils, 101 potato bugs, 100 chinch bugs, 12 squash bugs, 12 army worms, 12 cutworms, 568 mosquitoes in three hours. And as samples of a day's work in addition to seeds, grain and greed food, note 1350 flies, or 1286 rose slugs, or 5000 plant lice.

In the winter months he turns to weed seed, which forms more than half his food for the year. Finally the year's consumption by 1 pair in captivity was 130,905 insects and 10,442,688 weed seeds.

If Bob White were a machine, what would a farmer give for him? Common sense would have them run like chickens over field and garden and the gunner should be taboo.

SEASON NOTES.

Snyder County, Pa.

We have been having steady winter weather since December 16, with lots of snow and ice. Roads have been drifted all over the county. Feed is plenty and stock looks good. Lots of farm implements and stock sales. Everything goes high. Some farmers purchased tractors to use this spring. Markets steady and good. Wheat, $2.40 bushel; corn, shelled, $1.50 bushel; oats, 80 cents bushel; butter, 54 cents pound; eggs, 52 cents a dozen; ham, 32 cents pound; bacon, 30 cents pound; lard, 20 cents pound; chickens, 25 cents pound; onions, $1.00 bushel. Lots of sickness, mostly flu and pneumonia. People enjoy reading the Pennsylvania Farmer.—S. D. D.

No universal restriction has been placed on the sale of acid phosphate in New York State. It should not be necessary to buy mixed goods to get acid phosphate. Your county agent can tell you of reliable sources of this plant food.

Most women like a corner of the garden all their own. You may want, then, a copy of the new garden bulletin which the state college of agriculture at Ithaca, N. Y., has just published. It is F. 145.

Blue Buckle Union Made OverAlls

More wear, more comfort, more all around satisfaction come to you from Blue Buckle OverAlls and Coats *because we put more care and more quality into them!*

Blue Buckles really fit you! They're comfort-cut with generous oversize that reduces wear at strain points.

Blue Buckles beat all wear-service records—staunch, indigo-blue denim, skillful Union workmanship, and the clever Blue Buckle super-wear features make that certain.

More and more men who know superiority in work clothes—farmers and industrial workers—are buying Blue Buckles exclusively. *That's the straightest economy tip as to actual Blue Buckle value!*

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Largest Manufacturers of Overalls in the World

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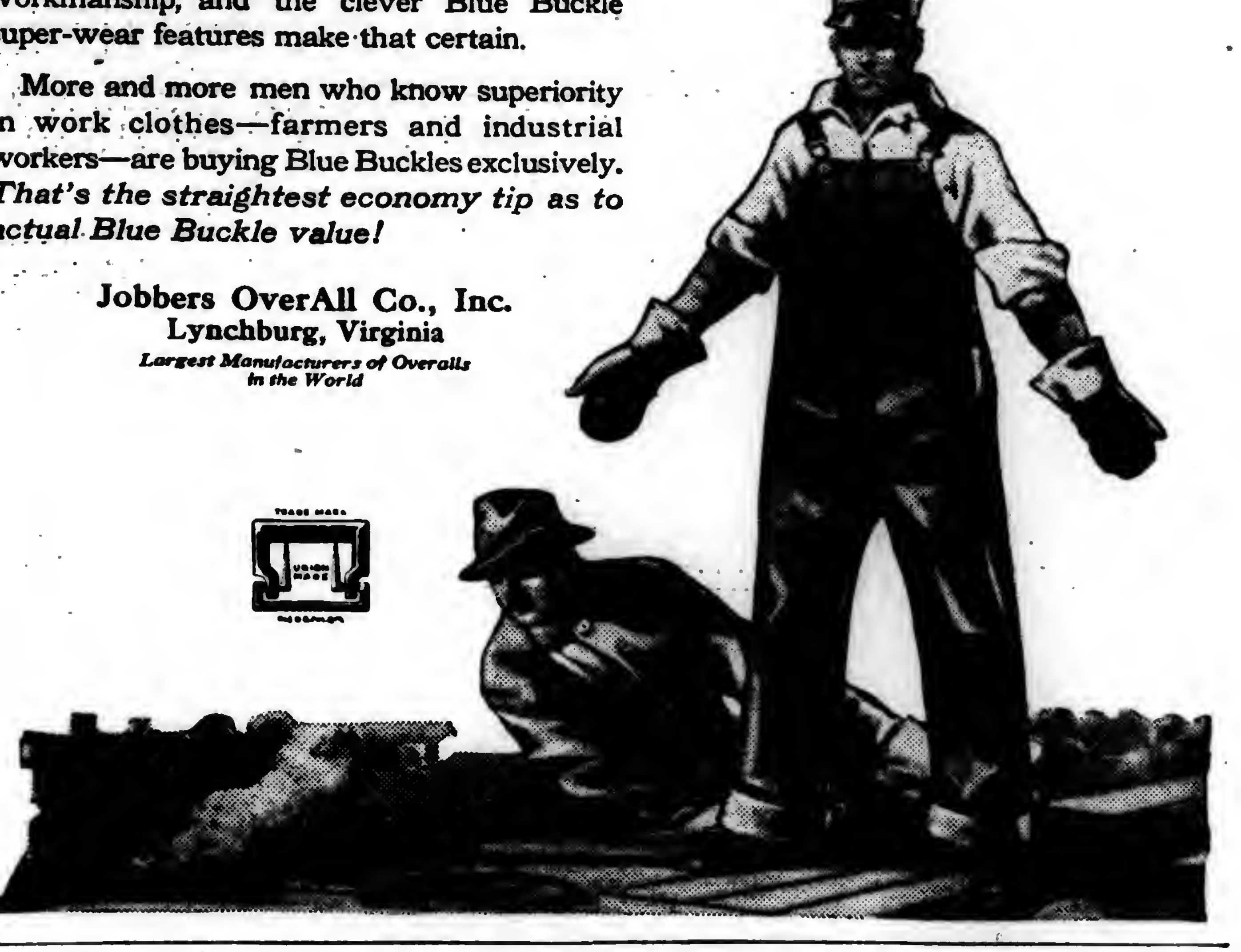

Poultry

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NONE SUCH WHITE LEGHORNS. For 18 years. NONE SUCH WHITE LEGHORNS have been trapnested and bred to lay more eggs. FERRIS WHITE strain, mated to Grandsons of Prince Eglatine, a son of the world's famous Lady Eglatine. Hatching eggs, fertility guaranteed.
300 egg strain $5.00 for 15. $25.00 per hundred.
260 egg strain $2.50 for 15. $15.00 per hundred.
THE H. M. SPAHR BREEDING ESTATE, Dept. C. Woodsboro, Maryland.

BABY CHIX EGGS
KENDEL'S SUPERIOR STRAINS
Famous for High Standard, Utility Quality, 35 varieties. Leghorns, Rocks, Reds, Wyandottes, Anconas, Minorcas, Brahmas, Langshams, Orpingtons and Ducks. Circular free.
A. C. Kendel, 221 Prospect Ave., Cleveland, O.

Baby Chix: Pedigreed Heavy-Laying Barron 300 egg strain S. C. White Leghorn Baby Chicks. Heavy, deep-bodied, red-combed birds. Bred to lay and do lay. $20 hundred, parcel post delivered. 10 percent will book your order now for May and June. Sold out for April.
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Better Produced Day-Old Chicks are the kind you want—17 leading breeds at reas. prices. Send for free catalog today. Springfield Hatcheries & Poultry Farm, Box H, Springfield, Ohio.

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A specialty, from the leading varieties of poultry. Prices very reasonable. Meadow Brook Poultry and Stock Farm, Gordonville, Pa.

Selby Service Satisfies Ship us your produce, poultry and eggs. Penna. Potatoes a specialty. Returns day goods are sold. Ask for our market letter.
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MAMMOTH White Pekin Duck Eggs. Splendid stock. High fertility. $12 per hundred, cash with order. Beech Dale Duck Farm, BIRD-IN-HAND, LANC. CO., PA.

Hummer's Famous Baby Chicks. Big Healthy fellows. They live and grow. Six varieties. Circular free.
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Nice Lot Barred Plymouth Rock Cockerels, also egg settings from special mated pens. Write for prices.
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For Sale BABY Chicks, Barred Rocks, R. I. Reds, Buff Orpingtons, and White Leghorns. Buckeye Hatchery, Millerstown, Perry Co., Pa.

Baby Chicks Barred Rocks, White Rocks, White Leghorns and Reds. Circular Free
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BABY CHICKS
GULDIN'S WHITE LEGHORNS
Bred for size, vigor and high flock average egg yield.
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LOOK: BABY CHICKS AND DUCKS 10 breeds of chicks, 4 breeds of ducks. Utility and Exhibition grades. Postage paid and live delivery guaranteed. Capacity 100,000 weekly. Catalog free. Stamps appreciated.
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AMERICAN POULTRY ALMANAC
Our 1920 catalog FREE. How we breed the 300-egg hen. Scientific facts plainly told. Each month's routine. Feeding for winter eggs. *How We Win Medals at the Egg Laying Contests.*
HOPEWELL FARMS, Box 65. Hopewell, N. J.

BIG STURDY BABY CHICKS AND HATCHING EGGS from high egg producing strains of quality. Martin's Dorcas White Wyandottes, Ringlet Barred Rocks, Shepard Anconas, Eglantine White Leghorns, S. C. R. I. Reds. Hatches every week after February 15th. Catalog free. SUNNY SIDE POULTRY FARM, COOPER HILL, N. J.

Day Old Chicks and Hatching Eggs
White Leghorns, Barred Plym. Rocks, Rhode Island Reds. Safe delivery guaranteed. Place orders now to insure prompt delivery. PARADISE POULTRY FARM, BOX C, PARADISE, PA.

Tiffany's Superior Chicks That live. Silver, White, and Columbian Wyandottes, Buff, Barred, and White Rocks, R. I. Reds, White and Brown Leghorns, Pekin, Rouen, and Indian Runner Ducklings (heavy type). Aldham Poultry Farm, R. 39, Phoenixville, Pa.

Hampton's Black Leghorn Chicks. Get my free circular before you order chicks. Tells why the Black Leghorn is the greatest layer and most profitable breed on earth. Write today. A. E. Hampton, Box F, Pittstown, N. J.

Eggs $1 Setting Parcel Post paid. Purebred. Barred, White and Buff Rocks; White and Brown Leghorns; Reds, White Wyandottes, Buff Minorcas; Black Langshans; Buff Orpingtons. Philip Condon, Box 119, West Chester, O.

CHICKS Deduct $2 per 100 chicks from list price in placing your order or when sending in balance. Barred P. Rocks, Leghorns & mixed chicks. Booklet free. THE CYCLONE HATCHERY, Millerstown, Pa.

White Rock Chicks from good stock, $25 per 100 postpaid. Also Fawn and White Indian Runner ducklings 30 cents each. MRS. I. F. GRIFFITH, R. 2, MOHNTON, PA.

Ringlet— BARRED ROCK COCKERELS—PULLET bred, $4 to $8.
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ENGLISH WHITE WYANDOTTE & MAMMOTH PEKIN DUCK EGGS
for hatching, from the very best stock. Wyandotte eggs, 15 for $2.50. Ducks eggs, 11 for $2.50. All carefully packed and delivered. A. R. LOGUE, WOODBURY, BEDFORD CO., PA.

CHICKS from large, pure white, two-year-old hens, Wyckoff strain, 18 cts. Extra fine, Brown Leghorns, 20 cents, White Rocks, Barred Rocks, Orpingtons, R. I. Reds, Black Minorcas, 25 cents. Postpaid. Eggs: Half price of chicks.
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BABY CHICKS White and Barred Rocks, White Wyandottes, Reds, Anconas, White and Brown Leghorns and Broiler Chicks. Send for Free Catalog and prices before ordering elsewhere. Trial convinces.
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Baby Chix: Sturdy, thorobred chicks that live, grow and pay, from the four great American breeds—White and Barred Rocks, White Wyandottes, R. I. Reds and White Orpingtons. Safe delivery guaranteed. $25 per 100. Cash with order. postpaid delivery, any week after February 15th.
LEONARD STRICKLER, SHERIDAN, PA.

Baby Chicks— Single Comb Rhode Island Reds. Improve your flock by buying chicks produced from hens bred for the past ten years for high egg production. First hatch March 10th. Write for prices.
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Barred Ply. Rocks. Chicago winners. Great winter layers. 100 choice Cockerels. Eggs for Hatching. Prices reasonable. Satisfaction guaranteed. 28th year.
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Prices reasonable. Catalog free.
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SHIREY'S S. C. White Leghorn Baby Chicks 14c and up according to season. They make the greatest egg producers on earth. C. P. Shirey, Stewartstown, Pa

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Single Comb White Leghorns. Big Vigorous Birds. Good layers. Eggs and Chicks. Write
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50 Breeds Fancy Poultry. Our big Instructive Book mailed. Stamps appreciated
Address "HATCHWELL," Cochranville, Pa

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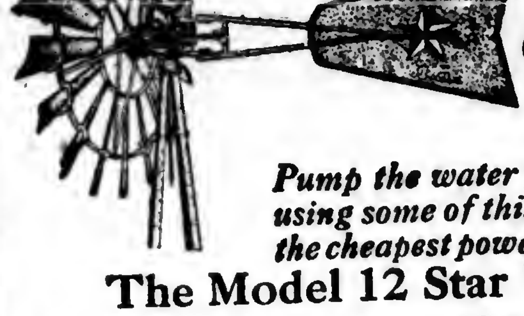

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The Model 12 Star Windmill

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Will furnish you with foundation stock, registered and of most approved blood lines. Address, Makefield Farms, 803 Broad Street Bank Bldg., Trenton, N. J. Farms nearby at Yardley, Pa. All stock cholera immuned.

O. I. C.'s of the very best breeding, strictly big, short-nosed type. Every one guaranteed to please and registered free. C. E. CASSEL, HERSHEY, PA.

Reg. Berkshire Swine Bred gilts $80. Open gilts $60. Sow pigs $20 and up. Immediate delivery. G. NORMAN ACKER, West Chester, Pa. R. 2

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TARRYMOOR BERKSHIRES Quality Growthiness Prolificacy We guarantee satisfaction. Robt. E. Atkinson, Wrightstown, Pa. Bell Phone.

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LARGE ENGLISH YORKSHIRES, purebred. The bacon hog. Good feeders, gentle and prolific. J. Homer Reams, Luthersburg, Pa.

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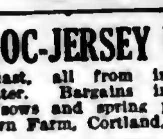
CHESHIRES.—The high-quality home-market and home-table breed. Our type pleases. Pigs and service boars. Morningside Farm, Sylvania, Pa.

Hampshires Eastern Quality Herd. National Swine Show and State Fair winners. Also Guernsey cattle. Free Cir. Locust Lawn Farm, Bird-in-Hand, Box 2, Lanc. Co., Pa.



REGISTERED DUROC-JERSEY PIGS

$10 each while they last, all from imported Southern stock, none better. Bargains in bred gilts, service boars, brood sows and spring pigs. C. W. Ellis, Jr., Maple Lawn Farm, Cortland, N. Y.

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First checks received get a few choice gilts, bred for March and April farrow. Priced at $100 each and they are good. DEPEW HEAD, Edgewood Farm, Marion, Ohio.

Large Type Reg. Berkshires of all ages for sale. Select a breeder from a thirteen pig litter. Pay when you see stock. No cash in advance. DAVID WIANT, HUNTINGTON MILLS, PA.

VIEWMONT FARM, MAINVILLE, PA. offers choice O. I. C. Oct. pigs, 100 to 120 lbs., from Schoolmaster boar and Callaway Edd sows, (Crandell's Champion boars). Good enough to ship anywhere C. O. D.

Registered Durocs Best blood lines. Sold out at present. Will book orders for spring pigs. Northumberland County Duroc-Jersey Breeders' Association, J. M. FRY, Corresponding Secretary, Sunbury, Pa.

BERKSHIRES—Longfellow and Masterhood breeding stock. Superior length, depth and extra thick hams. All ages. Booking orders for spring shipment. Mariendale Farms, A. L. Hostetter, Manheim, Pa. R. 1.

REG. BIG TYPE POLAND CHINAS. Special price on Oct. pigs this month; also spring pigs. Giant Buster and Blue Valley Blood. Prices reasonable. C. E. SECHLER, Markleton, Pa., Somerset Co.

Reg. Berkshire Bred Sows. Shipment June first. L. C. Tomkins, Ellenton, Lyc. Co., Pa.

Reg. Big Type SPOTTED POLAND-CHINA pigs, bred from a son of O. K.'s Pride No. 30. H. C. KYMER, R. 4, Shippensburg, Penn'a.

Reg. O. I. C. Pigs January farrow. Big stock. Quality guaranteed. L. D. LAUSHEY, SMOKETOWN, PA.

Chester Whites Boar and Sow Pigs. Bred Sows. Collie dogs. ARCADIA FARM, BOX D, BALLY, PA.

For Sale Registered O. I. C. Boars, six months old. Good breeding. J. W. SNYDER, WHITEFORD, MD.

Reg. Berkshire Pigs, either sex, 6 to 10 weeks old, $15 each. L. C. Tomkins, Ellenton, Lyc. Co., Pa.

Durocs.—Boars ready for service. Spring gilts, bred for March, April and May litters. Fall pigs, either sex. All immuned. I. D. Jackson, Van Wert, Ohio.

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ONE OF OUR MANY GREAT SOWS

The Famous O. I. C. Swine

We have the undefeated herd of the world. Winning premier breeder and exhibitor at every fair shown in 1919, 1918, 1917 including the following state fairs—Ohio, Michigan, Indiana, Illinois, Missouri, Kentucky, Tennessee, Oklahoma, New York, Alabama, Tri-State Fair at Memphis, and the National O. I. C. twice. Stock of all ages for sale, registered free in the O. I. C. Association. Order now. We will ship any of our stock on approval and allow you to keep three days before you have to pay for it. You will be your judge on your own farm.

Crandell's Prize Hogs, Cass City, Mich.

COUNTY NOTES

New York Notes.

Southern and Central New York has been for some weeks in the throes of severe blizzards blocking trains, and generally demoralizing business. A great amount of snow is on the ground, some estimate it three feet on the level—if it was left there. But it is not. It is piled up in drifts from three to fifteen feet high. The oldest inhabitants fail to recall a similar winter. The rural mail carriers cannot deliver their mail, and have not for weeks. In some cases the mail is left at certain places and a horseman or footman calls for it. But the milk has been delivered each day to the creamery or station. Not one day missed, altho the milk trains did not go on the Lehigh Valley road from Auburn to Elmira for about 40 hours.

Many farms are being sold to foreigners—Polish, Swedes, and Russians. All seem to be thrifty, hard-working upright people, with large families of unusually bright, intelligent children who are learning our ways and language very rapidly, and bid fair to eclipse our own children, as they seem to just bound in their studies. Some of these children of 11 or 12 years of age act as interpreters for their parents and our people, as they have both the American language and their own native tongue at quick command.

Many auction sales of stock and farming implements are being held and they commanded good prices and ready buyers.

Owego, the county seat of Tioga Co., N. Y. is boasting a fine new Federal building which is nearing completion. Also three new industries—A corset manufactory, a shoe factory, and a lead pipe and tile factory. These will give employment to hundreds of people. New houses are going up to provide housing room for the coming people.

The labor problem for the farmer is not yet solved, nor will not be, so long as the short hour day and high wage prevail; for the farmer cannot compete with the industries and manufactories in prices paid for labor unless they receive a higher price for their produce.

The influenza is claiming its victims by the thousands. At Cornell University, Ithaca, the students are sick at an alarming rate. It is reported that among the many hundreds ill in the students infirmary that none have died of influenza, but some forty-four died of pneumonia following it. The disease is now abating both at Ithaca and all the southern tier.

The weather has been exceedingly cold, part of the time, but when the blizzards were in progress, the mercury was not low, ranging usually from 16 to 30 above zero.—M. I. C. A.

Carbon County, Pa., Notes. (E)

The weather for the last month has been of the old time variety. The roads were drifted so that it required a week's work to shovel the snow out. The day after they were open we had another storm that again effectually blocked the roads. The auto trucks are unable to travel thru the snow, so that teams are in great demand at $10 to $20 per day. A winter such as this serves to demonstrate that the horse still has a place, and a big one at that, in this world. In the towns and cities snow shovelers are paid $1 per hour for shoveling snow. The township pays $2.80 per day of nine hours.

Some lumbering going on, altho the deep snow in the woods makes it laborious work. Prices of sawed lumber run from $45 to $50 per thousand feet. The chestnut has all been killed by the blight and must be cut out or it will be a total loss.

A car of potatoes was loaded here last week at $2.35 per bushel, f. o. b. Only a few left in this section.

Wheat, $2.50 per bushel; Corn $3.75 per sack of 90 pounds; Oats, $1.25 retail per bushel; Milk, .09 per quart; Hay, $35 per ton; Dairy feed, $4.10 per bushel.—W. S. B.

Tree those shoes! Keeping shoes on shoe trees when not in use adds weeks if not months to their life.

Facts in BLACK & WHITE

Purebred Holstein Cattle For Profit

"Both milk and fat are produced at lowest rate in general by the cows consuming the MOST FOOD." This conclusion reached by Prof. H. H. Wing, Professor of dairy husbandry at Cornell, after a year's observation of the herd at the University experiment station. Holsteins are large and healthy, capable of converting large quantities of coarse feed into the best of milk suitable for all purposes, particularly in demand for infant feeding and for cheese making.

If you are keeping cows for profit, investigate Holsteins.

Send for Free Illsutrated Booklets. They contain valuable information for any Dairyman.

THE HOLSTEIN-FRIESIAN ASSOCIATION
218 Hudson Street
Brattleboro, Vermont

For Sale Registered May Rose Guernsey Bull Calf, price $150. Sired by Brookmeads Royal Master of Riverview, who is brother to the Great Bull, Langwater Stars and Stripes 2nd and grandson of the famous Imp King of the May, who has 26 A. R. daughters who exceed an average of 600 lbs. fat, and is also sire of Dolly Dimples May King of Langwater. RIVERVIEW FARMS, SWARTHMORE, Del. Co., Pa. (Suburb of Phila.)

STEVENS' HOLSTEIN FARM OF CORTLAND, N. Y. King Korndyke Sadie Vale Jr., No. 20301, two nearest dams averaging 36 pounds of butter in 7 days, heads my herd. Butter records from 17 pounds two-year-olds to 34 pounds at full age. Also high grade Holstein calves, either sex, $15.00 each. Write your wants. PAUL H. STEVENS, Prop.

King Cornucopia Dekol Paul No. 204356 First prize 2-year-old bull N. Y. State Fair 1919. Dam gave 743 lbs. milk in 7 days, as a 3-year-old world record when made. Two nearest dams average 30.01 lbs. butter, 721.75 lbs. milk in 7 days. Bull and heifer calves for sale at all times. Postal brings full information. Write me before buying a bull calf for your herd. E. G. DORAN, PREBLE, N. Y.

Registered Holstein and Guernsey bulls from calves to serviceable age. 250 animals in the herd. BONNYMEADS FARMS, R. D. 1, Harrisburg, Pa.

Registered Holstein Friesian Cattle Sons of the great Finderne Sir Valdessa, a 37 lb. bull, for sale. MILLARD E. BASEHOAR, Littlestown, Pa.

Ayrshire Bull Calves From high record A. R. Dams. ROBERT TEMPLETON & SON, ULSTER, PA.

Jerseys For Sale. Herd bulls, Champion Torono's Nepos and Sophie 19th Tormentor 39th. Hood breeding. GEO. P. BEVAN, Towanda, Pa. R. 1

MILKING SHORTHORN BULL CALVES of the best breeding. Also a few females for sale. C. M. KENNEDY & SONS, ULSTER, PA.

Reg. Holstein Heifer Calves, from officially tested dams and a 30 lb. sire. Write for prices, pictures and peds. Walter M. Cruttenden, Wilkes-Barre, Pa.

Miscellaneous

HAY AND POTATOES Poultry and all produce wanted at market prices. Good, steady, active demand. GIBBS & BRO., 325 N. FRONT STREET, PHILADELPHIA, PA.

Penns Valley Stock Farm Percherons, Holsteins, Berkshires. Special offering in fresh cows and heifers; bull calves, grandsons of King of the Pontiacs; herd boars, with size, breeding and quality; pigs, either sex. W. F. RISHEL, Centre Hall, Pa.

HATCHING EGGS from free farm range Poultry. Rocks, Reds, Wyandottes, Leghorns, Minorcas, Brahmas, Hamburgs, Anconas, Ducks, etc., also Hares, Cavies and Holstein cattle. Cat. free. H. A. Souder, Sellersville, Pa.

Highland Stock Farm Belgian Horses, Jersey Cattle, Large Berkshires, and Indian Runner Ducks. Stock for sale at reas. prices. Anselm B. Kirsch, Nicktown, Pa.

HOLSTEIN FRIESIAN Heifer and Bull Calves, High Grade and Purebred Reg., beautifully marked, splendid individuals. Reg. Durocs, pigs, bred gilts, and service boars. BROWNCROFT FARMS, McGraw, N. Y.

REG. P. CHINAS, BERKSHIRES, C. WHITES large strains, all ages, mated, not akin; 8 wk. pigs, br. sows, service boars, Beagles and Collies. Write for circ. P. F. HAMILTON, COCHRANVILLE, Pa.

FOR SALE: COLLIE DOGS, 1 to 3 years old, broken on stock. Beagle pups wanted, two to three months old. I. R. TANGER, YORK SPRINGS, PA.

For Sale: Registered C. W. gilts and service boars and pigs. Also Jersey Bulls, all ages. J. A. BOAK, NEW CASTLE, PA. R.

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Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full: also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Shoats Strangle.—During the last several weeks I notice my two shoats when trying to eat strangle a good deal, beside they seem to choke. J. F. S., Burns, N. Y.—Warm their feed, spread it out thin, dampen their feed and feed them often.

Diseased Udder.—I bought a fresh cow with calf some 6 weeks ago, she had a very large full bag, but as she was reported a good milker I thought nothing of it, but after I got her home and milked her I found the back part of bag hard and swollen but it did not affect her milk flow any the first time I milked her, nor for a few weeks; however, I now notice she is slacking up in milk yield. I have been using commercial udder remedies, but bunch remains the same. She is a small Jersey which I paid $120 for. C. A. S. Cheswold, Del. You should have milked her before you paid for her, when udder is empty you can more readily ascertain if it is sound and free from bunches. Apply one part iodine and twenty parts fresh lard once a day to the back part of udder.

Suppurating Hock Joint.—I have mare 12 years old, two months ago one hock commenced to swell, exercise reduced it. This condition lasted 30 days, then joint swelled more. I applied liniment. She gradually grew worse, then lay down and could not get up without help. I lifted her up in sling, left her standing. I applied swamp moss, vinegar and salt, which was bound on the sore parts. The joint soon opened, discharged pus, I then poulticed with flax seed. The wound has all healed except a small sore which is open and discharges pus, but she is very lame. D. J. S., Linwood, N. J. Doubtless your mare has an open joint which is now suppurative and may perhaps be incurable. Occasionally inject some tincture of iodin to bottom of cavity and paint edges of wound with tincture of iodin ever day or two. Keep her in slings and as quiet as possible. Dust on one part idodoform and 9 parts boric acid twice a day. Feed her some roots.

Unthrifty Mare.—I have been a reader of your veterinary column for the past 7 years and gathered lots of good information from it, but would like to know what to do for my work mare. She had a foal three years ago, it only lived 2 weeks, she had another colt 2 years ago, this one has thrived and done well. However, the mare has remained thin for 3 years. Had her teeth floated by our local veterinarian, but it did no good. She refuses to lay on flesh. She has good appetite, is fed twelve quarts of oats daily with equal parts wheat bran and hay for fodder. W. C. P., Laceyville, Pa.—Feed her two parts corn and one part oats, also an occasional bran mash and if you can supply her with plenty well cured mixed hay, do so. A few roots fed to her daily will have good effect. Mix one part fluid extract of nux vomica, 2 parts fluid extract cinchona, and seven parts Fowler's Solution. Shake well and give her six drams at a dose in feed or in drinking water 3 times a day until she regains her lost flesh. Good grooming, keeping her stable clean and well supplied with fresh air will have good effect.

Spinal Disease.—We have a mare 12 years old, in good flesh, good appetite and strong, but when she walks, her hind legs wabble. We are giving stychnine which was prescribed by our family doctor, and we are led to believe she has mild attack of spinal Meningitis. W. D. L., Chestertown, Md.—Give her sixty drops fluid extract of nux vomica, also half an ounce of Fowler's Solution in feed or water 3 times daily. She should have walking exercise daily, but must be kept warm and don't forget to let fresh air into stable. Feed her oats, wheat bran and mixed hay of good quality.

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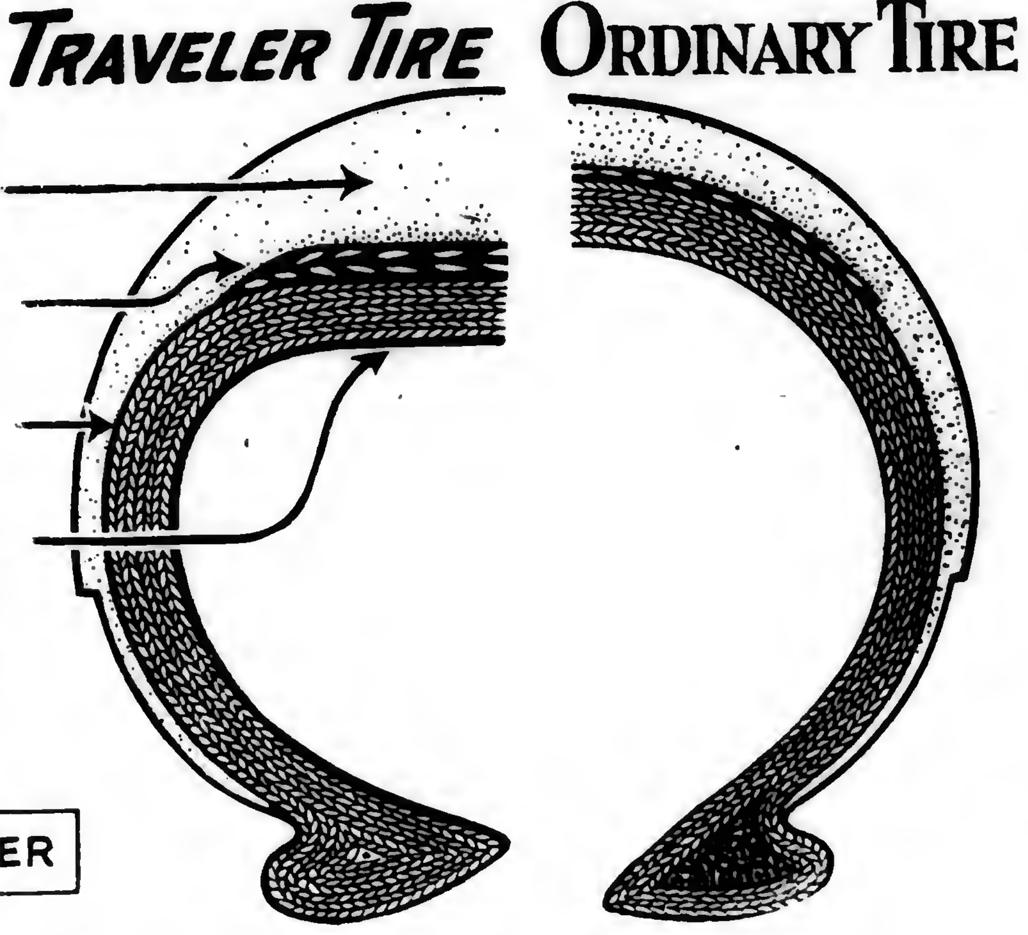

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Grooming the Tractor for Spring Work

Telling Plainly How to Overhaul and Adjust

By F. W. KNIPE

TEACHER IN ENGINEERING, AMES, IOWA

What causes the greatest amount of tractor trouble? Is it poor ignition or poor carburation; low grade oil or faulty material? Any of these conditions are bad enough but there is one which stands head and shoulders above all of these when a final analysis is taken. This is lack of attention on the part of the operator. How many operators give their machine half an hour attention daily during the tractor working season? How many inspect it thoroly each week or how many ever give it a complete over-hauling? The answer is, "Very few."

This article will deal only with a complete overhauling of the machine such as can and should be made at this time of the year. The rush of spring work will be coming along soon at which time no farmer wants his tractor standing idle while the service man comes out from town to repair it. The way to avoid that possibility is to begin now and give that tractor a complete over-hauling.

In going about this it is well of course to get the tractor into a warm building. If no such place is available, select some place where there is plenty of light. The place should have a good floor, free from all dirt, because parts are sure to drop to the floor and much time may be lost in finding them.

In overhauling a tractor I prefer to overhaul the engine as a unit, and the framework, including transmission, clutch, differential and all other parts as another unit. This is not always entirely possible, however, especially in tractors of backbone construction. Wherever possible the engine should be removed completely from the frame but when not practicable to do this, it usually can be readily overhauled in place.

Since the frame is usually the most uninteresting part to overhaul I do that first in order to get it out of the way. The whole frame should be carefully looked over in order to locate any loose or lost bolts or rivets. In case rivets are lost they should be replaced and in case of loose nuts on bolts, they should be tightened. The front axel member is frequently an abused part of the machine. Insufficient grease causes a lot of trouble here. The front wheels need to be removed, all of the old grease cleaned off, and the bearings thoroly washed in kerosene. Frequently the pivot upon which the wheels are steered is not properly greased. In consequence the grease in the oil grooves gums up and when the grease cup is turned down no grease can pass the old gummy oil. Steering becomes more and more difficult wearing is excessive and the tractor's efficiency is lessened. Thoroly clean out this old oil and if the pivot has become rusty, clean it with kerosene. In reassembling the front axel, care must be taken to replace the roller bearings in the proper position. Fresh grease and oil must not be forgotten. Very much the same treatment must be accorded the rear wheels. However, rear axel constructions vary so widely with different makes of tractors that it is impossible to enumerate just what should be attended to in each case. Every bearing should receive special attention, being sure that it is securing proper lubrication, that no rollers are broken if it is of roller bearing construction, and that it is sufficiently tight.

The transmission, differential and clutch are next on this program of overhauling. Here the first thing to do is to drain all old oil from the differential and transmission housings. Then these places, including all of the gears, should be thoroly flushed with kerosene. This is done so that any broken teeth, or loose, or badly worn parts can be more readily found. Here again there are so many different designs on the market that it is impossible to cover them all. Any badly worn parts should be replaced as should any of the gears if they show broken teeth for a broken tooth may give way at any time and get caught in the gears and cause more damage than several new parts would cost. Nearly all differentials and transmissions have thrust bearings of one type or another which should receive close attention when overhauling is in progress. It is not always necessary to dismantle these parts but it is good practice, because any little defects can thus be found that would otherwise go unnoticed. When needed repairs and adjustments have been made and these parts are once more reassembled, don't forget to refill with the right grade of oil.

The clutch needs special attention since upon it depends to a certain degree the amount of power transmitted from engine to drive wheels or belt. Some clutches are easily adjusted while others require more attention. For instance, a multiple disc or twin disc clutch usually can be adjusted by varying the tension on one nut or bolt, while an expanding shoe clutch must be adjusted on every shoe. Herein, much trouble may arise for frequently in the expanding shoe type all shoes cannot be taken up at one time because too tight an action results. This makes an uneven pressure on the shaft which in turn causes excessive wear on the adjacent bearings. On the other type clutches no such excessive wear is possible from this cause. The clutch should be readjusted so that it will not slip under a heavy load and so that it will release immediately when the clutch lever is thrown out. Proper clutch adjustment is sometimes difficult to get but it is well worth working for when the life of the machine and power transmitted are considered.

A bad practice among farmers is to use so-called "hard water" in their tractor cooling systems. Rainwater or distilled water should be used but if "hard" water has been used and a deposit has been formed in the radiator an excellent way to remove it is by using a five percent solution of "muriatic" or hydrochloric acid. Fill the radiator with this, allow to stand for only a few minutes, drain it all out and immediately flush with fresh water. If this solution remains in the radiator for any length of time it will destroy the thin compartments of copper and thus ruin the radiator. The cooling jacket around the cylinders may be cleaned in this manner also.

In overhauling the engine there is one part which I would advice the average farmer to leave alone. That part is the magneto. It is a somewhat complicated mechanism which should never be "tinkered" with by any one who does not understand it. More harm than good is apt to be the result of attempting to overhaul it.

As the engine is being dismantled be sure to mark and note exactly how every part fits to-

(Continued on Page 24.

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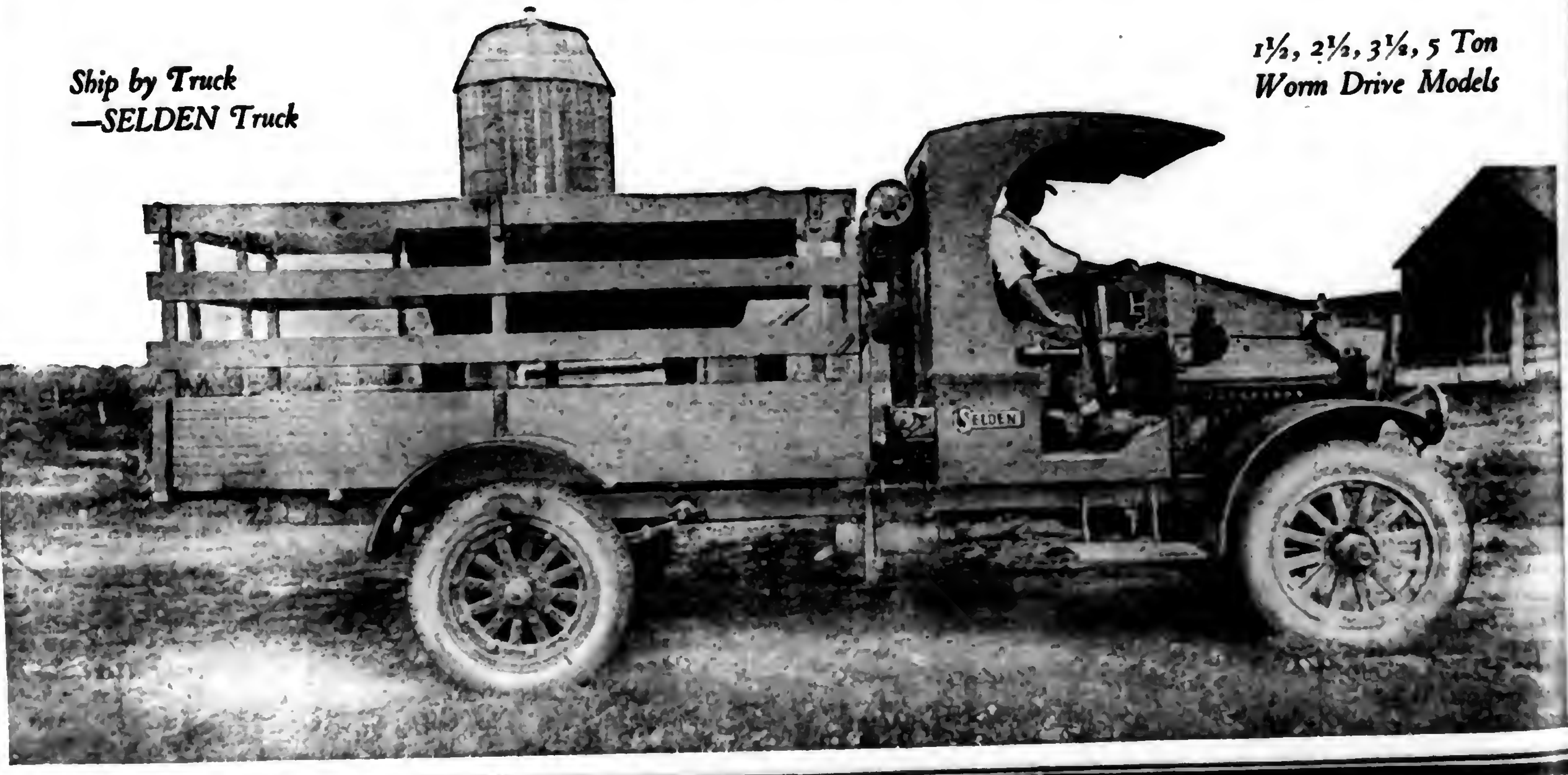

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Philadelphia

How the Tractor Has Helped us Out

Articles Written by Farmer Users Who Tell Their Experience

Tractor Solves Labor Problem

By R. E. HARMAN, Chester Co., Pa.

(First Prize Article)

The writer has had had four years experience with farm tractors of different types and thinks they are an economical investment for the farmer. Of course, the small farmer has less chance to make his tractor pay than the larger farmer has. Neither does a farm with rock outcrops, stumps and steep hills make a good home for a tractor.

The type of tractor has much to do with its economy. One should be chosen that best corresponds to the size of farm, the character of the soil, and the work, including belt work, that you intend to do. A tractor may be too large as well as too small. It requires more power to till a stiff clay soil than to till a loose sandy soil. The following are some of the questions to consider before you buy; is it easy to operate, to turn, to connect up belt work, to get into the corners of the field? Of what material is it constructed? Are the working parts well protected from dirt? Is side draft absent? Are repairs easy to secure? Are the parts easy of access to? Has it a good lubricating system (force feed and the gears operating in oil)?

The tractor is a great labor saving device, a drudge emancipator for both man and beast. And this, the farmer of today considers of great economic importance. Nothing makes the labor situation on the farm look brighter than improved labor saving machinery. The real call of the farm today is for power, some means by which the skill of one man can do the work of several men or horses. This is one of the bills the tractor fills.

In grain farming the tractor becomes of economic importance by making the required number of horses and men less. Hauling manure, preparing the seed bed, seeding, harvesting, hauling, threshing, and baling can all be done with a profit by the tractor. In general farming, where both grain and cultivated crops are grown, the number of men and horses required is also reduced by the use of the tractor. No team of horses can thoroly prepare and seed as much land as it can cultivate during growth. A farmer in this county farmed 180-acres this past summer without any horses. He seeded and cultivated with the tractor. Many grain farms do not use any horses. The tractor, however, will never entirely take the place of the horse as a means of power on the farm. The horse has come to stay. The tractor also has come to stay It is fast becoming popular on the farm because of its economy. Our tractors neither eat nor require care when idle We save much money in this manner

Of such economic importance to the farmer is being able to seed and harvest his crops at the proper time. There is a time to plow, a time to sow, and a time to reap. Many farmers plow too early in the Spring, in order to get all their crops seeded at the proper time. The soil is often ruined for many years. A poor seed bed, a poor crop, and a poor income is the result. The tractor enables a farmer to plow only when the ground is in the right physical condition. During hot weather the tractor is working at its best while the horse is often doomed. We have been able to raise more and better colts by doing the heavy work with the tractor. This is one of the few farms that "beat the weather man to it" this past summer. We harvested the wheat crop with the tractors while the teams hauled it to the barn. The result was a shipment of 2,000 bushels of wheat to market graded as No. 1. A great many of our horse farmers burned their wheat in the field rather than risk feeding it to stock after the rainy weather was thru with it.

Tractor Taking the Place of 6 Horses on Road Machine

Our tractors have been profitable pieces of machinery not only in the field but also around the barn, the silo, and the woodlot. Some of the other uses we made of them are: grinding feed, filling silo, sawing wood, harvesting corn, pulling stumps and trees, threshing, baling, making roads, and many other jobs of minor importance. Some will say, "The tractor has too much power for work of this nature." Better too much power than not enough. Overload your auto, over-work your team and see if it is economy. In any work, like filling the silo, the same number of men will accomplish more work and do it easier if there is power held in reserve. More power gives a steady pull. This makes it easier on the machine the belt is applied to. More power does not mean more speed. This is controlled on the tractor by means of a lever.

After all, a tractor will not prove an economical investment if the proper care is not given it. "Knowledge is Power" is an old maxim. Only he who intends to take an interest in and study his tractor can hope to profit from the investment. The operator must know what is going on inside the tractor as well as on the outside, but it does not require a college graduate to run a tractor. The old saying is "Beer and gasoline will not mix." But kerosene or gasoline will mix with lubricating oil if enough common sense is added to the mixture. To start a tractor is one thing, but to get the most power out of it with the least consumption of fuel and the least wear and tear on the machine is another. Tractor troubles are of two kinds; the things we do not know and the things we forget to do. Too much oil is as bad as to little. Since the tractor takes the place of several horses, why not give it the care it requires?

If this care is given, the tractor will do more efficient work, have few repairs bills, be a pleasure to work with, live a long life of usefulness, and prove to be a very economical investment for the farmer.

Efficient and Economical

By J. S. and M. R. BRIGGS, Bucks Co., Pa.

(Second Prize Article.)

If the farmer is to compete with men in other lines of business it is certain he must have time and labor saving machinery. Time is "king" in industry these days and he who makes the most of his own and his employees time wins out in nine cases out of ten. The farmer who plans his work systematically, and is prepared to do it quickly when the season and weather conditions are right, because he has the equipment and the ideals, enjoys an independence and satisfaction in earning his livelihood, as great if not greater, than is the privilege of men in other occupations. If it were not so, economic conditions being against him as they are today, few farmers and their families would be willing to continue farming.

When we stop to realize what an auto means in economy of time and satisfaction to farm life we get an idea of what a good tractor means to farm labor. Two years ago the question arose: "Should we purchase a needed pair of horses or buy a tractor." We had observed different makes of tractors at work, and had attended a demonstration. After further careful investigation we desired on a tractor, because it would take the place of the needed horses and also do the belt work on our general and dairy farm.

We bought a light weight tractor because it was compact and easy for us to operate, as we were accustomed to using the same type of engine in our auto and because it has more speed for field work than almost any other make. It has not disappointed us in any of our expectations.

Agents of the heavier, slower-moving types warned us that our choice was to light for heavy work, and that they were dangerous because they were likely to lift up in front and fall over backward and kill the operator. We have used ours to pull a heavy truck out of a mud hole, where it had settled until the hind axle rested on the ground, and the wheels spun in the air. The tractor did it without lifting in front. We have hitched it to tree stumps in clearing up a fence row and all four wheels stayed on the ground. Now we have no more fear of its "turning turtle" than any other, as long as it is used sensibly.

For the last fourteen months we have done all the plowing and harrowing and belt work on a farm of nearly ninety acres. We also plowed eighty-four acres and harrowed thirty-eight acres on neighboring farms. It pulls two fourteen inch bottom plows, plowing seven inches deep at the rate of three and a half miles an hour in an average clay loam soil, with plenty of reserve power for climbing twenty-five per cent grades. It also pulls two harrows, a six foot double disc and a sixty tooth leveling harrow at the same speed. We plow seven to eight acres in ten hours using twelve gallons of kerosine and three quarts cylinder oil. Last summer we cut wheat, satisfactorily and quickly without stopping in the heat of the day to rest, as would have been necessary with horses.

The tractor has been an economical investment for us because it took the place not only of the extra team of horses, but it also permitted us to sell our stationary six horse power gasoline engine which was used for threshing, grinding and cutting fodder. The tractor runs the (ideal) duplex No. 10 great mill, a corn sheller and a thirteen inch fodder cutter to their full capacity, all at once, and does the work twice as fast as the old engine did, when doing only the grinding, or the fodder cutting. With the governor recently attached it makes steady power for any belt work, from sawing wood to silo filling.

It enables one man to accomplish more field work in less time at less cost than with horse. To plow an acre with two horses costs about five dollars, with three horses about four dollars. With the tractor counting one man's time as with the horses, it costs one dollar and seventy-five cents an acre. The expense of keeping a good team, counting depreciation, shoeing and feed is about five hundred and twenty-five dollars a year. The yearly cost for the tractor counting depreciation, repairs, kerosine and oil is about four hundred dollars.

The tractor permits quicker work, so that you can supplement the farm income by doing outside work. It enables one man to put in the crops on an average farm, and it is so easy to operate that my wife can use it when necessary. Last year we spent less for hired labor than any year since we started farming ten years ago. Only in harvest and silo filling was it necessary to get extra help, and by neighbors working together at these times part of that problem was solved.

This year with the mower attachment we will be able to cut hay much faster than with horses. Many farmers in this section of southeastern Pennsylvania are using tractors with good satisfaction and more are ordering them this spring.

We do not hesitate to recommend them to any farmer who successfully runs a gasoline engine, if he farms fifty acres or more. It will increase his profits and lighten his labor. We find it much easier to swing a tractor at the ends of the field than to pull horses around at the turns all day. Boys and girls find a satisfaction in using it and it's contentment that keeps them with us on the farm. So get a tractor if you possibly can, fellow farmers, but get one that moves quickly when necessary and a make that has a good quick repair shop in your locality, for when you need repairs every day's wait counts.

Tractor Better Than Horses

J. G. H., Lancaster Co., Pa.

(Third Prize Article)

In December, 1916, I bought an 8-16 kerosene tractor for general farm work. Buying in winter time and using it quickly to grind my feed gave me a good opportunity to study the tractor and become acquainted with its mechanism, enabling me to locate trouble should any occur and learn to operate it successfully. Consequently, I have never lost any time during the busy season in three years by having an idle tractor.

My object in buying a tractor was to gain time, do better work and save muscular power, both human and animal, in doing farm work, to make farming a pleasure rather than drudgery and last but not least to cut down expenses and increase profits. In the selection of a tractor from an economical standpoint as well as for convenience in doing my work I find the 8-16 tractor with three forward speeds and one reverse to fill the bill on Eastern farms, as this gives me ample power for both belt and drawbar work and light weight for field work.

All my plowing on an eighty-five acre farm is done with the tractor, using a tractor plow making two fourteen inch furrows and doing nicer and better work than could be done with a team and hand plow. I can thus plow easier, cheaper and considerably more than two men with teams in the same length of time.

Undoubtedly, any body dreads to get up and take a pair of horses out in the field on a cold wintry day before sunrise to drag down corn stubbles. This work I find is eliminated as the tractor without any special attachment answers the purpose while plowing.

In the preparation of seed beds for the various crops I use the tractor, attaching a double disc harrow and, if necessary, at the same time a roller or spring tooth harrow or whatever makes the best work. Going over the field twice with tractor and attachments equals working the field four times with a team.

In hay making time I have used the tractor to pull the side delivery rake but its usefulness can be more readily realized when hooked to the wagon with loader attached and I find the work easy and pleasant, compared with the old method of loading hay. For hay making the tractor puts team work entirely out of commission if the barn is equipped with a power hoist.

Thru all the various operations from the cutting of the grass till it is stored in the mow the tractor answers the purpose, with the proper equipment.

By attaching a binder for harvesting grain I find the tractor's use a blessing for this purpose alone. Flys will not annoy him nor will he mind the excessive heat, hence no use to drive under a shade tree for a rest as with a team.

For threshing I use it—having ample belt power for that purpose and for filling the silo it answers the same. I have also frequently used it for running a stone crusher whose product is often in demand on a farm for making concrete work and various other uses. In winter time I use it for shredding my corn fodder and grinding my own feed. In fact, no week passes by in which my tractor is not in use some of the time. For scraping roads with a modern road drag its work is satisfactory.

I have thus far enumerated the most important uses which my tractor serves. On the average farm there is hardly a job too large and none too small for its use.

Before I had a tractor, I used a portable engine and whenever necessary to move it or any other machine on which I used its belt power, the first thing to do was to harness a pair of horses, hook them to the machines making several trips drawing them to the place, and in setting up, oft times they were not in line, thus requiring extra work and trying one's nerves till accomplished. With the tractor you make one trip and you are right on the spot. Take the tractor, fill it with fuel and lubricating oil, crank the engine and you are ready for business, whether you prefer working six hours a day, or sixteen. Nowadays, all up to date farms have some kind of motive power. Why not use the tractor instead of the portable engine?

The cost of running a tractor varies. Fuel costs twice as much now as it did three years ago, but at the same time labor has advanced to the same extent; so has feed and the expenses for keeping horses and I do not hesitate to make the assertion that my tractor is even more economical now than in the past, as nowadays labor is short and hard to get at any price.

With the use of a tractor I have eliminated the services of one man and three horses, hence saving a man's wages and the feed and expenses of keeping three horses, which has put me in a position to keep more cattle and increase profits. On a modern and up-to-date farm a tractor is indispensable as the investment in my tractor yields me a higher rate of interest than a like amount invested in any other set of farm implements. In conclusion would say that my expectations from

(Continued on Page 28.)

A Steady Tractable Power For the Hay Loader

Potato Growing on Long Island

Growing Green Mountains and Irish Cobblers for New York Market

By H. J. EVANS

LONG ISLAND

Knee High at Blossoming Time

April first will find Long Island farmers planting potatoes if we may judge from former years. Just now it looks as tho the season would be a little late, but sudden changes may swing things in shape so that Spring will open up about the usual time. In 1918, Andrew Burchard of Mineola, began planting on March first. In 1919 the farmers at Franklin Square were planting on March tenth. But usually the majority of farmers do not get going full force until about April 1. The planting season on Long Island opens about a month earlier than elsewhere in New York State and about a week earlier than in New Jersey.

There are good reasons why our season is early. The Island is only 15 miles wide but about 110 miles long. It lies between the Atlantic Ocean and Long Island Sound, and there is no question but what the proximity to these large bodies of water has its influence on the opening of the spring season. A more important factor is the gravel subsoil that under-lies the whole area from six inches to six feet below the top soil. This insures a quick disposal of the melting snow and the spring rains. The top soil is a sandy loam and can be worked sooner than can clay soils. The large amount of organic matter in the soil keeps it porous and improves tillage operations.

Quality Pays

Because L. I. potatoes go to market well graded and because they are well grown and cook well, they have a reputation that enables the grower to secure a better price for them. Just now Long Island grown Green Mountains are selling for $10.50 to $11.00 a barrel, while Up-State potatoes are selling for $9.25 to $10.00. Good table stock from Maine sells for a price between the two. Because they sell well and command a good price, the industry has grown to such an extent that the two agricultural counties of the Island, Nassau and Suffolk, produce more potatoes than all the rest of New York State. The acreage of the crop last year has been estimated at about 25,000 acres in these two counties. Present indications would point toward an increase of about 10 percent if labor can be secured. This is a big factor as the proximity to the metropolis has its effect on all men who make good farm hands.

Seed Difficult to Secure

The climate of Long Island is such that potatoes cannot be successfully grown for seed. Our season is too long and hot for the crop. Good seed does not want to be too mature at digging, but here they are fully matured by September. For this reason, about 95 percent of the seed used is grown by farmers in Maine, New York and the New England States where the season is better adapted to seed production. Many certified seed potatoes are bought from the New York State Potato Association, but most of the seed used in the western end of the island comes from Maine. But seed is not coming very fast from the north yet. Potato dealers write that they cannot get cars to ship them in. Coupled with the car shortage is the fact that blizzards and an excessive amount of snow have tied up both railroads and farmers who must haul the potatoes to the cars.

Most farmers contract for their seed in the fall. This gives the dealer a chance to get a sufficient supply located. Those who contracted last fall got them for about $7 per barrel. The market price has gone up to about $11 now, and good seed may sell for more. Some years it sells for less in the Spring than in the fall. This is another gamble in which the winning side cannot be selected in advance, but the dealer loses as often as the farmer.

Preparing the Seed

All seed potatoes are cut by hand. No machine has been found that works to the satisfaction of more than a few farmers This is because they are so particular about this phase of the job. Each piece has one good eye, sometimes two, but never more than three. The pieces must be cut quite uniformly to feed well in the planter. Most cutting is done by women. Some farmers have over 1,000 bushels to cut each year and a force of 12 or 15 women cutting is not uncommon. Cutting is sometimes done in advance, but not much more than two weeks. The seed pieces shrivel up quite easily. Sulfur is dusted over each basket of cut seed and then the basket is shaken well. The sulfur sticks to the cut surface and aids in healing over the damp portion. This prevents evaporation and the sulfered potato is not so likely to rot in the ground in a wet spring as a fresh cut piece. The sulfur may also have a tendency to kill any scab organizism that may be on the tuber, altho no strong claim is put on this feature.

Cutting seed is quite a proposition on a large farm. S. G. Burke of Hicksville plans to plant over 200 acres this year which means that he will have to cut about 2,500 bushels of seed. He will have Polish women cut the seed and they will cut as fast as several men can get the tubers to them. Mr. Burke will have a gang of about 25 women doing the job. His 18 acres of rhubarb will need their attention before they get the seed cut.

Schwarthing Bros., L. I., Smile Over Good Yield of Cobblers

Plow and Plant Same Day

All plowing is done in the Spring and just ahead of the planter. Usually two teams on gang plows plow as fast as one team can plant. One of the plow teams will hitch to a spike tooth harrow occasionally and catch up to the other team. Once over is all the harrowing the soil gets before planting. By this method very little soil moisture is lost and the seed piece has a moister place to start growth. If it should rain before the next day, there is no strip of plowed land to harrow up again before planting is resumed.

The usual rate of fertilizer application is 1,800 to 2,400 pounds to the acre drilled in with the potato planter. A few fertilizer distributors are used where the newer type of planters are not in use. Stable manure is applied once in three or four years. This manure is shipped out from New York City in car lots and costs about $8.00 applied. A cover crop of rye is usually sown after the potatoes if there is time for the rye to get a start before frost. The rye is plowed under in the Spring before it makes too large a growth.

All authorities recommend a crop rotation but the intensive potato grower does not follow a four year system that is so much recommended. His order is potatoes after potatoes for 15 years or more. Some growers have had the same lot in potatoes for over 20 years and the land improves each year. This is because they feed the crop well and add much organic matter in the form of manure, cover crops, and refuse from the crop such as tops and roots. This system is not followed by all growers. Many plant potatoes for three or four years and follow with cabbage and then corn.

Summer Care of the Crop

Before the young plants have put forth their first leaves, the field may have been harrowed with a weeder several times. Weeds and potatoes cannot occupy the same field: As soon as the leaves show, the rows are hilled and covered. A harrowing after this takes off a lot of dirt but it takes the plant a few more days to get thru. After this, the weeders and cultivators are kept busy. Up until the time that the blossoms appear, there will be fewer weeds in these potato fields than there will be in most gardens. The rows are hilled about the time the plants begin to blossom and are not touched after that. The young tubers begin to set and grow about that time and it is not well to disturb them.

Spraying Pays

Spraying is one of the best forms of crop insurance that Long Island farmers can use. Last year, G. T. Powell of Glen Head left six rows unsprayed as a check. On those rows his yield was 101 bushels an acre. On the sprayed part his yield was 282 bushels an acre. These results were obtained in a bad blight year. Rot was very bad in 1919. Frank Wetterau, a prominent potato man, claims that it pays him well in seasons when there is no blight because the Bordeau keeps the vines green longer and a week on the last end of the season means a big increase in yield over the crop that dies off due to the dry weather.

Other diseases and insects have to be overcome. Mosaic is a disease that is carried in the seed and cannot be seen until the vines begin to grow. This can be controlled only by using clean, disease-free seed. The usual run of black-leg, wilts, etc., are encountered.

One of the most important insects is the potato aphis. The Colorado beetle is easy to get with an arsenical spray, but the aphis must be hit with a contact spray. He gets on the underside of the leaf which makes it hard to get him. The aphis sucks the juices and the plant wilts. To get him it is necessary to arrange the nozzles so as to spray from the ground up under the leaves with force. To do efficient work requires a spray rig that is not commonly seen on the market but which is being perfected by the manufacturers at the present time.

Harvesting By July Fourth

As religiously as some farmers begin haying on July 4th, so do some of the Long Island men begin to dig their cobblers on that date. Cobblers are the main early crop. Each day's digging is loaded on the truck and hauled to New York markets the next day. The hauling distance is about 20 to 30 miles. Some haul farther than this by truck, but most of the crop farther than this from the market is shipped in on trains.

Picking is done by the bushel usually. Some women make as high as $8 per day by working over time. The labor problem is very important when a city like New York is so near and wages are high. The supply is short now and the acreage planted will depend more upon the supply of labor at the time than on any other factor.

Cost Per Acre High

In conclusion, it is well to mention that all is not profit for the farmer. Carefully kept records show that last year it cost on the average $203.79 to plant, grow and harvest an acre.

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ESTABLISHED 1880

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Our job is to serve our readers. Whenever and wherever we can help you, write us.—The Editors.

Farmers Question Candidates

AT THE last semi-annual meeting of the National Board of Farm Organizations a committee was appointed to prepare a questionnaire to be submitted to all candidates for the presidency. The questionnaire has been completed and is now being sent to the would-be candidates. The answers should make interesting reading and will be awaited impatiently.

The work of the committee has been well done and the questions should not be considered impertinent, nor suggestive of a desire on the part of the farmer to demand class legislation. They are not indicative of radical intention, but merely inquire concerning the opinions and purposes of the candidates relative to the fundamental industry—one in which consumers as well as producers are vitally interested.

The questionnaire asks the recipient to send "definite and clear replies" about more direct dealing and the elimination of unnecessary middlemen; right to organize to buy and sell cooperatively; representation on boards and commissions relating to agriculture; appointing a secretary of agriculture who knows actual farm conditions; obtaining full information on the growing evil of tenancy that it may be checked; equal opportunity for interstate commerce; insuring fair service from the railroad; payment of war debt by graduated income tax; enforcement of national conservation; control over packers and other great corporations; the rights of free speech, free press and free assembly.

The Government Nitrogen Plant

THERE is a great deal of interest manifested in the proposition to operate the Muscle Shoals nitrogen fixation plant. This plant was erected by the government to supply nitrates for munition purposes and was barely finished when the war closed. The question of obtaining nitrogen for fertilizing purposes has been a serious one for the past five years owing to war conditions, and even yet both the supply and the prices are unsatisfactory. It is little wonder that farmers are anxiously considering the question of obtaining an ample supply at a reasonable price, and that they naturally turn to possibilities close at home.

It is fairly well established that the process of extracting it from the air is a practical one and that it can be produced at a much lower price than is now paid for Chilean nitrate of soda. But there are a few plain business questions which should be carefully considered first. So far, the agitation has been for the government to go ahead with its plans and manufacture nitrates for agricultural use. Leading farmers and several farmers' organizations have been urging this course. We fully agree with the proposal to have it operated to its full capacity, but there is no reason why the most economical methods should not be employed. Let us consider two important features in the question:

First. The plant was built with the haste and waste characteristic of all war-time enterprises. It has been established that a large part of the alleged cost of $12,000,000 was wasted and that its construction under normal conditions would have been a great deal less. Why not have the property appraised and the excess cost charged off as war loss and start operations upon a fair valuation? Is it fair to charge the public a price for the product based upon greatly inflated values? This injustice would continue as long as the plant was operated.

Second. Has experience proved that operation by the government would be the most economical method? Or, would its lease to private individuals who would operate it under government regulation be more likely to promote efficiency and economy? We believe that the safest principle for this country to act upon is private operation of all productive enterprises. We advocate this general principle because it promotes efficiency and encourages economy. At the same time there must be retained by the government the power to regulate, and the privilege of regaining possession if circumstances require it. Let us not act too hastily in this matter simply because the need for nitrogen is great. However fine nicely spun theories about government operations for the benefit of the people may sound, the fact remains that all progress and development in the arts and sciences have been made by private enterprise, while publicly managed business soon strikes the dead level of unvarying mediocracy.

Our Washington Letter

There are evidently two well defined sides to the Muscle Shoals air nitrate fixation proposition, which is now engaging the attention of Congress and in which farmers all over the country are displaying much interest. Everyone who discusses the subject is of the opinion that more and cheaper nitrogeneous fertilizers would be beneficial not only to the farmers, but to the consumers, as it would have a tendency to increase the production of foodstuffs. But will the government development and operation of the Muscle Shoals plant give the farmers cheaper nitrate? Will it free them from the Chilean nitrate monopoly? Will it supply the country's need for nitrates? These are some of the questions the committee on War Expenditures, of which Representative W. J. Graham of Illinois, is chairman, is asking.

Recenty there was read into the Congressional Record a letter written by Frank I. Mann of Illinois, in which he referred at length to the demands of the farmers for nitrogeneous fertilizers and the urgent need for the government developing the Muscle Shoals plant to supply the demand. Representative Graham addressed a number of questions to Mr. Mann as to what he knew of the respective merits of the cyanamid process of fixing nitrogen as compared with other methods, the proability of the demand for nitrates being supplied from coke ovens, the cost of fixing nitrogen by the cyanamid process, and how long it will take to complete the hydro-electric power at Muscle Shoals.

Mr. Mann has come back again with a letter in which he strongly emphasizes the need of cheaper nitrogen, and more of it, to bring back to greater productivity the depleted soils of Southern Illinois, Indiana and Ohio, and the states south of the Ohio River, but passes over Representative Graham's questions with the following reference:

"I do not feel competent at present to even offer to pass on the different methods by which the Muscle Shoals power may be used for fixing nitrogen for fertilizer use. My thought in writing was to call attention to the great importance of having cheap nitrogen for use in the production of food. If satisfactory arrangements can be made to use the Muscle Shoals plant for fixing nitrogen for use on the land in the production of crops, it seems to me it would be almost a crime to neglect doing it for the sake of humanity and civilization."

Representative Graham's committee has had considerable difficulty in getting testimony from witness giving concrete facts in regard to the Muscle Shoals project so far as they relate to agricultural fertilizer, nevertheless he authorizes me to say that the committee is now preparing its report on the Muscle Shoals matter and in connection with the report it will expect to state the facts as shown by the records bearing upon the future use of the plant. "The committee has taken a great deal of evidence on the probable expense and desirability of operation by the government of this plan and when we report we will give the facts that we have found in that respect. Whether we make definite recommendations we have not yet determined, but in any event we shall report sufficient facts so that Congress may legislate on the matter if it desires to do so."

It has been shown at the hearings, that last year we produced in this country in coke ovens 500,000 tons of sulphate ammonium, of which 370,000 tons were used in this country and 130,000 tons were exported. In addition to the coke oven nitrogen, 350,000 tons of Chilean nitrates were brought into this country, making a total of 720,000 tons of nitrate used here during the year. The total capacity of the Muscle Shoals plant is estimated at 85,000 tons a year. These figures indicate that an embargo on the exportation of sulphate ammonium from the coke ovens would have more effect in meeting the demand for nitrogenous fertilizers than the operation of the Muscle Shoals plant.

This is an important matter from an agricultural standpoint, one which deserves to be well understood by those who use commercial fertilizers, and for this reason I have attempted to dig into the facts and investigate the situation from both angles of the proposition.

• • •

Indications are favorable that a Packer Control bill will be reported to the House soon by the Agriculture committee. The packers have put up a strong fight against any form of control legislation. At the hearings they have had experts, attorneys and many men who claim to be stock raisers testifying in their favor. In most instances, however, it has been found that these stockmen friends of the packers have had some other interest beside stock raising that impelled them to travel several thousand miles to Washington to testify in behalf of the Chicago "Big Five" packers.

The men who are actual farmers and stock raisers, whose sole interest is in their farm or ranch, and who paid their own fare to Washington to testify at the hearings, have nearly all favored government regulation of the packing industry.

• • •

There seems to be a determined effort on the part of certain interests working in Congress to amend the Land Bank law in such a way as to render it ineffective. It is alleged that the committees on banking are not as favorably disposed to the land banks as they might be, and the friends of the latter say they have to keep on guard all the time to see that there is nothing gets thru Congress that will in any way impair the usefulness of the land banks and farm loan associations.

• • •

The House has passed a resolution authorizing Julius H. Barnes, president of the United States Grain Corporation, to send 5,000,000 barrels of flour to the starving people of Central Europe. Durng the debate on the resolution strong humanitarian appeals were made in its favor; but there were some doubts expressed as to whether this flour will ever reach the poor people who most need it. One congressman asserted that it would merely prolong the idleness of people who will not work so long as they can get flour and other food from the United States. A pathetic appeal in behalf of the "staving people" of Poland brought out a rejoinder that the Polish government has recently purchased a $200,000 building in Washington to house its embassy.

That the great sympathetic heart of America cannot resist the appeals of starving people of other nations, whether friends or foes, was shown by the vote of 283 to 12 in favor of the resolution, but there are some things going on in Europe and the attitude of the peoples of those countries, which tend to dampen the sympathy of many practical Americans.—Elmer E. Reynolds, Washington, D. C.

HARRISBURG LETTER

Not Much "Heaving."—Apparently the grain fields of the southern counties of the state, where the greatest quantity of wheat in Pennsylvania is raised have not been seriously injured by "heaving" of the ground due to the frosts so far. The State Department of Agriculture has taken particular pains to ascertain the conditions due to the weather, many farmers having expressed anxiety because of the severity of the winter and the fact that in some districts the snow was blown away by the high winds which have prevailed upon so many days since the early part of February. In a number of counties the ground has been found to be in fair condition and the wheat and rye not to have been injured. Some few reports have come in which were unfavorable, but in the main the grain seems to have come thru the winter pretty well altho the end is not yet and it is hard to foretell what may happen before the warm days come.

In the orchard regions the conditions are not such as to cause any alarm and there are now general hopes for the coming season to be favorable. Many hundreds, even thousands of trees will begin bearing this year and it is trusted that the weather conditions will be normal. Special attention has been given to the report on winter conditions by the Department and, incidentally, it is stated that live stock seems to have come thru pretty well.

Big Demand for Lime.—Evidently, the lime burning industry of Pennsylvania is going to show a boom this year if the reports at hand are correct. In many sections of the state, farmers have decided to use lime extensively and there are some counties where large orders have been given. The Department of Agriculture has licensed over 125 brands of agricultural lime and there are a number of localities where farmers have banded together to get their own supplies.

Brown Tails Headed Off.—French apple tree stock put on the docks at Philadelphia has been found to contain numerous larvae of the brown tailed moth and one consignment of several thousand young trees was destroyed by State agents. The discovery was made where least expected as no word has come here of unusual prevalence of the moth in the district whence the apples trees came. The discovery has had the effect of causing state and federal agents to redouble vigilance in inspection of foreign stock and any from New England or Canada.

To Check the Forest Fires.—Gifford Pinchot, the new commissioner of forestry, believes that he will be able to materially reduce the forest fire loss in Pennsylvania this year thru cooperation with township and county authorities. He has arranged with the federal government to secure several thousand dollars for help and is organizing private and corporate owners of woodlands. The new commissioner took vigorous hold of the fire problem this week and numerous notices to people to clear up conditions have gone out from the Capitol.

Little Trouble With Milk.—The launching of the State licensing of testing and inspection of creameries and dairy places has been very satisfactory. Practically nothing has been discovered, say State officials, that indicate intention to defy the law and what defects have been found have been remedied. The state has issued something close to 350 licenses and is actively conducting examinations of the tester. The system, in opinion of Secretary of Agriculture Fred Rasmussen will soon be put on its feet.

Rum Bobs Up.—People interested in the liquor business are apparently not losing any time in capitalizing resentment against the method of enforcing prohibition and word comes here that the "wet" element will set up its own candidates for Congress and the legislature quite without regard for party and in the good old way. It commences to look as tho the next legislature was going to have some beer and light wine legislation, notwithstanding the position taken in the closing days of the last session that the regulation of what shall constitute a drink with a "kick" is a matter for the federal government. This policy was enunciated by the governor in the veto of the "3.75 bill." And rum always complicates things in a Pennsylvania legislature. — Hamilton, Harrisburg, Pa., March 22.

NEW YORK LETTER

Milk Company Merger. — Two large milk companies of Penn Yan and Dundee, handling nearly the entire milk output of Yates County have arranged to send their milk to the new co-operative Dairymen's League plant at Auburn. This places the Auburn plant still more prominently in the limelight as the biggest plant under League control. It is now handling over 150,000 pounds of milk a day. Yates County was for long a fruit and grain center, and its farmers are fast learning that a dairy helps with the soil problem. Parcel post orders for butter are a specialty of the new plant and the powdered milk department is running on a 24-hour schedule.

Agriculture Recognized.—In the appointment of George R. Fitts a real farmer as state fair commission to supervise cattle, swine and sheep interests of the state, the Governor has given the farmers a fair deal. Now they desire to make good in placing agriculture, the leading industry of the state on a better basis at the fair if possible.

Grain Elevators and the Canal.—State Engineer Frank Williams, in urging that state elevators be constructed in New York, Buffalo and Oswego, says that 5,000,000 bushels of grain grown in the western grain belt but 500,000 bushels were carried by the new barge canal last year. The carrying capacity of the big canal is unlimited and economical and for the welfare of the world the huge grain supplies should be carried as cheaply as possible. But if the canal is to render best service in this respect the state must erect big grain elevators so that loading and transportation can be carried on under proper conditions.

Grange Activity.—At a recent meeting of Onondaga County, Pomona Grange several very constructive resolutions were passed. Speakers of note were present. A report on market conditions by Dean F. W. Howe of the Syracuse College of Agriculture was given and a resolution passed that county representatives be included in the bill to reorganize public markets, which calls for state and municipal representation only. Richard Hall, manager of the New York State Grange Exchange gave an account of recent activities of the Exchange. He said that the $90,000 order of pure hardy Northwestern grown seeds were sold in December, a similar amount in February was oversold and a third order of $20,000 worth has been placed. He stated that the Exchange will be able to fill farmers' orders for sugar if placed well in advance, ready for the canning season.—M. G. F.

NEW JERSEY NEWS

Pass Legislative Bills.—The New Jersey Senate and House have passed several bills of interest to farmers. One authorizes additional state aid to counties for road improvements, while another increases the appropriation for teachers. Other measures favorably acted upon in the Upper House were: Giving county authorities the right to pay $45 instead of $25 for the marking of graves of soldiers, eliminating poll taxes from the half-yearly payment plan; permitting pensioning of county employes who have served in office continuously for 40 years; permitting State Highway Commission and county authorities to construct roads over lands now or formely under water; affords protection to reed birds; authorizes state to acquire all toll bridges and roads; regulates payment of contested claims by freeholders; increases appropriation for scholarship in State Agricultural College; creates a market commissioner for municipalities to investigate price of farm produce, etc.; providing for an increase in the salaries of members of boards of freeholders in counties having the small board; authorizing appointment of a chief inspector for sheriffs in first-class counties; allowing municipalities to levy paving assessment against land benefitted when work is done by county; provides for payment for cattle of farmers and other slaughtered by health officials because of disease.—Kelly, Trenton, N. J.

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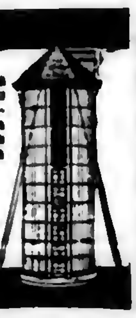

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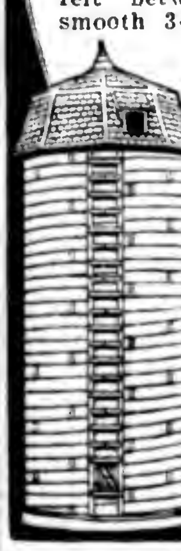

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REGISTERED HOLSTEINS At Auction, April 3, 1920, 10 A. M.

At the John B. Dudley Farm, one mile west of Oberlin, O. Stop 3 on the Cleveland & Southwestern Electric, Norwalk division, April 3, 1920, 65 Registered Holsteins, consisting of the good bull Spring Farm King Pontiac 4th No. 104897. His dam is a 34.56 lb. granddaughter of Aaggie Cornucopia Johanna Lad No. 32554, the Sire is Spring Farm King Pontiac No. 66661 by King of the Pontiac No. 39037 and out of Tweede White Lady No. 83186. Butter 7 days, 37.45. Butter one year, 1127.85. Five daughters of the above mentioned bull. Daughters of Rose Hill Pontiac Pietertje No. 59059, granddaughters of Colantha Johanna Lad No. 32481. King of the Pontiacs No. 39037, Pontiac Korndyke No. 25982, Rag Apple Korndyke 8th No. 73416. Every animal has been hand picked by us and all are noted for their fashionable breeding and good individuality, their size is also remarkable, several weighing from 1400 to 1800 lb. Every animal over six months of age tuberculin tested prior to sale. Every animal of breeding age guaranteed to be a breeder. Every animal sold will carry insurance policy free of charge for the purchase price.

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DAIRY

SUCCESSFUL CALF RAISING

Part II.

For the first two weeks the calf is given whole milk always at a uniform temperature, about 95 degrees, and always the same for every feeding. The amount depends on the size and appetite of the calf, usually one pound of milk for every ten pounds of live weight, and just the right amount to keep the calf a little bit hungry, if some milk is left less is given the next time. Then increase it to the full amount gradually. The feed pails must be as clean as if they were used for human consumption. I believe that Jim's success in calf raising is due to keeping the calf just a bit hungry, having the milk at a uniform temperature, and absolute cleanliness of utensils, as much as to any other factors. Most losses of calves can be traced to failure to observe these points. Giving the calf first cold milk and then warm, and never the same amount, in dirty buckets is not healthful for any young animal. It is better to divide the total daily allowance of milk into three feedings than into two. The army rule for feeding horses applies to calves also, "little and often." Altho milk substitutes are never as satisfactory as milk itself, most of the experiment stations and many prominent breeders have found the following mixture very satisfactory: 100 pounds of red dog flour, 100 pounds of hominy, 100 pounds of oilmeal, 100 pounds of blood flour. Mix one part of this with eight parts of water at 145 degrees fahrenheit just before feeding. It should be thoroly stirred. A "chaser" of one pound of whole milk after each feeding seems to stimulate growth and aid in the digestion of the substitute.

At the end of the second week it is well to start the calf on a grain mixture, the same as was recommended for the dry cow, by rubbing a little on its muzzle, which will lessen its desire to suck after it has finished drinking. Change from whole milk to skim milk is started at the end of the second week, and is done by using seven parts of whole milk and one of skim milk and at each feeding reducing the whole milk by one part and increasing the skim milk by one part. A most common and fatal mistake is to suppose that skim milk is so poor in feeding value that nearly twice as much is fed of it as whole milk. In fact skim milk contains all the food value of whole milk except the fat, which is replaced in the corn. Rarely should more than a slight increase in skim milk over the amount of whole milk be made, allowing of course for the growth of the calf. However, no calf, no matter how large or old should ever get more than 20 pounds of skim milk daily.

Watch Each Calf Closely.

If there is trouble with ordinary scours first remove the cause which is usually cold milk, or dirty or sour milk, or dirty utensils or all of these. Cut down on the feed and give 3 ounces of caster oil in one pint of milk or in the ordinary milk feeding. Follow this by a teaspoonful of a mixture of one part of salol and two parts of subnitrate of bismuth, three times a day until entire recovery is affected.

Start Each Calf Well

The secret of successfully raising animals of any class is to get them well started and to keep them growing uniformly. All breeders recognize this important principle and aim to get great sizes and frame on the young stock. Most farmers fail to realize this point and the most impressive contrast between stock on the average farm and at the breeding establishment is the greater size on the latter. In many pure bred herds one often sees two year old heifers larger than mature cows of the same breed on the average farm. The need of great size and large frame in the dairy heifer is especially important. Every experienced breeder and cow judge will tell us that on two animals of the same excellency of breeding, the large one will produce more milk, if she has capacity and constitution. Capacity should be written in big red letters in the cow barn and should be the goal in raising the dairy heifer. One cannot realize its relation to milk production until one has kept careful records of a large number of animals, especially those in the same herd getting the same feed and treatment and then tried to discern why one animal with just as good breeding as another fails to do nearly as well. Often a close study will reveal that it is because the better one has larger capacity of paunch and has the constitution to handle large amounts of feed.

Roughage Develops Capacity.

When the calf is only a few weeks old it will begin to nibble. Bright clean legume hay should be kept before it at all times. It is not to be expected that the young animal will derive much of its nourishment from this source, and it will never eat enough to harm itself. After the hay had been blown over it should be removed and never be allowed to remain until the next feeding. Skim milk and hay will surely develop the paunch. At six months old the calf may be given all the good silage it will eat, or chopped roots. It should not be turned out to pasture when only a few months old, especially if the flies are bad, because the scours from the grass and the worry from the flies will do more harm than good. These are two of the reasons why fall calving is to be recommended, besides giving the cow the advantage of grass at a time when it will have the effects of a second freshening.

The Young Bull

When bull calves begin to annoy the heifers they should be separated, but not put into dirty stalls as is often the practice. A ring should be put in the young bull's nose when he is a year old and he should be haltered, and handled with a kind but firm hand right from the start. He should never be allowed to try his strength against a weak stall or fence, and should be exercised daily. The best way is to have two bulls of the same age together, so that they can exercise each other. The best cure for a mean and surly bull is to let another bull defeat him. At one year of age he can be used for light service, not more than once a month until he is nearly two years old. He is given the same grain ration as a milk cow, but only a small amount of silage.

The Young Heifer

In rearing the heifer we never lose sight of the goal—capacity—and consequently accustom her to consuming large amounts of good legume roughage and corn silage or roots. Jersey and Guernsey heifers can be bred so as to calve when 2 to 2½ years old, and Holsteins at 2½ to 3 years. Heifers of all breeds should be nearly full size by time they have their first calf, because they do very little growing after that. If possible heifers should be bred so as to calve in the fall for reasons given before. Their preparation for calving is the same as outlined for the dry cow, and they as any other dry cow should never be milked before calving, even if the udder is hard and distended, because milking out before calving leads to milk fever. Following the first freshening the heifer should be bred to calve again when she has milked a full year, adding to this six to eight weeks for the rest period. This will help to establish persistancy.

Jim might have seemed a wizard around cows, but all he did was to observe these points—things that anyone can do.—P. T. Menzel.

DAIRYING IN CANADA

The season of 1919 established new records for Canadian dairying in several respects; the Dominion increased its total production of milk, and prices were higher than they have ever been before. In 1918 the average price paid for cheese by the Dairy Produce Commission was 23 1-3 cents f. o. b. steamers at Montreal. While similar statistics are not available for 1919, the average price will be somewhere in the neighborhood of 27½ cents a pound on the same basis.

Record prices were also paid for butter. The average price for all grades of creamery delivered at Montreal work out at a little over 53½ cents. The quantity of creamery butter produced was the largest of any year in the history of the industry, the output showing an increase in every Province except Manitoba, where the labor situation interfered with the shipping of cream and caused more butter to be made on farms.

Cheese Output Smaller

Owing to the unusual channels thru which a large proportion of Canadian cheese was handled, it has not yet been possible to secure exact figures of production or export for 1919. The receipts at Montreal were lower than in 1918, but a considerable quantity of cheese was exported to the United States through other ports, and the stocks on hand at country points are larger than they were at this time last year. The home consumption of cheese has, according to the best information obtainable, increased during the year. When the figures are had it will probably be found that there was some decrease in the output of cheese, but this will be more than offset by the increase in the output of condensed milk and milk powder, for the manufacture of which milk supplies were largely drawn from the cheese factories.

The growth of the condensed milk and milk powder industries during the war period has been the most notable feature of Canadian dairy production. It is estimated that for 1919 the total output of condensed and evaporated milk will be very nearly 110,000,000 pounds, valued at approximately $20,000,000. The total quantity of milk powder produced during the year amounted to 5,323,537 pounds, valued at $1,662,352. There was also a large increase in the manufacture of ice cream and in the consumption of milk in the towns and cities.

DISTRICTING MILK DISTRIBUTORS IMPRACTICAL.

We have milk marketing questions to the fore whenever they are up at all, and just now they are first on deck. A whole of one session at the state meeting of the agricultural society was given over to milk problems.

Mr. Botsford, of Buffalo, discussed the marketing of milk in the large cities. It will be hard for us to believe that there have not been times when the dealers were too drastic in their treatment of farmers or that many of them have not been making large fortunes. They undoubtedly have. The milk business is an exacting and complicated one. Mr. Botsford, however, concerned himself quite considerably with the recent investigations and propositions for the control of the farmer and perhaps the dealer. Much has been written and spoken on the subject, and at least three bills are already introduced in the state legislature to control the industry.

The idea of setting a city off into districts and giving the different dealers a monopoly of their respective districts will not meet the approval of any class of people, is Mr. Botsford's idea. It will destroy initiative of delivery men in the business, and disappoint the buyer of the milk, who may wish to select his quality or select the concern from whom he buys. Already the idea seems likely to be laughed out of court.

When it comes to licensing and supervising the farmer, the plan can accomplish no good and can only result in the curtailment of the supply of milk produced.—H. H. Lyons.

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HORTICULTURE

ANOTHER INTERESTING ORCHARD

By J. P. STEWART

It is getting more and more dangerous to give advice. It used to be that one could write a bulletin or an article in a farm paper or get up on a platform and say almost anything, because he did not expect anyone to believe him or to follow his advice anyhow. Of late, however, one has to be more cautious about what he says, because every now and then some one turns up who has been following the advice he has been giving, and it becomes somewhat embarrassing if the results have proved unsatisfactory. We are moved to make these remarks by the recent receipt of an interesting letter with photographs enclosed, showing what has been accomplished in the development of a young orchard in the Wyoming Valley of Pennsylvania, and in which the advice of the present writer has apparently played an important part.

The owner of this orchard is a mining engineer, who seems to have a regular place of business in Mexico, but who also evidently has enough time in this state to develop a very fine orchard. The orchard consists of about 1025 trees of four varieties—McIntosh, Delicious, Winter Banana and Wagener. It was planted in April 1915, and the pictures were taken in August 1919, at which time all the varieties were carrying fruit. All the Wagener and Winter Banana trees were bearing some fruit, while about 30 per cent of the Delicious and 20 per cent of the McIntosh trees were bearing. Many of the Wagener trees had to be thinned.

These results have been accomplished by growing clover between the trees, cutting it often, and using it to form a mulch around the trees. I do not know just how the clover has been kept growing, but the owner expects to add alsike and alfalfa to the mixture this spring, and they should give him a cover that can be readily maintained. Occasional liming and annual applications of acid phosphate have been suffieint to maintain a fairly good growth of clover without additional seeding in some orchards in the same general location as this one, but we do not know what plan has been followed in the present case. From the looks of the trees, it is also evident that he has not made the common mistake of too much pruning, which always results in delayed fruiting as well as in less size and growth.

The mice have developed in their usual large numbers under this system, but thus far they have been circumvented by keeping an ample, cleared space around the trees and wrapping the trunks with tarred paper to a height of eighteen inches or more. Galvanized wire screens are much less trouble and much more permanent, as they can be left on thruout the year, but their cost at present is rather deterring.

Incidentally, the make-up of the poison commonly used against these difficult pests may be worth re-stating here. The materials needed are an ounce of strychnine—preferably the alkaloid—a pint of molasses or heavy syrup and a pint of water. These materials are heated together until the strychnine is dissolved, adding some water if necessary to keep up the volume. This poison solution is then used to thoroly moisten about a half bushel of wheat, or other suitable bait, and the wheat should be kept stirred until fairly dry to prevent the grains from sticking together. A few grains can then be dropped near the bases of the trees, or in the runways of the mice, or can be placed in something like so-called exterminators, which have the advantage of keeping the bait dry for an indefinite period and also preventing anything except the mice from getting it.

The unusually fine appearance of the orchard referred to in the present discussion can be seen from the accompanying illustration, taken about the middle of the fifth growing season.

A Promising Young Apple Orchard

DUSTING FOR THE CONTROL OF FUNGOUS DISEASES OF FRUITS

By H. H. Whetzel.

Since many fruit growers in the state of New York are now owners and users of dusters frequent requests for the latest and most dependable data on dusting materials, time and numbers of applications, etc., are to be anticipated.

Whatever the personal opinion of the investigator or pathologist respecting the relative effectiveness of dusting as against spraying, the facts remain that an increasing number of growers are depending entirely or in part upon the dusting method in their orchards. We are under obligations to give them the best information we can on the various problems involved in dusting so they may make the most effective use of the method.

Dusting is now employed commercially in the control of the diseases of apples, peaches and cherries chiefly.

Dusting in the Apple Orchard.

The standard dusting mixture for apples at present may be said to be 90 pounds finely ground sulfur to 10 pounds powdered arsenate of lead. The 85-15 mixture is no more effective against scab and the extra 5 pounds or arsenate of lead which materially increases the cost of the mixture does not appear to be necessary for control of insects. The evidence available on the use of hydrated lime or other materials as fillers to replace a part of the sulfur and so cheapen the mixture, does not seem as yet to warrant their use for apples. From 3 to 5 dust applications should be made during the season if no spray applications are made. The first dusting should be made at the so-called "pre-pink or well delayed dormant period" the exact time being governed by threatening rain periods. The second dusting should be made just before blossoms open. In case of dry sunny weather during the pre-blossom period one of these applications may be omitted. During the past three or four years in New York state however, both applications have been desirable. The third application is to be made just after blossoms fall. One or more applications will prove profitable in rainy seasons and in bad scab years. Especially desirable is a late summer application to prevent late scabbing of the fruit.

Thoroness of application is quite as necessary in dusting as in spraying. The apple trees should be dusted from both sides at each dusting, a total of from one to two pounds of dust to each tree should be used depending of course, upon the size of the tree. Most effective work can be done early in the morning, when there is least wind. This is especially important in the pre-blossom applications when there is little or no foliage to hold the dust in the tree while it settles. At least as much dust to each tree should be used in the pre-blossom applications as in the later ones. Thoro dusting at each application especially the early ones will reduce the number of subsequent applications. A grower in Nova Scotia this past season obtained by three dustings, one before blossoming and two after, a crop 90 per cent absolutely free of scab while his unsprayed trees averaged 99 per cent badly spotted.

Dusting Peaches and Plums

Dusting of peaches is effective against brown rot and scab. These diseases affect chiefly early varieties in this state. In occasional seasons, brown rot is also serious on our late crop. In some regions of the state and in some seasons blossoms are badly killed and twig blight and limb cankers result. If peaches are thoroly dusted and the applications are timely effective, control may be depended upon.

The best data at hand seems to indicate that for peaches the 90-10 mixture while safe and effective contains more arsenate of lead than is necessary and that satisfactory results may be expected with a 95-5 mixture or even a mixture of 80 pounds sulfur, 15 pounds hydrated lime and 5 pounds arsenate of lead. Three or four applications appear to be requisite in this state if best results year after year are to be obtained. Where blossom blight occurs the first application should be made when the blossoms show pink just before they open; the second when the shucks or calyx is being shed, peaches the size of a pea; the third about three weeks later; and a fourth about a month before ripening. If the season is warm and wet as the fruit approaches ripening a light dusting up to two weeks before fruit picking will be desirable. Dusting only when the fruit begins to show rot should not be expected to be very effective. The arsenate of lead in the mixture, in addition to reducing curculio injury and so reducing rot, acts to strongly color the fruit. The applications on peaches should be light and uniformly distributed. Too heavy dusting may sometimes cause defoliation and even injury of the fruit. Plums should be dusted about the same as peaches.

Dusting Cherries

The diseases of cherries in New York Sate against which dusting is effective are chiefly the leaf blight or yellow leaf and brown rot. The mixture to use is the 90-10 formulae. The first application should be made just as the bolssoms are about to open. This is to prevent blossom blight by the brown rot fungus. The second application should be made just as the shucks are being shed. The third about three weeks later. If leaf blight threatens to become severe dust again after picking the crop.

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Rotten Potatoes Are a Dead Loss

Those potatoes you left in the ground because they were rotten, or those you sorted out and dumped behind the barn, could have been healthy, sound potatoes that would have brought a good price.

Potato rot almost always is caused by potato blight. When the vines turn brown, and later die prematurely and turn black, they have been attacked by blight. The blight spores (or germs) are washed by rain from the diseased vines into the soil and infect the tubers, causing first dry rot which later develops into the common wet rot. Prevent rot by preventing blight. The most successful spray against blight is

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It covers the vines with a film of protection that kills blight spores before they have a chance to grow. It keeps the plants green until frost—and keeps them growing several weeks longer than usual. Potatoes make a big increase in size in the last three weeks. Therefore, PYROX actually increases the yield by lengthening the growing season.

PYROX is also a poison. It kills the potato bugs—and if applied early, the old hard-shells as well as the slugs. Potatoes sprayed early with PYROX are not bothered with bugs and the early spraying is the sure way to eliminate blight entirely. Later sprayings keep the new growth covered.

Remember, PYROX is a powerful fungicide. Twenty years of actual farm use have proved it the most effective remedy against serious fungous diseases. It contains the essential copper,—in proper quantity and in most active form for greatest fungicidal value. It often succeeds where other fungicides fail. The poison insecticide in PYROX is chemically blended with its copper fungicide, and increases the effectiveness of both.

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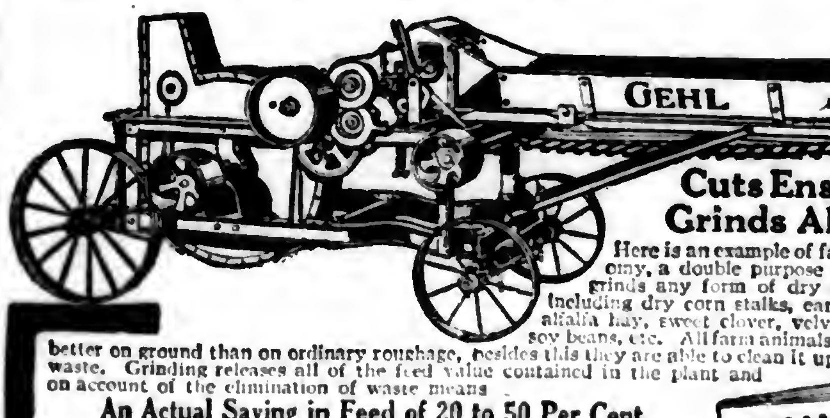
ESTABLISHED 1851 DOYLESTOWN, PA.



Cuts Ensilage Grinds Alfalfa

Here is an example of farm economy, a double purpose machine; grinds any form of dry roughage including dry corn stalks, ear and all, alfalfa hay, sweet clover, velvet beans, soy beans, etc. All farm animals do much better on ground than on ordinary roughage, besides this they are able to clean it up without waste. Grinding releases all of the feed value contained in the plant and on account of the elimination of waste means

An Actual Saving in Feed of 20 to 50 Per Cent

The Gehl is a double purpose machine; its many years of use have demonstrated its superiority as a silo filler, now it leads again as a feed grinder. Its all steel frame, malleable knife head, separate control of cylinder and blower speeds and powerful self feeder, and positive safety device make it durable, safe and convenient to operate and extremely light running—an 8-16 tractor handles a Gehl 17.

Write for New Catalog and Sample of Meal

Our new catalog gives complete information about the machine and some valuable ideas about dry feed handling.

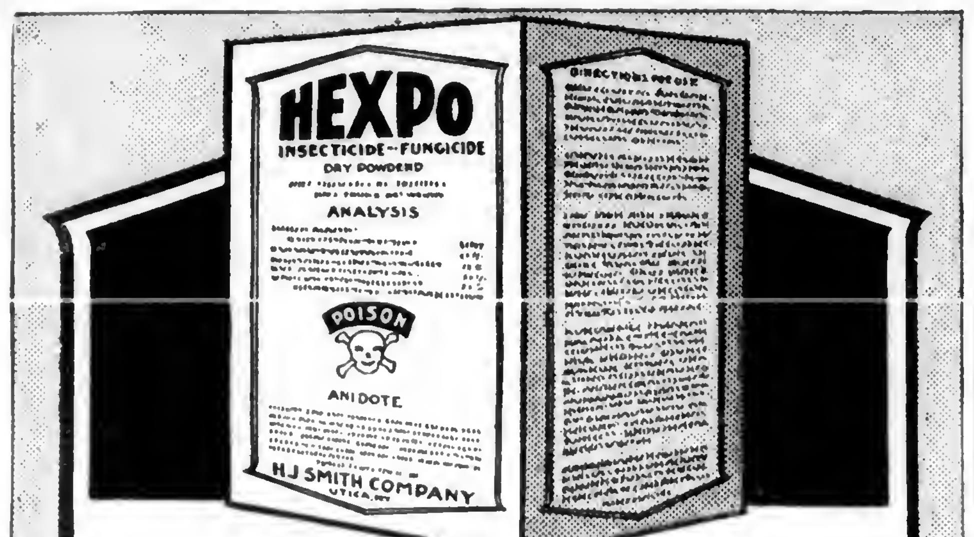
GEHL BROS. MFG. CO. 229 So. Water St., WEST BEND, WIS.

303

SEND FOR FREE CUTTER CATALOG

HELP WANTED: Three single men to work in barn with large herd registered Holsteins. Must be good dry hand milkers. [illegible] per month and board. State [illegible]
WINTERTHUR FARMS, Winterthur, Del.

SEED CORN
[illegible] from the grower. [illegible]
PALMDALE FARM PALM, PA



Ready to Use!

Spraying fruit trees, truck, garden or field crops is absolutely necessary if the bugs or fungus diseases are not to eat up your profit or ruin your crop.

In your spraying material you want effectiveness without waste---of time or materials. You must have uniform spraying to kill insects without injuring the crop.

HEXPO is always ready to use. It requires no preliminary rubbing or reducing to paste form. Blow it on dry or drop the proper amount in water and spray.

HEXPO
DRY POWDERED
INSECTICIDE & FUNGICIDE

HEXPO is a finely divided, fluffy powder that never hardens or deteriorates. It mixes readily with water and easily stays in suspension in the sprayer, thus insuring even spraying over the whole field.

It is a scientifically correct combination of Bordeaux and Arsenate of Lead. It therefore kills bugs and worms and controls blight or fungus.

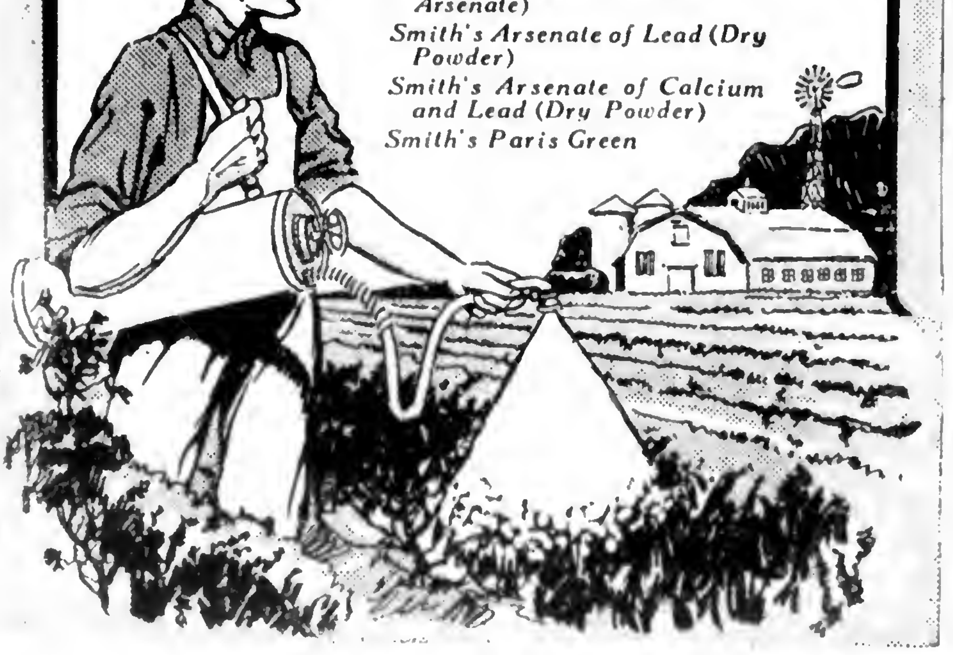
HEXPO is economical, too! It goes three times as far as inconvenient pastes. None to waste or harden into rock.

Ask your dealer for **HEXPO** in pound, 5-lb. and 10-lb. cartons or in 25, 50, 100 and 200-lb. drums.

If your dealer is out of **HEXPO**, write us for literature and prices.

H. J. Smith & Co.
Utica, N. Y.

Manufacturers of:—
HEXPO (Dry Powder Bordo-Arsenate)
Smith's Arsenate of Lead (Dry Powder)
Smith's Arsenate of Calcium and Lead (Dry Powder)
Smith's Paris Green



TRI-STATE TOMATO GROWERS NEED LARGER YIELDS

Representatives from the Department of Agriculture, Washington; The State Agricultural Departments of New Jersey, Delaware and Maryland; Tri-State Packers' Association; National Canners' Association, and the Tri-State Growers' Association held a conference on February 12th in the Hotel DuPont at Wilmington, Del., to devise plans for an increased yield of tomatoes this season.

Experts present recommended better selection of seed, better care of plants, better fertilization, spraying, etc., in order to increase yields.

Mr. Asa Bennett, chairman, wished to know how this increased yield could be had this summer and the interest was intense as the question is considered vital. Price did not enter at all into the discussion. It is to be lamented that the Tri-State tomato production has been decreasing—this neither enriches canner or grower.

This is explained by John E. Patten, president of the Peninsula Tomato Growers' Association, who says: "If the grower cannot grow them it means a loss regardless of price received, and if the packer cannot secure them at a price which will enable him to compete with the Western packer, that means a loss to him."

Professor Thornton stated that he would not encourage the giving up of the tomato industry in the East because after a few years the West and Middle West will have the same problems to solve as are waiting solution here.

Even now diseases have appeared in the West. The East has a decreased yield of tomatoes on account of disease. Therefore, it is only a matter of time before the tomato growing-sections thruout the country will have the same harassing problems.

Mr. Patten stated that this solution is one to be considered nationally and not locally. A resolution was offered to appoint a "small, active workable committee' representing the Agriculture Department, Packers and Growers. This committee is to submit plans. President Patten says: "This is a day of co-operation in the most broad-minded way and to save the industry here in the East the packers and growers must work in harmony."—Marylander.

STANDARD GRADES FOR PENNSYLVANIA APPLES.

The State Horticultural Society at its recent meeting in Harrisburg passed a resolution requesting the Director of the Bureau of Markets to establish standard grades for apples for the State of Pennsylvania.

The Act of 1919 establishing the Bureau of Markets gives it authority to promulgate such standard grades after the holding of hearings at which growers and distributors of farm products shall express their needs in this direction. Director Smith states, that the matter is being taken up with the Executive Committee of the State Horticultural Society and that as soon as it seems feasible hearings will be provided for he consideration of grades which will best meet the needs of all parties concerned.

The State Horticultural Society took a very progressive step in making such a request. "Good selling practices must be based," Director Smith says, "on standardized goods and I believe that the progressive apple growers of the State will lend their support in working out a satisfactory solution of this problem."

PLANT SETTERS SUCCESSFUL AND ECONOMICAL

Thruout the period of the war, labor saving machinery has become more generally used thruout the entire Genesee Valley region. Many machines, contrary to an early belief, have been used on so-called hilled farms and on land that was far from being free from stone.

Northern Livingston County thruout the past five or ten years has come to be a rather extensive cabbage growing section. This enterprise would be very expensive were not for the fact that labor saving machinery could be used. One of these savers is the plant setting machine for setting the plants. This type of machine is also used for setting tomato plants in those areas where tomatoes are grown, and some seed growers are using this type of machine to set aster plants.

The most common type of machine in use is one which sets one row at a time. In most cases it is adjusted to make these rows three feet apart. It requires three men to operate such a machine, one man sitting on the front of the machine to drive the team and two men sitting on the machine at the rear alternating with one another in setting plants. When operation starts the workmen in the rear take up an automatic pace, alternating with one another in placing the plants. By this rythmic action plants can be set very uniformly twelve to fifteen inches apart.

Before planting the cabbage plants it has become a common practice to dip them in a soapy solution or in some cases in a combination of "Black Leaf Forty" at the rate of one pint to fifty gallons of water.

In the Livonia community it is reported that this type of machine has been used for the last fifteen years. F. M. Davis & son, of Livonia have used a such plant setter for a number of years successfully. Contrary to a general belief, these farmers with the use of this machine do not regard the planting problem as a great problem.—E. A. F., Livingston Co., N. Y.

TAP MAPLE SUGAR TREES NOW

Now that the weather has begun to moderate the farmer and woodlot owner should begin the maple sugar harvest. Trees can be tapped from the early part of March to the middle of April. Any species of maple may be tapped but the sugar, or hard maple, gives the best results. Even butternut and hickory may be tapped satisfactorily. With the high cost of sugars, syrups, and sweets, it should be to the advantage of all to tap all maple possible and produce the maximum amount of maple sugar and syrup.

Trees should be tapped by boring a quarter to half inch hole about one and a half to two feet above the ground. The hole should not be bored to a greater depth than one to one and a half inches. A deeper boring will not increase the flow of sap and injures the heart wood. A spile for directing the flow of the sap in a container, preferably a tin busket, is inserted into the hole. Branches of sumach, box elder, and other species with large pith may be utilized for this purpose, the pith being burned out with a hot iron. Sap should be collected at least once a day and should be boiled immediately in order to prevent souring. Absolute cleanliness is necessary. The sap may be boiled in a large kettle in the open, or in kettles on an ordinary cook stove until it has reached the proper constituency. The amount of sap collected from each tree depends largely upon the size and crown of the tree. Usually about 25 gallons a tree a season may be expected. Twelve gallons of sap will make three pounds of sugar.

MANY FARMERS STUDYING ACCOUNTING

One-day farm accounting courses are now being given in 15 states. The primary object of these courses is to interest the farmer in farm bookkeeping as an essential to efficient farm management. While the assistance which the courses give in calculating a farmer's income tax is of great value, it is necessarily secondary.

This is the first year in which this method of introducing farm accounting has been undertaken on such a large scale. The schools are carried on in cooperation with the county agents. The one-day sessions are occupied with calculations made by the farmers themselves under the supervision of the instructor and discussions of such topics as the relative value of various crops, the size of crop yields, the quality and quantity of live stock for a farm of given size, the size of the farm business as a whole, and the farm layout, and the use of labor—all factors vitally affecting farm efficiency

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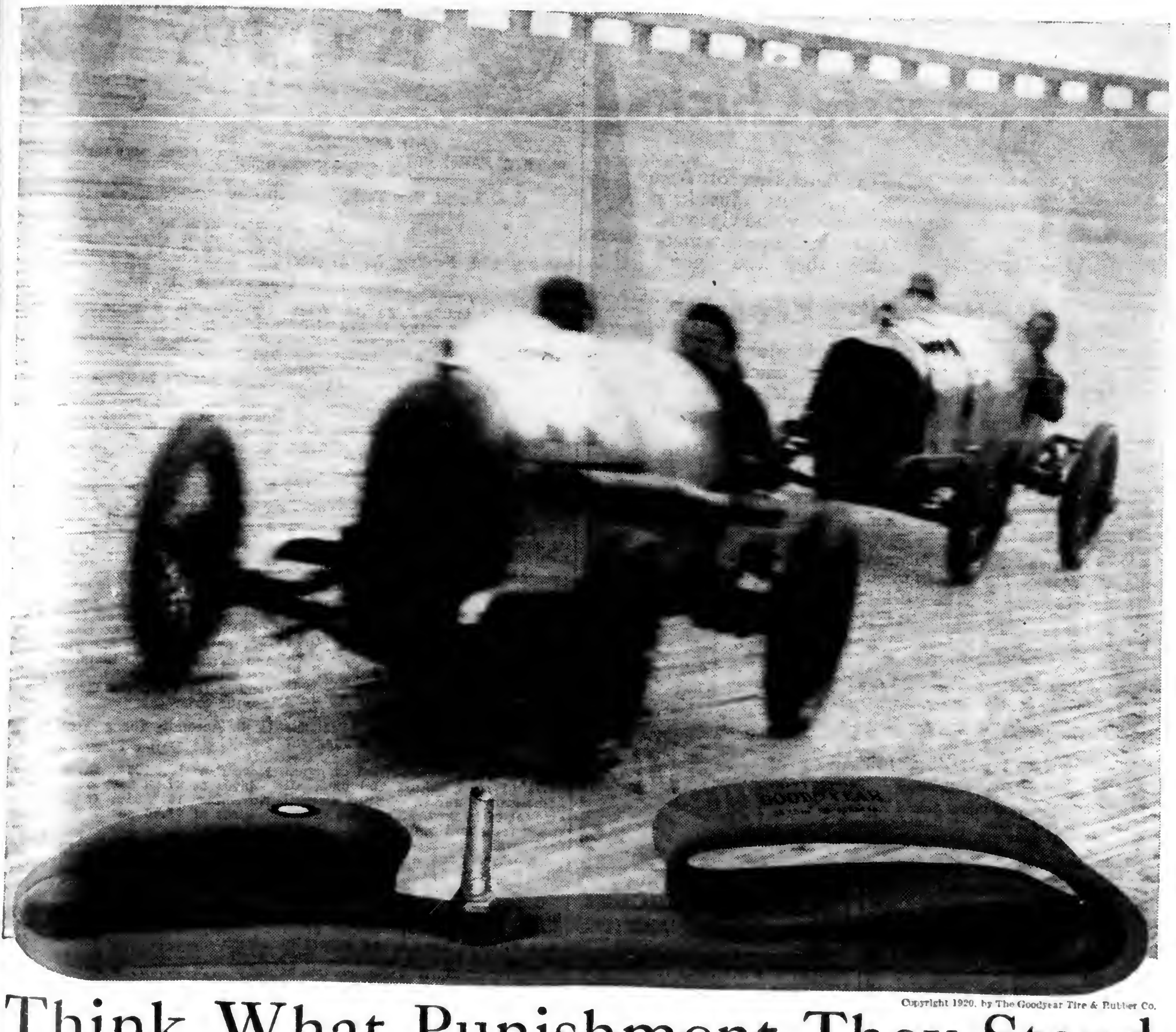

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Think What Punishment They Stand

HAVE you ever considered how much depends upon the tubes in the tires of a racing car?

No matter how staunch a casing may be, it cannot withstand the punishment inflicted by the track unless the tube, also, is flawless.

During the American racing season of 1919, every important race of fifty miles or more, on speedway and road, was won on Goodyear Cord Tires.

While that is splendid tribute to the Goodyear Cord Tire, it is also proof conclusive of the superior quality of Goodyear Tubes.

As you know, Goodyear Heavy Tourist Tubes, just as the Goodyear Tubes so favored by racers, are made of pure gum strips, *built up layer-upon-layer.*

Their cost is but little more (an average of seventy cents) than the cost of tubes of lesser merit. Do you consider it economy to risk a costly casing to save so small a sum?

Goodyear Heavy Tourist Tubes come in a water-proof and oil-proof bag. Get them from your Goodyear Service Station Dealer. More of them are used than any other kind.

GOODYEAR
HEAVY TOURIST TUBES

Big Hatches of Hardy Chicks

YOU can hatch that sort from your own hens. Just keep them healthy and vigorous. And you know that's mostly a matter of making their feed digest.

Pratts Poultry Regulator

makes the feed do its work. Makes your flock hardier so that the chicks you hatch will be stronger and easier to raise.

When your hatches come off, start your chicks on

Pratts Buttermilk Baby Chick Food

You'll find it puts vigor into your youngsters when they need it most—in the first three weeks.

Samoset Farm, Augusta, Maine, used it last season. The proprietor, H. J. O'Hear, says:

"In feeding Pratts Baby Chick Food I find that it has eliminated the so-called baby chick diseases that we have had so much trouble with in days gone bye. It has proven a bone and muscle maker, and a developer of chicks in the shortest possible time."

"Your Money Back if YOU Are Not Satisfied"

Sold by 60,000 dealers. There's one near you.

Write for Pratts New Baby Chick Book—Free

PRATT FOOD COMPANY

Philadelphia Chicago Toronto

Makers of Pratts Animal Regulator, Hog Tonic, Cow Remedy, Dip and Disinfectant, Veterinary Remedies.

BP-14

Pratts

103-DEGREE INCUBATOR

With the Tilting Chimney Regulates the heat before it enters boiler. Not afterwards. Automatic, one regulation, even temperature, thorough ventilation, not just claims, but all guaranteed. No night watch. No roasted eggs. No blankets. More chicks with less attention. Patented two-circuit hot water heating plant. No incubator cellar needed. Room temperature may vary 66 degrees. 4 sizes. Backed by the strongest incubator guarantee ever written. Write today.

ONE HATCH FREE

103-Degree Incubator Co. Box 06 Crown Point, Ind.

LO-GLO ELECTRIC INCUBATORS AND HOVERS

Absolute automatic Control of HEAT MOISTURE VENTILATION

All steel, odorless, smokeless, sweet and sanitary; successfully used for over 10 years.

Write for FREE BOOKLET

LO-GLO ELECTRIC INCUBATOR CO., Inc.
27 Greenwich St., New York

Sick Baby Chicks?

There is only one way to deal with baby chicks and that is to keep them well. Doctoring a hundred or more chicks is mighty discouraging work.

It's pure carelessness to lose more than 10 per cent of chicks, from hatching to full growth. Many lose 40 per cent to 60 per cent, and even more. No profit in that.

Our book, "Care of Baby Chicks" (free) and a package of Germozone is the best chick insurance. WITH BABY CHICKS YOU MUST PREVENT SICKNESS—NOT ATTEMPT TO CURE. "I never had a sick chick all last season"—C. O. Petrain, Moline, Ill. "Not a case of white diarrhoea in three years"—Ralph Wurst, Erie, Pa. "Have 800 chicks now 5 weeks old and not a single case of bowel trouble"—Mrs. Wm. Christians, Olive Ridge, New York. "Two weeks after we started last spring we were a mighty discouraged pair. Every day from three to six chicks dead. A neighbor put us next to Germozone and we are now sure if we had had it at the start we would not have lost a single chick"—Wm. E. Shepherd, Scranton, Pa.

GERMOZONE is a wonder worker for chicks, chickens, pigeons, cats, dogs, rabbits or other pet or domestic stock. It is preventive as well as curative, which is ten times better. It is used most extensively for roup, bowel trouble, snuffles, gleet, canker, swelled head, sore head, sores, wounds, loss of fur or feathers. 25c, 75c, $1.50 pkgs. at dealers or postpaid.

GEO. H. LEE CO., Dept. F-49 Omaha, Neb.

Kendel's Superior Strains

Famous for Standard Bred, Utility Qualities. All leading breeds including Leghorns, Plymouth Rocks, Reds, Wyandottes, Minorcas, Anconas, Brahmas, Langshans, Orpingtons, Ducks, and etc. Prices reasonable. Circular free.

Baby CHIX

Hatching EGGS

A. C. Kendel, 224 Prospect, Cleveland, O.

The 1920 Sensation at $12.45

Machine has double walls; copper tank. Sold direct from factory. Guaranteed to give satisfaction or money back.

DETROIT INCUBATORS

140 Egg, $12.45. Detroit Brooders, 140 Chick, $7.10. Both for Special Combination Price, $17.50, complete. Freight prepaid to your station. Order from this advertisement or write for full description.

DETROIT INCUBATOR COMPANY
Dept. 13, Merritt St., Detroit, Mich.

EGGS FOR HATCHING

NONE SUCH WHITE LEGHORNS. For 18 years, NONE SUCH WHITE LEGHORNS have been trapnested and bred to lay more eggs. FERRIS WHITE strain, mated to Grandsons of Prince Eclatine, a son of the world's famous Lady Eclatine. Hatching eggs, fertility guaranteed.
200 egg strain $5.00 for 15. $25.00 per hundred.
150 egg strain $2.50 for 15. $15.00 per hundred.

THE H. M. SPAHR BREEDING ESTATE, Dept. C. Woodsboro, Maryland.

New York Stable Manure

Prompt shipments in carload lots and by boat.

264 W. 34th St. New York City.

1916 Market St. Philadelphia, Pa.

Seed Corn DON'T PLANT FROZEN CORN

Our Mammouth Yielder Yellow Dent, White Cap Yellow Dent (produces well on poor soil) and 90 Day Sure Crop are Guaranteed to test 95%. $3.50 per bu. Bags free. Circular on Request.

THREEMILE ISLAND FARMS. York Haven, Pa.

HILLPOT FOR QUALITY CHICKS

Sturdy, lively chicks that will quickly grow into profit-producing poultry—Hillpot Quality Chicks.

	100	50	25		100	50	25
White Leghorns	$20.00	$10.00	$6.00	R. I. Reds	$30.00	$15.00	$8.00
Brown Leghorns	23.00	12.00	6.25	Barred Rocks	28.00	14.00	7.50
Black Leghorns	23.00	12.00	6.25	Wh. Rocks	35.00	18.00	9.50
				Wh. Wyandottes	35.00	18.00	9.50

Safe delivery anywhere in U. S. A. guaranteed. Postpaid

W. F. HILLPOT, Box 28, FRENCHTOWN, N. J.

POULTRY

EXPERIENCES AND ACCOUNTS WITH A FARM PULLET FLOCK

C. S. Phelps, New York.

Part II.

Housing and Feeding for Winter Eggs.

The only building on the farm available for as many as 172 birds was a temporarily unused stable with cement floor and shallow cement mangers. This was made suitable for the flock by removing the stanchions, adding roosting perches and nesting boxes and feeding and water devices. As we did not wish to alter the general plan of the building it seemed necessary to improvise some sort of arrangement for self feeding and for watering. Serviceable self-feeders were made by taking strawberry crates and making the bottoms tight and the sides up about four inches. The watering was done in open pans or pails set on shallow boxes. Orange boxes nailed to the walls made safe nesting places.

The windows were facing the East so that less sunlight reached the interior of the building than would be desirable. Care was used, however, to provide for plenty of fresh air and ventilation so that there would be but little moisture in the building. Plenty of litter was always provided so that the birds were kept busy scratching for their grain.

The grain feed consisted of equal parts of corn, wheat and oats, all home-grown, and in addition a small amount of buckwheat was fed in the straw for about two months. Green feed was at first provided in the form of cabbage and later in the winter mangel beets or carrots were fed.

Considerable thought was given to the question of a good dry mash feed. Preference was finally given to a mixture used by an expert in feeding and rearing leghorns. This consisted of equal parts by weight of wheat bran, standard middlings, corn meal, gluten feed and beef scrap with 45 per cent of protein. It will be noticed that this feed is rich in protein from both animal and non-animal sources. This mixture proved so satisfactory that we continued to use it for over a year. We believe that many persons err in caring for poultry by not giving enough fresh, clear, water. It should be remembered that the egg is about 75 per cent water and in order to keep up heavy egg production plenty of water is essential. We found our flock of 160 to 170 birds drank as much as five ten-quart pails of water during the period of heavy egg production.

As soon as the birds passed six months of age they gained rapidly in egg production and the last week in November they were giving a 30 percent egg yield. Soon after this they were giving a little over 40 per cent and for the 3 winter months months they averaged 40 percent of the number carried. From March first to September first the production was 64 percent of the average number carried.

Summer Care

During the summer months the same plan of liberal feeding was kept up and care was taken that the birds were kept active working in the litter. The flock was confined in a fair sized yard most of the day time but were allowed free run for two or three hours toward night.

Early in July it became evident by the tendency to moult, by persistent sitting and by yellow beaks and shanks that we had some quitters. So, the culling process was started. When the birds were caught those with nearly closed up pelvic bones were killed as quitters. This condition of the pelvic bones was found to be an almost certain sign that the bird was not laying. In July eighteen were sorted out and either sold or used by the family and eight more were discarded in August. Our aim was to cull out all that stopped laying before September 15th and as fast as they showed clear signs of having quit laying. Early in September twenty were culled for market and during the month six were used by the family.

The middle of September we had practically no hens in the flock that showed signs of moulting or that had yellow shanks.

Yearly Results in Costs and Profits

All feeds used from the farm were charged at fair market values at the farm. No charge was made for litter but against this no credit was given for manure. Eggs used by the family were charged at five to ten cents below the prevailing market price, as many were small, poorly shaped or cracked. Fowls used were also charged at wholesale market prices. The average number of fowls carried each month was obtained by averaging the number on hand on the first day of two succeeding months. The accounts were kept by months, altho there was a slight overlapping at times in the case of feed charges. The income and expenses, not including labor, are given by months, starting November 10, when the birds were six months old.

Costs Accounts for a Year With a Pullet Flock.

November 10, 1918, Inventory 172 birds at $1.50 each......$258.00
November 10, 1919, Inventory 94 birds at $1.50 each...... 141.00

	Rec.	Exp.
Inventory difference		$117.00
1918		
Nov. 11 to 30	$ 46.40	$39.50
December	124.80	50.90
1919		
January	113.62	54.75
February	79.76	37.40
March	121.27	46.18
April	129.94	42.93
May	135.80	49.76
June	124.10	42.45
July	123.57	52.68
August	118.94	38.76
September	64.12	33.84
October	15.76	19.48
November 1 to 10	1.60	6.91
Total egg sales and feed expenses....	1199.68	515.87
Sales of fowls to market & family.	65.35	
Inventory difference on flock		117.00
	1265.03	632.87
Net Receipts ...		632.16
	1265.03	1265.93

Deduct interest, $632.16 less 45.00 equals net income $587.16. Average size of flock taken monthly, 149. Average net income each bird, $3.94. Total eggs for the year, 2170 dozen. Average egg yield 175.

Lessons From the Records.

The losses in rearing were too great and might have been less with more care in starting up fires during cold nights. The losses from heavy egg production were 13 percent of the flock at the start. These losses seem heavy but are no greater than the average with poultrymen where heavy egg production is sought. The flock did not come to profitable production quite as early as they might have done had heavier protein feeding been practiced during the late summer and early fall. They should have been paying for their feed at six months of age. This year's flock was doing this before they were six months old. Our market was, in the main a local, wholesale one. Had we sufficent eggs to warrant seeking a select New York market probably better profits would have resulted.

The average income from each bird was nearly four dollars. This is perhaps better than could have been expected from a mixed flock of pullets yearlings and two-year-olds. But with a considerable sale of hatching eggs or baby chicks this average might be maintained even with a flock of mixed eggs.

DO OLD HENS PAY?

It has been the custom to consider the pullets the best layers and the old hens as boarders which are not profitable. And in a large measure this is true. But we find that vigorour year-old hens that do not show a tendency to become too fat, are nearly as good layers as pullets. These hens take a winter vacation but it is good for the poultryman as the hens which have rested produce fine hatchable eggs in the spring and they are needed to turn out vigorous chicks.

We find that many year-old hens make good winter layers if they are forced for eggs the same as is often done with pullets. The resting time required by the hens is not as great as the growing period necessary to develop pullets. It seems as if the poultry business has paid a great price for years because strains of fowls have not been developed which are good for more than one year of laying service at a profit. If hens could be retained until two or three years old it would be a great saving and the farmer with a large flock of good layers would not be constantly worrying about the brooding business when other spring work was necessary. Of course some hatching would be done every year but it would not be necessary to replace nearly the whole flock in order to keep up egg records.

We find that in many breeds there are certain types of birds which have vigor and a certain youthful appearance even when a year or two years old. Such hens range and scratch like growing pullets and do not take on fat readily even when forced for eggs if the ration is properly balanced. When such hens are used for breeders we find that the chicks seem to resemble them both in vigor and laying ability. And we hope to develop flocks from such birds that will be profitable layers to nearly three years of age.

Such stock will be of great value in the hatching egg and day-old chick business because large numbers of eggs are needed from vigorous stock. The hens which are mature breeders laying large eggs seem to transmit more vigor to their offspring than pullets. Healthy plump chicks from mature breeders will always mean a lower percent or mortality in the brooder than is the case with chicks hatched from pullet eggs. And if it is possible to produce more livable chicks by using the eggs from hens it will mean a great deal to the poultry industry. At present one of the great economic losses in the poultry industry is the large number of chicks which lack in vigor and die at an early age when they are purchased by amateurs who are not skilled in poultry management. Even the most experienced breeders cannot turn weak chicks from pullet eggs into the best kind of laying stock. The old hens that lay profitably up to three years of age are prizes which the poultryman cannot afford to neglect.—R. G. Kirby, Michigan.

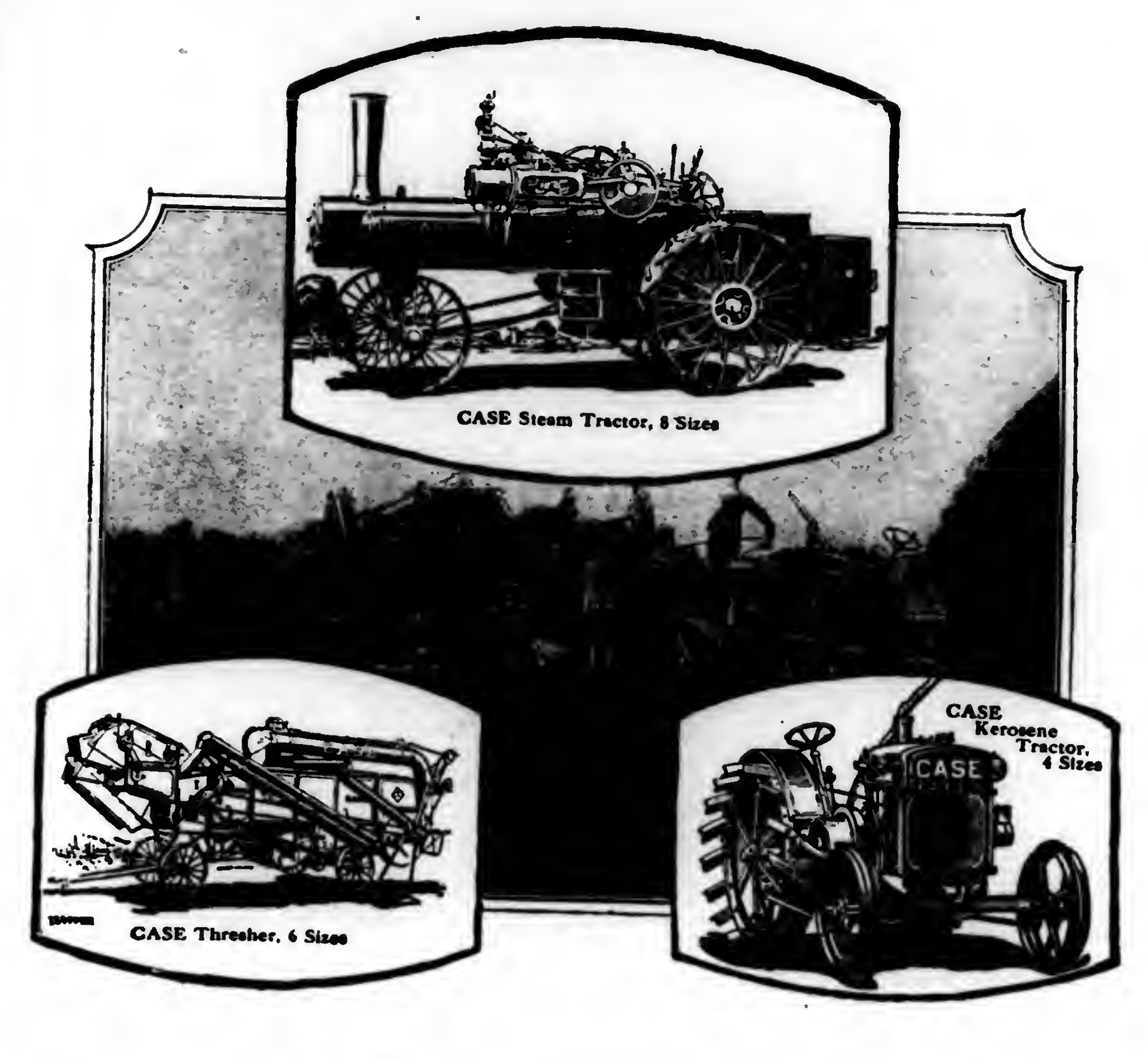
WHITEWASH THE HEN HOUSE

Poultrymen and farmers sometimes overlook a very important fact. It is that the best of feed, plenty of it, well balanced ration, etc., will not induce hens to lay eggs if they are compelled to roost in houses infested with mites.

The little red insect saps the vitality of the hen by sucking her blood. Hens have actually been killed, virtually eaten alive, by mites. Chickens cannot lay except when their vitality is maintained. Vitality and mites cannot exist in the same hen roost.

At the first sign of warm weather guard against mites by giving all wood work inside the poultry house a coat of hot whitewash well carbolized.

The roosts and their supports should be painted all over with carbolineum, zenoleum, carpoline, or kresol



A Case Thresher—
The Tractor's Faithful Working Mate

Many a tractor owner could materially increase his profits by the purchase of a Case Thresher, of suitable size.

Case Threshers are built to exactly meet the requirements of the farmer who threshes as part of his farming, or the thresherman who wants a rig of greater capacity and efficiency. There are six sizes, ranging from the 20x28, suitable for the large farm or a group of small farms, to the great 40x62 the climax of the thresher achievement. Case, Galvanized, Steel built, Grain Saving Threshers are made in the following sizes: 20x28, 22x36, 26x46, 32x54, 36x58 and 40x62.

All sizes of Case Threshers may be equipped with Case Self-Feeders, Wind Stackers and Grain Handlers. All will thresh, separate, clean and save all grains and seeds. And for each size of Case Thresher there is a Case Tractor as a dependable and durable source of power. Three sizes of Case Kerosene Tractors and eight sizes of Case Steam Tractors offer choice of requirements for all conditions and localities.

Send for booklets giving detailed information regarding Case Threshers Case Kerosene Tractors, Case Steam Tractors, Case Baling Presses, Case Silo Fillers, etc.

J. I. CASE THRESHING MACHINE COMPANY, Inc., Dept. CO-3, Racine, Wis., U. S. A.

Making Superior Farm Machinery Since 1842

To avoid confusion, The J. I. CASE THRESHING MACHINE COMPANY desires to have it known that it is not now and never has been interested in, or in any way connected or affiliated with the J. I. Case Plow Works, or the Wallis Tractor Company, or the J. I. Case Plow Works Co.

CASE
TRADE MARKS REG. U. S. PAT. OFF. AND IN FOREIGN COUNTRIES
POWER FARMING MACHINERY

Look for the EAGLE Our Trade Mark

SOURCE OF FOODS WHICH BUILD AND REPAIR OUR BODIES

In our last article we spoke of the food elements which build muscle tissue and repair it when it is worn out. In this article we discuss the foods which supply these elements. You remember, we called these substances proteins or nitrogenous matter.

There are just certain of the foods which we use that contain proteins in sufficient amount and form to be of use to our bodies. These foods are milk, cheese, eggs, meat (meaning the muscle or lean part), fish, certain nuts (especially the peanut) and to some extent the cereals, dried peas and beans.

The proteins found in these foods are not all of the same kind and quality. Some are more perfect and meet the needs of the human body, or rather, the ability of human assimilation to convert them into use in the human body.

For example, the proteins from animal sources (milk, cheese, eggs, lean meat and fish) are more readily digested and more completely absorbed than those from vegetable sources, such as grains, nuts, peas and beans. The fiber in the vegetables seems to interfere with the completeness of digestion and absorption in the human system, whereas animals can readily assimalate such proteins and convert them into a form in their own flesh which the human system can use. Therefore the proteins from animal sources are "more perfect" and meet the needs of our bodies more efficiently.

Cereals, dried beans and peas have a large proportion of starch in them, and should not be relied on as a main source of protein, but rather supplement the animal protein foods.

Best Protein Foods for Children

For children the best protein foods are milk, eggs, and cheese (grated or served in finely divided form as in souffle). These proteins should be served to the children with well-cooked cereals, such as oatmeal, and with dried peas and beans served in the form of cream soups.

The protein found in milk is one of the most complete and readily digestible forms that we have. It is the most completely absorbed of any of the proteins. It is not in any way irritating to the digestive tract. The protein in cottage chees and in ordinary cheese is just the same as that in milk, and, rightly served, is equally efficient. The protein in milk is found in the solids which form the curd.

Egg protein ranks with milk protein in digestibility and absorbtion. But meat protein is much more liable than egg or milk protein to putrefaction in the intestines, and therefore is not so desirable for young children. If too much meat is eaten and there is faulty elimination of waste from the intestines, in other words, if there is not good bowel action, digestive troubles are likely to result. It is a good dietetic rule, therefore, to use only moderate amounts of meat, and very moderate amounts for children.

Milk, cheese and eggs are very much less likely to cause digestive disturbances than meat. So far as fool value is concerned, they may replace meat to almost any extent in the diet. And remember that for children they are always very much better than meat.

In planning meals for children, allow for at least one quart of whole milk a day for each child. Note the insistence on whole milk; do not feed your children skimmed milk, nor powdered milk nor condensed milk unless you give them plenty of butter also, and this arrangement should be tolerated only in an emergency. The fresh whole milk is best for the child.

And each child ought to have an egg a day. Certainly do not make the allowance less than two or three eggs a week.

Use some cottage cheese, and some ordinary cheese served as indicated in the fore part of this article. Never let a child eat ordinary cheese from the piece; thus eaten, it is too concentrated and will be likely to cause digestive disturbance.

Frequently serve soups to children which are made of milk, seasoned with butter, and contain peas or beans well soaked and pressed thru a sieve to make the particles fine.

Also provide plenty of well-cooked cereal, rolled oats being the best for children. Well-cooked means cooked not less than three hours. You will need a double boiler to do this. A fireless cooker will do it better and easier.

The same principles apply in general to adults' protein diet.

(Next article will tell something interesting about the mineral matter that we need to have in our diet).—Pearl MacDonald, Penna. State College.

A Farm Home in the Ozarks, Missouri

HAM IN NEW WAYS.

Ham is very appetizing in cold weather, but towards spring the family often seems to tire of it, and then it is time for the housewife to devise new ways of serving it. Farmers and others who prepare hams for winter use feel as if they must be used instead of buying other meat so it becomes the duty of the housekeeper to prepare the ham so that it will be relished by the whole family. These are ways relished in our family:

Baking Slices of Ham.

Baked ham is always good, but few people now-a-days bake a whole ham. A slice can be baked, however, that will be just as delicious as if cut from a whole baked ham. Have the slice cut a half inch or slightly more in thickness, add several cloves, and 2 tablespoons of brown sugar. Peel, core and slice crosswise in rings two large tart apples, sprinkle them with sugar and place them around the ham; pour 1 cup of hot water over all, then cover and bake till the meat is tender, when the apples will be done and their flavor will have made the ham taste like one that had been boiled in cider, then baked.

Or bake it in this way: Trim off most of the fat and chop it very fine. Prepare 2 teaspoons each of minced onion and parsley and add to the fat and sprinkle it over the ham placed in a baking pan. Then sprinkle the juice of half a lemon over the ham and bake till done. Milk gravy may be made with the fat left in the pan.

Ham au Gratin.

Baked ham and potatoes, often called ham au gratin because of the cheese flavor produced by the combination, is made this way: Cover a slice of ham with sweet milk and place a row of peeled and halved potatoes around it. Cover and bake till the ham is done, when the potatoes will also be done and the milk nearly or quite absorbed. Delicious gravy may be made to pour over it from the drippings left in the pan.

Minced Ham and Macaroni.

Minced ham combines nicely with macaroni or spaghetti and makes a nice change from the ordinary ways of serving those foods.

Savory Ham.

Fry ham slices as usual, and keep hot in the warming oven while preparing the dressing thus: Cook together in a frying pan 4 tablespoons vinegar, 1 teaspoon sugar, 1 teaspoon French mustard and a little paprika. Stir till hot and well blended, pour over the ham and serve at once.

Egged Ham.

This is a hearty dish. For each cup of chopped cooked ham, use 3 eggs. Place the ham in a hot greased frying pan and break the eggs in without beating and stir them together till every bit of ham is coated with egg.

Hot Ham Sandwiches.

Hot ham sandwiches make a tasty supper on a chilly night. Cut bread as usual, and remove the crust. Spread half the slices with butter and the others with finely minced cooked ham and put them together. Beat 2 eggs and add ¼ cup milk, salt and pepper and dip the sandwiches into this batter, coating both sides, then fry in a little hot fat till brown on both sides.—Mrs. H. M. Woodward.

PLAY FOR FARM BOYS AND GIRLS

One of the big fundamental human needs, if character is to be well rounded, is the need of play. Love of play is, therefore, not a childish weakness, to be repressed at every fresh outcropping. It is a natural impulse, wholly normal, and should be cultivated and directed as one of the attributes of well-developed character.

Cities recognize this fact and spend thousands of dollars annually on playgrounds wih all sorts of apparatus for properly developing children's wits and bodies. They provide paid playground instructors with various letters of the alphabet after their names denoting various degrees of preparation for their jobs. No doubt there must be experts to direct the play of city children, yet we cannot help but feel sorry for the child who must grow to maturity spending his play hours on a city playground.

Directing the play of children is one of the innumerable tasks delegated to the mothers of the race by God, and no degree delegated by universities carries more responsibility nor honor. It is impossible for every mother to have university or even kindergarten training, but she can at least know something of the principles laid down for child play by that master trainer of children, Froeble, and others who have followed him.

From the time when a baby can handle toys the wise mother will be as careful of his play habits as of his food habits. She will allow the child quiet in which to learn concentration. Perhaps one of the first kindergarten toys that a very young child will enjoy is a numeral frame. This consists of wooden beads strung on wires and fastened in a frame. The beads are easily moved back and forth by the baby, and being made in all colors the child readily learns colors. Also if the mother takes a bit of time with the child it will soon learn to count by means of these beads.

There are the large colored beads, which the children will enjoy stringing. The child of eighteen months is often past the stage of putting everything in its mouth, and the beads may be used to train it in hand and finger dexterity.

Later on sewing cards, picture puzzles, bubble blowers (clay pipes answer for these), stencils, anagrams, etc., all are comparatively inexpensive and within the reach of every farm mother. If you can do so, it is well to go into a regular kindergarten supply store and look over the materials and select the ones that are adapted to your children. However, it is impossible for most of us to go to the cities where we can find supplies of this sort, so we must depend on catalogs and advertisements. Several companies make kindergarten supplies exclusively, and their catalogs may be had for a postcard. And the mail order houses handle many of these games; of course you all know how to reach the mail order people, who are advertising in your farm papers.

Try always to have the games a bit too old rather than too young for your child. The child of six should enjoy such games as lotto, authors, dominoes, table croquet, crokinole, dissected map of the United States, and many of the different stencils.

Have each child take care of his own games, and never allow more than one game to be out at a time. Teach the child from the very first to put away one thing before getting out another.

Father and mother should shake off the middle age inertia that is prone to envelope them when the day's work is done, and should plan definitely to play a while with the children. It may take some sacrifice to forego an evening in the easy chair with a new paper or a magazine or a snooze, but the games with the children will be remembered in later life with thrills of pleasure, while the weariness of the flesh will be forgotten.

Cultivating a Play Spirit

Not only does it behoove the mother to teach the children how to play, but she needs also to train them to carry the play spirit into work. This will eliminate the word drudgery from their experience in many a hard task.

For instance, say to the baby as soon as it is able to understand: "Now we will put the basket there for the playthings, and see if baby can get them put away before mother gets these buttons sewed on." A game is always of interest to the child, and he soon learns to carry this play spirit into many things that he will do later in life.

When a child is old enough to know one growing plant from another, you can take him into the garden with you and say: "Charles, suppose you take that row, and mother will take this one, and we will see who will beat getting the weeds out." Then with sparkle in your eyes, go to it. Of course your row is longer and harder, and Charles does not get his row as clean as yours, but you will praise him judiciously, and thus lead him to like to do the thing right for the sport of it. Never send a child into the garden alone to pull weeds, unless you attach some sort of play zest to his quest.

The play spirit is what makes us grown-ups like our work; we want to get ahead. Let us strive to cultivate it so well in our children that it results in purposeful energy that gets results.—Mrs. May Hoover Mumaw.

KNITTING HINTS

Straightening Needles.— When celluloid needles become bent, pour hot water over them and straighten as well as possible with the fingers. Then while still warm, lay them on a flat surface and roll them under the hands and they will become as straight as when new. Immerse them immediately in very cold water and they will remain in perfect shape for a long time. If the points become blunt, they may be sharpened in a pencl sharpener. Steel needles may be sharpened by rubbing on a coarse file, rolling the needle so as to sharpen all around alike.

Ball Holder.—When winding a ball of yarn, first make several loops of the yarn about eight inches long and leave one end of the loops hanging, then wind the ball around the other hand. When the ball is wound the loops form a holder thru which the left hand can be slipped so that the ball will hang on the wrst in a convenient place when one is knitting. As the ball unwinds from the outside, the holder remains till all the yarn is gone.

To Wind Skeins Alone.—Someone to hold the hank of yarn while it is being wound is a great help, but not a necessity, as a pair of flat irons will do quite as well. Place the irons with flat side down on the table, placing the hank of yarn around the handles, moving one iron till the yarn is taut, then wind as usual.

Casting Stitches.—When casting stitches for socks or mittens, cast them all on one needle, and then knit off the required number on each of the other needles. The stitches are much easier to handle and there is less danger of a needle slipping out.

Joining Colors.—When one uses two or more colors in striped knitting it is often a problem to join them so it will not show. When within a short distance of the joining place, break off the yarn, leaving enough to fold back and make a loop. Knit until the joining place is reached, then slip the new color thru far enough to make a loop like the first one,- and knit as usual. After one or two trials one can easily determine the length of yarn required to make it come out right, and there will be no knot to disfigure the work.

Binding off Ribbing.—When binding off ribbing, the result is not always satisfactory where slipping and binding are done in the usual way. If, after narrowing, the resulting stitch is slipped onto the left hand needle and narrowed again with the next stitch, the work will be much more satisfactory. This plan is followed till all the stitches are bound off.

Unkinking Raveled Yarn.—Raveled yarn kinks may be taken out by steaming. Wind the yarn in skeins and place them in a steamer over boiling water for ten minutes, then let dry before winding, and the yarn will be as soft and free from kinks as when new.—Mrs. H. M. Woodward.

DON'T THROW AWAY OLD WINDOW SHADES

Many house furnishing stores will tell you that Holland shades are off the market. That is not quite true, but it is a fact that linen shades are scarce; many stores have no stocks of them at all, and when obtainable they are very high in price.

This causes a housewife to hesitate about throwing away old shades that have become wrinkled, faded and thin, with the idea of replacing with new curtains. Generally the trouble with the old shades is that the filler has dropped out of the linen.

Window shades that have deteriorated in this way can be made to look almost as good as new at small cost and with little trouble. Go to a paint store and buy a can of ordinary flat wall paint. Reduce it by adding twenty-five percent of turpentine.

Remove the curtains from the rollers; tack them down smoothly on a bare floor or table and apply one coat of the paint. To eliminate brush marks go over it immediately with a dry stiff bristled brush.

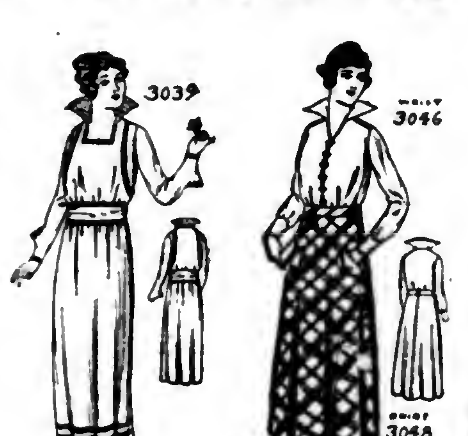
If it is desired to have the shades harmonize with the decoration or trim of the room, any color of flat paint may be obtained with which to accomplish it. It is possible to have the outside of the shade one color and the interior side different if it is preferred to have it that way.

By the adoption of this suggestion window shades can be kept looking bright and clean at the same time saving the expense of new ones.

PENNSYLVANIA FARMER PATTERNS

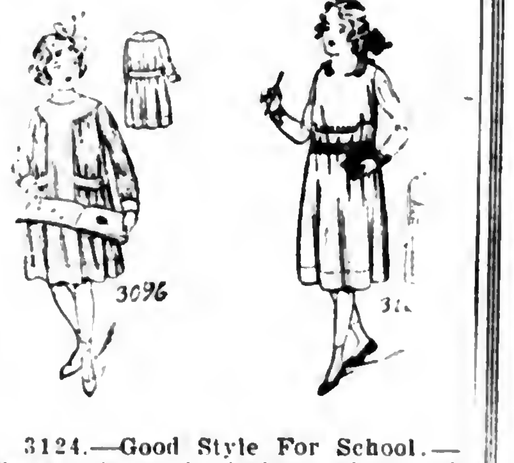
Give figures and letters of each pattern exactly as printed at beginning of each description or we will not be responsible for correct filling of orders. Give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261 S. Third Street, Philadelphia, Pa.

3039.— Pretty Frock in Over-Blouse Style.—This dress could be developed in figured silk and gabardine, or other combinations. The pattern is cut in 6 sizes: 34, 36, 38, 40, 42 and 44 inches bust measure. Size 38 requires 5 yards of 36-inch material. Width of skirt at lower edge is 1¾ yard. Pattern, 10 cents.



3016—3048. — Comfortable Business Costume.—The skirt, circular style, may be cut in one or two sections. The pattern is cut in 7 sizes: 22, 24, 26 28, 30, 32 and 34 inches waist measure. Size 24 requires for a one-piece skirt 2⅝ yards of 48-inch material if cut crosswise, and 2⅛ yards of 54inch material if cut lengthwise. With front and back seams, 2¼ yards of 54-inch material will be required if cut with front edges straight and 2¾ yards if front and back edges are cut bias. The waist pattern is cut in 6 sizes: 34, 36, 38, 40, 42 and 44 inches bust measure. Size 38 will require 2⅝ yards of 36-inch material. The skirt measures about 2¼ yards at the foot. This illustration calls for two separate patterns, which cost 10 cents each.

3096.—Neat for School or Home. —Pattern is in 4 sizes: 4, 6, 8 and 10 years. Model is nice for plaid or checked mixtures and for cotton, poplin and gingham. Size 10 will require 3¼ yards of 36-inch material. Pattern, 10 cents.



3124.—Good Style For School.—Pattern is cut in 4 sizes: 8, 10, 12 and 14 years. Size 10 requires 3⅛ yards of 40-inch material. Pattern, 10 cents.

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TI-O-GA Brood Sow and Pig Feed to be fed to brood sows *at all times* and pigs until they are twelve weeks old.

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- **Red Brand TI-O-GA Dairy Feed** (to be fed with ensilage, pasturage, green fodder or low protein roughage).
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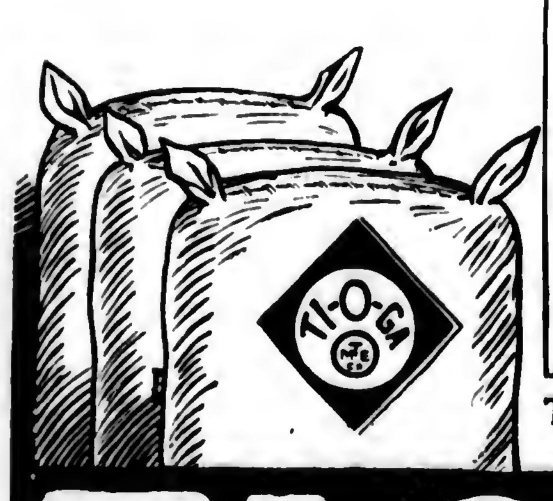

TI-O-GA FEED SERVICE

ELIMINATE THE CUR

The future of the sheep industry in Pennsylvania depends largely upon the strict enforcement of the dog law of 1917 by the constables, police officers and county commissioners of the state, declares Secretary Frederick Rasmussen of the Pennsylvania Department of Agriculture, in connection with the issuing of the report from every county in the state, showing that 6550 sheep were killed or injured by dogs during 1919.

The Bureau of Statistics, Pennsylvania Department of Agriculture has compiled the complete data showing the number of dogs licensed in 1919, the number killed by officers and the damage paid out by county commissioners for sheep, other live stock and poultry killed or injured by dogs.

In almost every instance the sheep and poultry were attacked by unlicensed dogs and the table is a strong and convincing argument in favor of the dog act of 1917, which provides that every dog in the Commonwealth must be licensed and kept in restraint at all times.

In the two years that the law has been enforced in the state there have been 147,053 dogs killed by officers of the law, while during these two years the great sum of $164,172.23 has been paid out in damages by the various counties.

Washington County, the banner county of the state in the sheep industry, was the heaviest sufferer from unlicensed dogs last year, 533 sheep being killed and 394 being injured by dogs in this county alone. In only nine of the sixty-seven counties of the state were the sheep unmolested by dogs during the year.

There were 297,427 dogs licensed in the state last year and these licenses turned into the various counties the sum of $383.41007, so that from a business point of view, the dog license law works as a direct benefit to the tax payers as well as a protection to the farmers. The state does not receive a penny from the license fees.

"If the public can be made to realize the great advantages of the dog law, public sentiment will demand its rigid enforcement" said Secretary Rasmussen, in discussing the report. "Frequently we have reports from one section of the state or another, telling of children being bitten by dogs suffering from rabies. In more than ninety per cent of the cases, rabies develop from stray dogs. In a large percentage of the cases the losses sustained by farmers, in having their sheep and poultry killed, are the work of the homeless cur. We are in favor of the well-kept house, farm or hunting dog that is looked after and kept in proper restraint, but we want to eliminate from the state entirely the homeless mongrel that skulks about foraging for his food, and a strict enforcement of the dog law of 1917 is the only way in which this can be accomplished."

SPECIAL CARE WITH SHEEP NOW CRITICAL

Spring is the most critical time of year for sheep. It is the season which will determine in a large measure the degree of profit the shepherd will realize from his flock. Carelessness on his part or lack of proper feed now can easily account for a considerable loss in lambs, which means loss of dollars. However, by taking thought in the spring the mistakes of the winter cannot be entirely overcome.

If the ewes have been kept in a thrifty condition thruout the winter, losses at lambing time will not be so serious. They should have been given some leguminous hay such as clover or alfalfa, also corn silage once a day not to exceed three pounds per head. Provided they came into the barn in good shape last fall and were fed legumes and silage during the winter they should be in condition to produce and nourish healthy, vigorous lambs this spring.

From four to six weeks before lambing time it is well to allow ewes at least a half-pound of grain per head daily. This ought to be increased to three-fourths or a pound after the lambs are dropped. Ewes which are not well fed will not supply milk in sufficient quantity to keep their lambs growing rapidly. A grain mixture for breeding ewes at this time of year that has given satisfaction is one made up of 300 pounds oats, 100 pounds corn and 50 pounds oil meal. Skimping of feed is always doubtful economy; at this season it is disastrous.

Careful watch to make sure lambs do not get separated from their mothers or are not chilled is absolutely necessary. Saving the life of one lamb will pay for this trouble, while the chances are that several lambs which would otherwise die before they were a day old will be saved each spring by the watchful shepherd.—W. B. Connell, State College, Pa.

PREPARE FOR SPRING PIGS

An essential in success with spring pigs is a healthy condition of the brood sow. The first few weeks being the most critical time in the pigs' life, it is advisable to plan for taking care of them safely during this time. Many of the maladies that affect suckling pigs are due to the nourishment they receive. Sows to be in condition to raise healthy and rapid-growing pigs must have a ration in which the various nutriments are combined in a manner that will promote the secretion of milk without causing udder trouble or digestive disturbances.

Three rations for brood sows nursing pigs have been worked out by the animal husbandry specialists at the Pennsylvania State College. They are designed to meet conditions in different localities thruout the state and give the farmer a chance to select the cheapest feeds, or those most easily obtained in his community. The first ration is a grain mixture made up of 400 pounds corn meal, 300 pounds wheat middlings, 100 pounds ground oats and 100 pounds tankage. If tankage cannot be obtained 150 pounds of oil meal may be substituted, the other grains remaining in the same amounts as in the first mixture. Another ration composed of a large variety of feeds and one suited to sows at this time can be composed of 200 pounds corn meal, 200 pounds hominy, 200 pounds wheat bran, 100 pounds wheat middlings, 100 pounds ground oats, 100 pounds ground rye, and 100 pounds tankage.

Any one of these mixtures fed in the right amounts for the individual animal should furnish the sow with the material from which to make milk for her pigs, and prove an important step towards profitable returns from this spring's pig crop. The feed alone is not all that is needed to make the sow and pigs "do well." Sanitary housing conditions, provisions for exercise, water and shade must be furnished.

USE POTATO CULLS FOR HOGS

When cereal foods are high hog feeding of cull potatoes and any surplus of the poorer grades which may be available is profitable. It is estimated that four and one-half bushels of potatoes equal one bushel of corn in producing weight gains on hogs. The feeding of marketable potatoes is therefore unprofitable unless corn is worth four and one-half times as much as potatoes. But, as above stated, there are the culls and other unmarketable potatoes which might advantageously be fed to hogs for several reasons—a waste is utilized and more valuable feed is saved, transportation charges on a poor product are saved, and the potatoes marketed bring a higher price than they would if the small ones were included.

Potatoes resemble corn in composition. Both corn and potatoes are poor in protein and rich in carbohydrates, thus they make fat rather than bone and muscle. The potatoes should be boiled or steamed until they form a mealy mash, which should be mixed with some other feed, such as corn meal, shorts or bran. Only enough water should be added in the cooking to prevent burning and to make a thick mash. While some potatoes may be fed raw, to add succulence to the ration they should be given only at intervals and in small quantities. Too many are likely to cause scours.—Alvah H. Pulver, N. Y.

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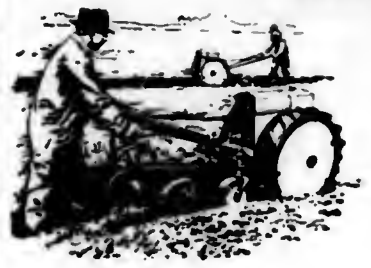

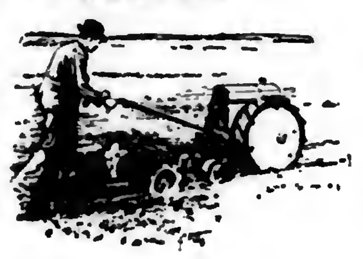

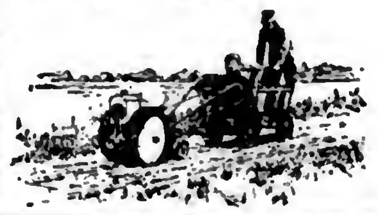

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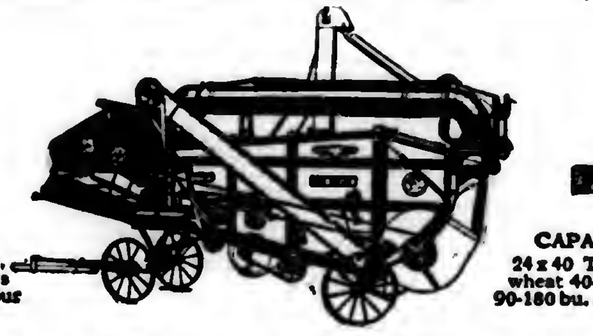

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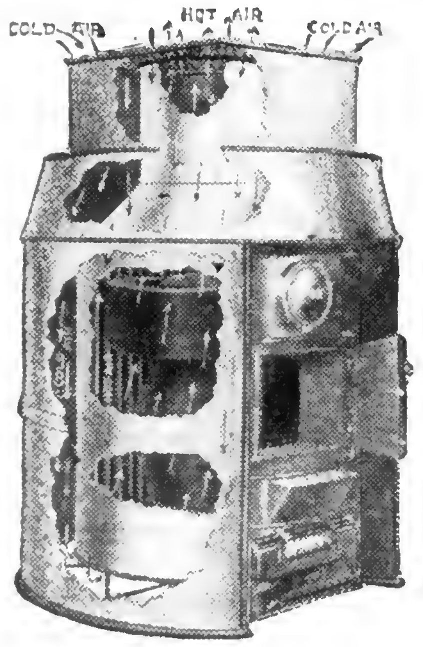

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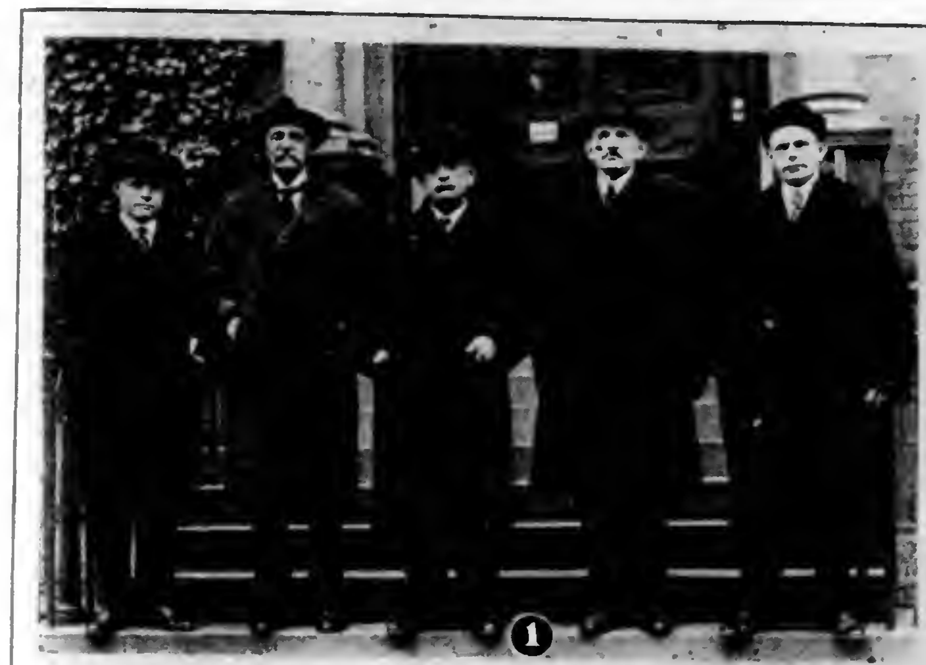

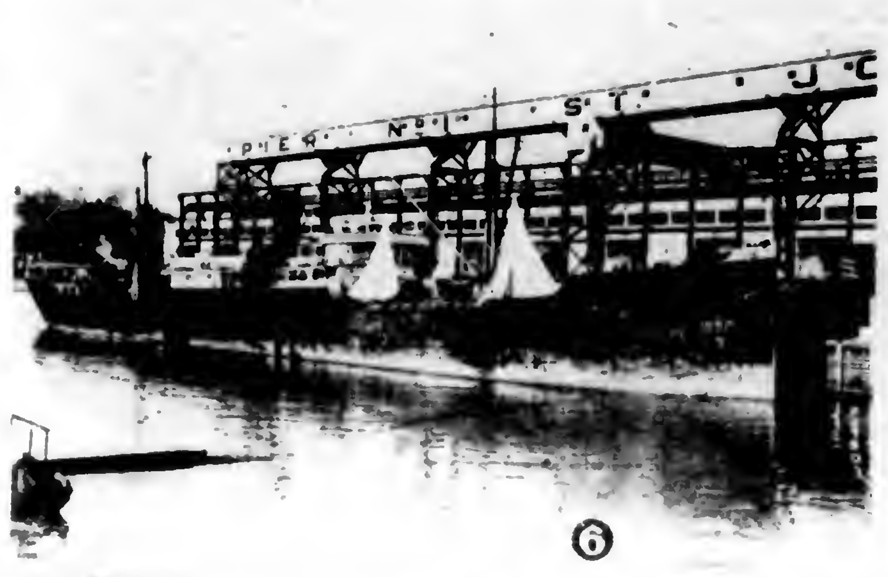

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1.—Members N. B. F. O. Left to Right, W. I. Drummond, International Farm Congress; Gifford Pinchot, a Director of the N. B. F. O.; C. S. Barrett, Chairman, and Chairman of the Farmers' Union; R. A. Cooper, Pres. of the Dairymen's League; J. B. Houston, Sec.-Trea. Am. Society of Equity.

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PLEASE say: "I saw your adv. in Pennsylvania Farmer."

KEZIAH COFFIN

By JOSEPH C. LINCOLN

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(Continued from Last Week.)

"'Good-by, Nat,' she says. 'We've had a nice day, haven't we?'

"'We have, for a fact,' I says. 'But what are you sayin' good-by for?'

"'Because I'm not goin' to Trumet with you, says she. 'I'm goin' to the city. I've got some business to see to there. Good-by.'

"I was set back, with all my canvas flappin'. I told her I'd go to Boston with her and we'd come home to Trumet together tomorrow, that's today. But she said no. I must come here and ease your mind and Grace's. I must do it. So at last I agreed to, sayin' I'd see her in a little while. She went on the up train and I took the down one. Hired a team in Sandwich and another in Bayport and got to the tavern about eleven. That's the yarn. And here's your note. Maybe it tells where she's gone and why."

The minister took the note and torn open the envelope. Within was a single sheet of paper. He read a few lines, stopped, and uttered an exclamation.

"What's the matter?" asked the captain.

Ellery did not answer. He read the note through and then, without a word, handed it to his friend.

The note was as follows:

"Dear John:

"I am going away, as I told you I would if he came. He is coming. Tuesday I got a letter from him. It was written at Kingston, Jamaica, almost three months ago. I can't think why I haven't got it sooner, but suppose it was given to some one to mail and forgotten. In it he said he was tired of going to sea and was coming home to me. I had money, he said, and we could get along. He had shipped aboard a brig bound for Savannah, and from there he was going to try for a berth on a Boston-bound vessel. So I am going away and not coming back. I could not stand the disgrace and I could not see him. You and Grace won't need me any more now. Don't worry about me. I can always earn a living while I have my strength. Please don't worry. If he comes tell him I have gone you do not know where. That will be true, for you don't. I hope you will be very happy. I do hope so. Oh, John, you don't know how I hate to do this, but I must. Don't tell Nat. He would do something terrible to him if he came, and Nat knew. Just say I have been called away and may be back some time. Perhaps I may. Love to you all. Good-by.

"Yours truly,

"Keziah Coffin."

The captain stared at the note. Then he threw it to the floor and started for the door. The minister sprang from his shair and called to him.

"Nat," he cried. "Nat! Stop! where are you going?"

Hammond turned.

"Goin'?" he growled. "Goin'? I'm goin' to find her, first of all. Then I'm comin' back to wait for him."

"But you won't have to wait. He'll never come. He's dead."

"Dead? Dead? By the everlastin'! this has been too much for you. I ought to have known it. I'll send the doctor here right off. I can't stay myself. I've got to go. But—"

"Listen! listen to me! Ansel Coffin is dead, I tell you. I know it. I know all about it. That was what I wanted to see you about. Did Keziah tell you of the San Jose and the sailor who died of smallpox in this very building? In that room there?"

"Yes, John, you——"

"I'm not raving. It's the truth. That sailor was Ansel Coffin. I watched with him and one night, the night before he died, he spoke Keziah's name. He spoke of New Bedford and of Trumet and of her, over and over again. I was sure who he was then, but I called in Ebenezer Capen, who used to know Coffin in New Bedford. And he recornized him. Nat, as sure as you and I are here this minute, Ansel Coffin, Aunt Keziah's husband, is buried in the Trumet cemetery."

CHAPTER XXI

In Which Mr. Stone Washes His Hands

Mr. Abner Stone, of Stone & Barker, marine outfitters and ship chandlers, with a place of business on Commercial Street in Boston, and a bank account which commanded respect thruout the city, was feeling rather irritable and out of sorts. Poor relations are always a nuisance. They are forever expecting something, either money—in Mr. Stone's case this particular expectation was usually fruitless—or employment or influence or something. Mr. Stone was rich, he had become so by his own ability and unaided effort. He was sure of that—often mentioned it, with more or less modesty, in the speeches which he delivered to his Sunday school class and at the dinners of various societies to which he belonged. He was a self-made man and was conscious that he had done a good job.

Therefore, being self-made, he saw no particular reason why he should aid in the making of others. If people were poor they ought to get over it. Poverty was a disease and he was no doctor. He had been poor once himself, and no one had helped him. "I helped myself," he was wont to say, with pride. Some of his rivals in business, repeating this remark, smiled and added that he had been "helping himself" ever since.

Mr. Stone had "washed his hands" of his cousin, Keziah Coffin, or thought he had. After her brother Solomon died she had written to him, asking him to find her a position of some kind in Boston. "I don't want money, I don't want charity," wrote Keziah. "What I want is work. Can you get it for me, Abner? I write to you because father used to tell of what you said to him about gratitude and how you would never rest until you had done something in return for what he did for you."

Captain Ben Hall's kindness was the one thing Mr. Stone forgot when he said no one had ever helped him. He disliked to be reminded of it. It was a long while ago and the captain was dead. However, being reminded, he had called upon a friend in the tailoring line and had obtained for Keziah the place of sewing woman. She decided to become housekeeper at the Trumet parsonage and so notified him. Then he washed his hands of her.

But now he was compelled to soil them again. Keziah had appeared at his office, without warning, and demanded that he find her a position. "Demanded" was the proper word. Certainly she had not begged. She seemed to feel that her demand was right and proper, and his acceding to it the least he could do.

"What a fine place you've got here, Abner!" she said, inspecting the office and the store. "I declare it's finer than the one you had when you first went into business, afore you failed. I wish father could have lived to see it. He'd have realized that his judgment was good, even tho his investment wasn't."

Captain Hall had invested largely in that first business, the one which failed. Mr. Stone changed the subject. Later in the day he again sought his friend, the tailor, and Keziah was installed in the loft of the latter's Washington Street shop, beside the other women and girls who sewed and sewed from seven in the morning until six at night. Mr. Stone had left her there and come away, feeling that an unpleasant matter was disposed of. He had made some inquiries as to where she intended staying, even added a half-hearted invitation to dinner that evening at his home. But she declined.

"No, thank you, Abner," she said, "I'm goin' to find a boardin' place and I'd just as soon nobody knew where I was stayin', for the present. And there's one thing I want to ask you: don't tell a soul I am here. Not a soul. If anyone should come askin' for me, don't give any satisfaction. I'll tell you why some day, perhaps. I can't now."

This was what troubled Mr. Stone as he sat in his office. Why should this woman wish to have her whereabouts kept a secret? There was a reason for this, of course. Was it a respectable reason, or the other kind? If the latter, his own name might be associated with the scandal. He wished, for the fiftieth time, that there were no poor relatives.

A boy came into the office. "There is some one here to see you, Mr. Stone," he said.

"Who is it?"

"Who is it?"

"I don't know, sir. Looks like a seafaring man, a sea captain, I should say—but he won't give his name. Says it's important and nobody but you'll do."

"Humph! All right. Tell him to wait. I'll be out in a minute."

Sea captains and ship owners were Stone & Barker's best customers. The senior partner emerged from the office with a smile on his face.

"Ah!" he said, extendng his hand. "Glad to see you, Captain—er——"

"Hammond," replied the visitor. "Same to you, Mr. Stone."

"Fine weather for this time of year."

"Fine enough, Mr. Stone."

"Well, Captain Hammond, what can we do for you? Going to sail soon?"

"Not right away. Just made port less'n a week ago. Home looks good to me, for a spell, anyhow."

"So? Yes, I have no doubt. Let me see—where is your home, captain? I should remember, of course, but——"

"Don't know why you should. This is my first trip in your latitude, I guess. My home's at Trumet."

"Trumet?" Mr. Stone's tone changed.

"Yes. Trumet, down on the Cape. Ever been there? We think it's about as good a place as there is."

"Hu-u-m! Trumet? Well, Captain Hammond, you wished to see me, I understand."

"Yes. Fact is, Mr. Stone, I want to ask you where I can find Mrs. Keziah Coffin. She's a relation of yours, I b'lieve, and she's come to Boston lately. Only yesterday or the day afore. Can you tell me where she is?"

"Why do you wish to see her?"

"Oh, for reasons, personal ones. She's a friend of mine."

"I see. No, captain, I can't tell you where she is. Good morning."

Captain Nat was grealy disappointed.

"Hold on there, just a minute," he begged. "This is important, you understand, Mr. Stone. I'm mighty anxious to find Kezi—Mrs. Coffin. We thought, some of her friends and I, that most likely you'd know where she way. Can't you give us any help at all? Hasn't she been here?"

"Good morning, Captain Hammond. You must excuse me, I'm busy."

He went into the office and closed the door. Captain Nat rubbed his forehead desperately. He had been almost sure that Abner Stone would put him on Kesiah's track. Grace had thought so, too. She remembered what the housekeeper had told concerning her Boston cousin and how the latter had found employment for her when she contemplated leaving Trumet, after her brother's death. Grace believed that Keziah would go to him at once.

Nat walked to the door and stood there, trying to think what to do next. A smart young person, wearing a conspicuous suit of clothes, aided and abetted by a vivid waistcoat and a pair of youthful

promising side whiskers, came briskly along the sidewalk and stopped in front of him.

"Well, sir?" observed this person, with cheerful condescension. "Anything I can do for you?"

Captain Nat turned his gaze upon the side whiskers and the waistcoat.

"Hey?" he queried.

"I say, is there anything I can do for you?"

The captain shook his head. "No-o," he drawled dryly, "I'm afraid not, son. I admit that don't seem scarcely possible, but I am afraid it's so."

"Looking for something in our line, was you?"

"Well, I don't know. What might be on your line—clothes?"

The bewhiskered one drew himself up. "I am connected with Stone & Barker," he said sharply. "And, seeing you standing in our doorway, I thought possibly——"

"Yes, yes. Beg your pardon, I'm sure. No, I don't want to buy anything. I come to see Mr. Stone on a personal matter."

"He's busy, I suppose."

"So he says."

The young man smiled with serene satisfaction. "I'm not surprised," he observed complacently. "We are a busy house, Mr.—er——"

"Hammond's my name. Are you Mr. Barker?"

"No-o, my name is Prince."

"So? Silent partner in the firm, hey?"

"No-o, not exactly. Mr. Prince was slightly embarrassed. "No, I am a—a salesman—at present. Was the matter you wished to see Mr. Stone about a very private one?"

"Middlin'."

"Well, I asked because Mr. Stone is a busy man and we like to save him all the—the——"

"Trouble you can, hey? That's nice of you, you must save him a lot, Mr.—er—King, was it?"

"No, Prince."

"Sure and sartin', Prince, of course. I knew 'twas connected with the royal family. Well, Mr. Prince, I'm afraid even you can't help me nor him out this time. I'm lookin' up a friend of mine, a widow lady from down the Cape. She's a relation of Mr. Stone's, and she's come to Boston durin' the last day or so. I thought likely he might know where she was, that's all. That would be a little out of your latitude, hey?"

"I don't know. Her name wasn't Coffin, was it?"

Captain Nat started. "It certainly was," he answered eagerly. "How did you know that?"

Mr. Prince's complacence was superb. "Oh," he answered with condescension, "Mr. Stone trusts me with a good many of his personal affairs."

"I should think likely he would. But about Mrs. Coffin? You was goin' to say?"

"She is with James Hallett & Co., the tailors, on Washington Street. Mr. Stone found a place for her there, I believe. I—er—er—superintended the carrying of her valise and— What?"

"Nothin', nothin'. Hum! Hallett & Co., tailors? What number Washin'ton Street did you say?"

Mr. Prince gave the number.

"Thank you a lot," said Captain Nat, with fervor. "Good-by, Mr. Prince. Hope the next time I come you'll be in the firm. Good day, sir."

"Good day. Nothing else I can do? And you won't wait for Mr. Stone? Very good. Is there any message for him that you would like to leave?"

"Hey?" Nat had started to go, but but now he paused and turned. There was a grim twinkle in his eye. "Message?" he repeated. "Why, yes, I don't know but there is. You just give Mr. Stone Cap'n Hammond's compliments and tell him I'm lookin' forward to interviewin' him some time. Just tell him that, will you?"

"I'll tell him. Glad to have met you, Captain Hammond."

The captain nodded solemnly. "So, Mr. King," he said, "you ain't half so glad as I am."

Mr. Prince strutted into the store.

"Who was that chap you were talking with?" asked a fellow-clerk.

"Oh, a hayseed who wanted to see the old man. Poor relation, I guess. I headed him off. Stone is always telling us that time is money, so I saved both of 'em for him. He ought to thank me. Woudn't be surprised if I got the raise I've been asking for."

Mr. Prince did not get the raise, nor the thanks. But he was surprised.

In the workshop of Hallett & Co., Keziah sat sewing busily. The window near her was closed, stuck fast, and through the dingy panes she could see only roofs and chimneys. The other women and girls near her chatted and laughed, but she was silent. She did not feel like talking, certainly not like laughing. The garment she was at work on was a coat, a wedding coat, so the foreman had told her, with a smile; therefore she must be very particular.

She wondered idly whose coat it might be and who its future wearer was to marry. This reminded her of the minister and Grace. They would be happy now, her talk with Nat had assured her of that, and they, too, would be married one of these days. But she would not attend the wedding. She wondered what John had said when he read her note. He and Grace would be sorry for her, of course; but there was nothing they could do to help. No one could help her, no one. Perhaps by this time the man she had run away from had reached Trumet and her secret was known. How Didama and the rest would spread the tale! How Captain Elkanah and Annabel would sneer and exult! They hated her because she was the minister's friend. And Nat, poor fellow, what would he do? Well, at least he would understand now.

The narrow stairway leading up to the workshop ended in a little boxed in room where she finished garments were hung to await the final pressing. From behind the closed door of this room came the sound of voices, apparently in heated argument. One of these voices was that of Larry, the errand boy. Larry was speaking shrilly and with emphasis. The other voice was lower in key and the words were inaudible.

"No, sir, you can't," declared Larry. "You can't I tell you. The boss don't let nobody in there and—Hold on! Hold on!"

The other voice made a short but evidently earnest answer. Larry again expostulated. The workers looked up from their sewing. The door opened and Larry appeared, flushed and excited.

"Where's Mr. Upham?" he demanded. "Mr. Upham!"

Upham was the foreman of the workroom. At the moment he was downstairs in conversation with the head of the house. A half dozen gave this information.

"What's the matter? Who is it?" asked several.

"I don't know who 'tis. It's a man and he's crazy, I think. I told him he couldn't come in here, but he just keeps a'comin'. He wants to see somebody named Coffin and there ain't no Coffins here."

Keziah bent lower over the wedding coat. Her hand shook and she dropped the needle.

"I told him we didn't keep Coffins," declared Larry. "This ain't no undertaker's. Where's Mr. Upham?"

Keziah's nearest neighbor leaned toward her.

"I guess it's somebody to see you," she said. "Your name is Coffin, ain't it?"

"No, no. That is, it can't be anybody to see me. I don't want to see anybody. Tell him so, whoever it is. I can't see anybody. I—Nat!"

He stood in the doorway, beckoning to her.

"Keziah," he said, "come here. I want you. I'll tell you why in a minute. Come!"

She hesitated. In a measure she was relieved, for she had feared the man at the door might be her husband. But she was greatly agitated and troubled. Everyone in the place was looking at her.

"Nat," she said, trying to speak firmly, "I can't see you now. I'm very busy. Please go away."

"Come!"

"I can't come. Go away. Please!"

"Keziah, I'm waitin'. And I'm goin' to wait if I stay here all night. Come!"

She obeyed then. She could not have a scene there, before all those strangers. She stepped past him into the little room. He followed and closed the door.

"Nat," she said, turning to him, "why did you come? How could you be so cruel? I——"

He interrupter her, but not with words. The next moment his arms were about her and she was pressed tight against the breast of his blue jacket.

"Kesiah," he whispered, "I've come to take you home. Home for good. No, stay where you are and Ill tell you all about it. Praise be to God! we're off the rocks at last. All that's left is to tow you into port and, by the everlastin', that's what I'm here for!"

When Upham came up the stairs after his long interview with "the boss," he found the door at the top closed. When he rattled the latch that door was opened by a stranger.

"Are you Mr. Hallett?" asked Captain Nat briskly.

"No, I'm not. Mr. Hallett is in his office on the first floor. But what——"

"On the main deck, hey? Well, all right; we won't trouble him. You'll do just as well; I judge you're one of the mates of this craft. You tell Mr. Hallett that this lady here has decided not to cruise with him any longer. No fault to find, you understand, but she's got a better berth. She's goin' to ship along with me. Ain't that so, Keziah?"

Keziah, pale, trembling, scarcely realizing the situation even yet, did not speak. But Captain Nat Hammond seemed to find his answer in her silence. A few minutes later, her arm in his, they descended the gloomy, dusty stairs, and emerged into the sunshine together.

That afternoon Mr. Abner Stone again "washed his hands" of his poor relation—this time, as he indignantly declared, "for good and all."

CHAPTER XXII

In Which Keziah's Parson Preaches Once More

Time has wrought many changes in Trumet. The packet long since ceased to ply between the village and Boston, the stage has been superseded by the locomotive, the old "square riggers," commanded by Cape Cod men, no longer sail the seas. Along the main road the houses have changed hands. Didama Rogers peers no more from her parlor window; that parlor is now profaned by the frivolous and irreverent summer boarder. But the old residents love to talk of the days that are gone and if you happen to catch Mr. Isaac Higgins, now postmaster and a dignified member of the board of selectmen, in a reminiscent mood he will very likely tell you of the meeting of the parish committee called by its chairman, Elkanah Daniels, to oust the Rev. John Ellery from the pulpit of the Regular Church.

"I'll never forget," says Mr. Higgins, "that parish committee meetin' if I live a thousand year. I, and two or three other young shavers, was hid in the little room off the vestry—the room where they kept the dishes they used for church suppers—and we heard the whole business. Of course nobody knew that Nat was goin' to marry Keziah then, but they did know that he wa'n't going to marry Grace Van Horne, and had given her up to the minister of his own accord. So Daniels's guns was spiked and he didn't stand no chance at all. However, you'd never have guessed it to look at him. He marched into that meetin' and up to the patform as stiff and dignified as if he'd swallered a peck of starch. He called the meetin' to order—'twas a full one, for all hands and the cook was there—and then got up to speak.

"He opened fire right off. He raked John Ellery fore and aft. The parson, he said, had disgraced the society and his sacred profession and should be hove overboard at once. 'Twas an open secret, he said. Everybody knew how he, minister of a Reg'lar Church, had been carryin' on with a Come-Outer girl, meetin' her unbeknownst to anyone, and so on. As he got warmed up on this subject he got more bitter and, tho he didn't come out open and say slanderous things, his hints was as nigh that as a pig's snout is to his squeal. Even thru the crack of the dish-closet door I could see the bristles risin' on the back of Cap'n Zeb Mayo's neck.

(Continued Next Week.)

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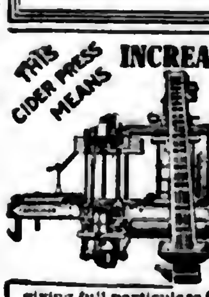

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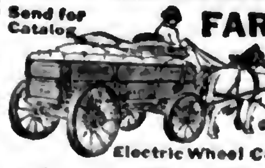

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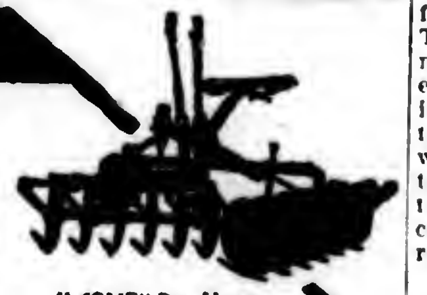

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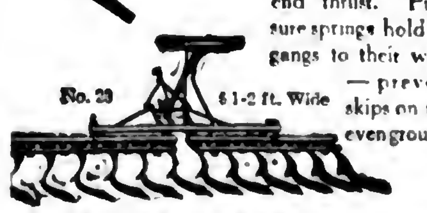

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GROOMING THE TRACTOR FOR SPRING WORK

(Continued from Page 1.)

gether. Mark especially how timing gears are set with the crankshaft gear. If these are replaced with only one tooth out of position the whole machine will be thrown out of time. This results in loss of power and many other troubles.

If the engine has a removable head it is a fairly simple matter to scrape out all carbon deposits which may have collected. In case the head is not removable it may be a good plan to wait until the engine is again assembled. Then run it until it is quite warm, pour about one quarter pint of wood alcohol into each cylinder and allow it to stand for a few hours. When started again, all the carbon will be blown out.

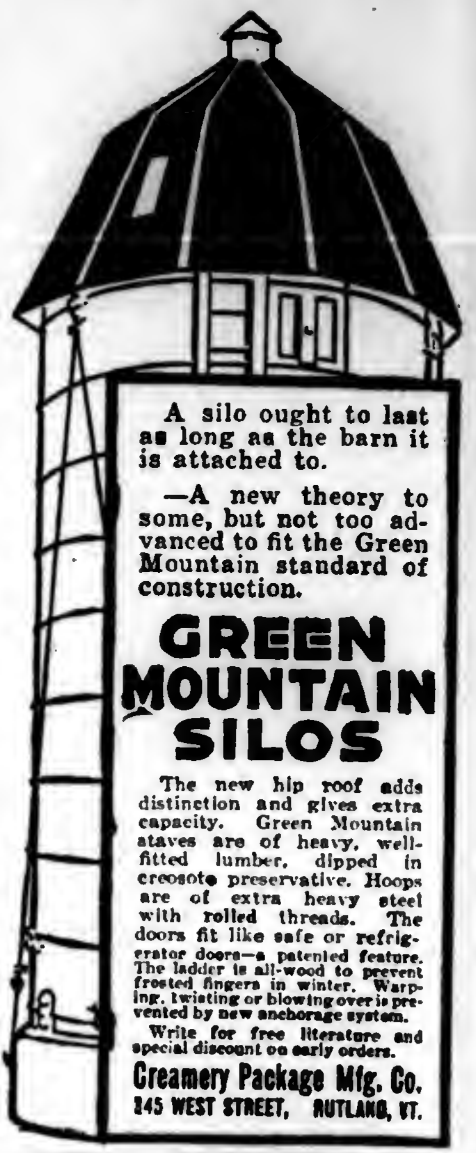
Remove pistons from the cylinders and examine rings. If these show signs of much wear and show loss of elasticity they should be replaced; but in replacing, exercise care that they fit perfectly and do not bind. When replacing pistons in the cylinder, cover both piston and cylinder with a film of good oil. Leaky piston rings may be discovered by placing the ear at some port in the crankcase and having the engine slowly turned over. If a hissing sound is heard within the crankcase some rings are no longer functioning.

Valves should be properly ground and cleaned. The usual way to determine leaky valves is to place the ear, first at the intake manifold, turn the engine over and listen for escaping gas and then repeating the same performances for the exhaust valves with the ear at the opening in the exhaust manifold. In grinding valves use some good commercial preparation which may be secured from any first class dealer. First remove the valve and clean it, making sure that it moves easily in the guide. Then apply a little of the coarse compound found in the box. Using a screwdriver with but very little pressure exerted upon it, oscillate the valve in its seat thru one quarter turn for ten times; raise slightly and turn one half way around; reseat and oscillate again thru one quarter turn, ten times, repeating this until a bring ring appears completely around the valve. This ring need not be more than one thirty-second of an inch wide. Now clean both valve and seat thoroly with kerosene and apply some of the fine compound which will be found in the other end of the same box. Repeat the same process until a highly polished surface is secured. Then clean thoroly with kerosene and replace the valve in its seat, but being sure to give a clearance of approximately one sixty-fourth inch between the valve stem and push rod when valve is completely closed.

The connecting rod bearings and main bearings should next receive attention. Shims or liners will be found between each set of bearings. These are very thin and may be removed one at a time until the proper adjustment is made. These bearings should be tightened up until there is absolutely no side motion when nuts are drawn down very tight. But care must also be taken that none of them bind for in this case a burned bearing will probably result.

Next, trace out the oil lines from the source of oil to the place where it is used and note carefully whether all pipes permit a free flow. This is likewise important because improper lubrication is fatal to the internal workings of a gas engine.

After all of these things have been attended to the reassembling of the machine may be undertaken. Use care that every part is placed in position and that all nuts, screws, studs, etc., are drawn up tight. Upon completion of assembling, allow the motor to run slowly for some time until it is "broken in" again. Many minor details have been entirely overlooked and neglected in this article which should be attended to. Some of these are the proper opening and cleaning of all oil holes, tightening up of steering gear and brakes, cleaning off the accumulated incrustation of ground and grease, all of which things should be apparent without the need of calling special attention to them.



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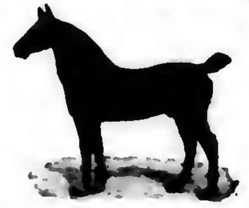

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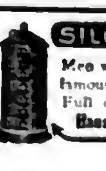

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Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., March 22, 1920

Supplies of potatoes have continued extremely light ever since our last report, and as there has been a very good demand there are but very few for sale in Philadelphia. At this writing the market is very excited and extremely high prices are prevailing. Pennsylvania potatoes have been selling at $5.65@5.85 per cwt., and some of the receivers have been asking and getting in a small way as high as $6 per cwt. New York state potatoes have sold at $5.50@5.75 per cwt. and Maryland and Delaware Hoslers are bringing $5.50 per cwt., with redskins at $4.75@5. Just how long these extremely high prices will prevail in a question. It is the general belief that there are still quite a few potatoes left in the country but that owing to bad roads and poor hauling conditions the holders have been unable to get them to market. Should supplies continue light like they have been during the past several days high prices will continue, but if with the better hauling conditions supplies should increase as they are expected to do, somewhat lower prices will undoubtedly prevail. Sweet potatoes have also been doing better under lighter supplies. Eastern Shore stock is now selling at $2.25@2.40 per hamper for No. 1 and $1.25@1.40 for No. 2s. Nearby New Jersey sweet potatoes are selling at $1.50@2 per ⅝ basket for primes with No. 2's at 90c@$1.15 per ⅝ basket.

Vegetables

The supplies of asparagus have not been as plentiful as we had expected them to be, and for this reason the market is still ruling about the same as last week $5@15 per dozen bunches on the California asparagus, with no southern asparagus having as yet made it appearance altho shipments may soon be expected. Artichokes are bringing high prices, a car selling this morning at $8.25 per box and $14 per drum. There is but very little change to note in the market on green and wax beans. Supplies are still light and most green beans are selling around $5@8 per hamper with some fancy up to $10, while the wax beans range from $4@6.50 per hamper, they are not showing up as good as the green ones. The strong active demand prevailing on old beets from Pennsylvania and New Jersey points has been satisfied, and the market is much lower with best beets now selling at $3@3.50 per barrel with poor ones at $2@2.50. New beets are also somewhat lower at 4@6c per bunch. Brussel sprouts are scarce but as they are arriving in poor condition low prices are prevailing ranging from $5@9 per drum. The old cabbage season is winding up quite strong at $80@100 per ton. The new cabbage market has taken a sharp advance during the past week and today hampers are selling at $3@3.50 and crated stock at $6@6.50. Washed carrots from nearby Pennsylvania and New Jersey points are very strong and active under the light supplies at $5@7.25 per barrel, while a car of New York state rough carrots sold here this morning at $5.50 per barrel. Some new carrots from the south are arriving and selling at 4@5c per bunch. Cauliflower is a little lower than it was a week ago at $2.50@2.75 per crate for the green stock, with poor yellow selling down to $1.75 per crate. Celery is very firm on fancy stock and a trifle higher than last week with best bringing $4.25@4.75 per crate and poor and smaller $3.50@4, and green at $3 per crate. Chickory has been in light supply and selling around $2.25@2.50 per hamper and $5@5.50 per crate or box. Cucumbers continue scarce, the only supplies being hothouse grown which are selling at $1.50@2.50 per dozen. Egg plants also continue very scarce and when fancy sell around $6@6.50 per crate with poorer on down to $4@5 per crate. Horseradish from nearby New Jersey and Pennsylvania points is increasing in supply and the market is a trifle easier at 20@30c per pound, and it is believed that these prices can not long prevail as supplies increase. The Norfolk kale season has opened again, one car selling here this morning at mostly $3.25 per barrel. Lettuce has been very plentiful during the past week and the market is again in very poor shape with Florida stock selling at 75c@$1.25 per hamper and the western iceberg lettuce at $1@2.25 per crate. Lima beans are in light supply but they are not in very strong demand at $6@7 per hamper. The market on onions is much higher than it was a week ago as they sold today at $6.75@7 per 100 lb. sack for No. 1s, with the No. 2's at $5 per sack. Onion sets are also very strong and higher the nearby sets being wanted at $5 per bushel with the western around $3.75@4.25 per bushel. Mushrooms took a little spurt and sold up to $2 per 3 lb. basket, but they have again gone back to their former value of $1.25@1.75 per 3 lb. basket. Parsley has been in light supply and the market has advanced one straight car selling here this morning at $8@8.50 per barrel which is $2@2.50 per barrel higher than a week ago. Peas are a little more plentiful and selling at $7@7.50 per drum and $5@6 per box for the Californias with some southern in hampers at $3. Peppers continue very scarce and the few that are arriving are selling at from $4@8 per crate. Romaine has been scarce and selling up to $2.50 per hamper, but at the present writing it is a little more plentiful and selling around $1.50@2.25 per hamper. Hot house radishes are in good active demand at 5@6c per bunch. Hothouse rhubarb is much higher than it was a week ago. Some real fancy has sold up to $1.50 per bundle, but the most sales are from $1.20@1.40 on fancy and 65@90c on choice. Spinach is again scarce and selling at high prices one car from Texas selling here this morning at $2.75 per bushel. One car of Norfolk spinach was here the last week and sold at $3.50@4.50 per barrel, and supplies from this section will soon be quite plentiful. There is very little change to be noted in the tomato market. Most supplies are extremely poor green and too hard to sell at any price one car very poor and small ones selling here this morning at 25c per crate while good stock is readily worth $1 per crate. Hot house tomatoes are still bringing from 20@[illegible] per pound as to condition. [illegible] and New Jersey parsnips are more [illegible] and the market is decided lower than it was a week ago, and the prospects are that it will go still lower, the sales at this writing ranging from $4.75@5.75 per barrel. There is practically no change in the market on nearby turnips, the whites still selling at 65c@$1.10 per ⅝ basket and the Pennsylvania yellow turnips at $1.10@1.40 per ⅝ basket. The eastern shore rutabagas are also unchanged at $3.25@3.75 per barrel. Watercress is firm and higher under the lighter supplies and brings around 4@5c per bunch.

Fruits

The apple market is showing very little change. Strictly fancy apples are in good active demand at good prices, while the poorer apples and fruit showing scald sells at lower values as to condition. Baldwins sold here this morning at $5@9 per barrel mostly with a few very fancy at $9.50; Ben Davis brought from $5@7; Greenings, $5@8.50; Winesaps, $5@8.50; and Spys from $5@7, while Russets are bringing from $5@7. These varieties are about the only ones left at this season of the year. Far western box apples are ranging from $1.50@4.25 per box as to quality, condition and size. There was another car of open crate strawberries, (the second of the season) here this morning, which sold at 50@60c per quart. Cranberries remain unchanged at $3@7 per barrel, but the movement is extremely slow and draggy. A car of pineapples was being sold here today at $4@9 per crate.

Poultry

Under continued light supplies the market on live poultry is ruling firm, active, and quite a little higher. Fancy heavy fowls are now selling at 45@47c per pound with smaller sizes at 38@44c per pound. Average soft meated roasting chickens are bringing 42@44c per pound, with the poorer grades 38@40c. Broiling chickens are wanted at 55@60c per pound, while old roosters are steady at 30@32c. Ducks are showing the wide range of 30@46c as to variety, the white pekins bringing the outside prices, while the muscovys sell at the lower range.

Eggs

Supplies of eggs are only moderate for this season of the year, and under a strong consumptive demand the market has been cleaning up quickly from day to day, and prices have been showing an advancing tendency for the past few days, so that at this writing the market is 2½c per dozen higher than was prevailing a week ago when we made our last report. Today sales of Pennsylvania and other nearby current receipts were made at 48c per dozen with firsts at 49c; Western firsts brought 47c, and Western extra firsts, 48c. Southern eggs are bringing from 45@46c per dozen.

LANCASTER PRODUCE MARKET

Lancaster, Pa., March 22, 1920

Spring found the markets here today offering an abundance of produce in the face of big demands, and a large volume of business was reported. Prices were steadily maintained at last week's figures, altho eggs fell as low as forty-three cents a dozen, the lowest since last summer. Apples were scarce. The quotations:

Butter and Eggs.—Creamery butter, 80@85c per pound; country butter, 70@75c per pound; fresh eggs, 43@45c per dozen; duck eggs, 55c per dozen; goose eggs, 6@7c each.

Poultry.—Dressed old chickens, $2.25@2.50 each; dressed young chickens, $1.75@2.10 each; no live fowls offered.

Vegetables.—Spinach, 20c per half peck; turnips, 15c per ½ peck; potatoes, 30@40c ½ pk.; do., $2.70@3 per bu.; sweet potatoes, 35c per ½ pk.; cabbage, 10@20c hd.; cauliflower, 10@20c per head; lima beans, 10@15c per quart; lettuce, 15@25c per head.

Fruit.—Apples, 30@40c per half peck.

Grain Market.—Wheat, $2.20 per bu.; corn, $1.25; oats, 85c. Timothy hay, $31 per ton; mixed hay, $30.

YORK PRODUCE MARKET

York, Pa., March 22, 1920

Markets still continue unsettled. Weather conditions make the attendance of the farmers very uncertain; hence prices are up and down continually. The last market of last week eggs were as low as 38c while this week they are moving readily at 45c per dozen. On the other hand butter of good quality goes begging at 65 and 70c while some are receiving 80c.

Eggs.—42@48c per dozen.

Butter.—Country, 60@70c lb.; separator, 70@80c pound; milk, 13c quart.

Poultry.—Hens, 28@32c pound; dressed, $1@2.75 each.

Vegetables.—Potatoes, 24@40c ½ peck; $2.25@2.50 per bu.; cabbage, 5@20c head; lettuce, 15@25c head; onions, 5c bunch; beets, 5c box; radishes, 5c bunch; lima beans, 35@40c quart; soup beans, 20@30c quart; celery, 5@15c a stalk; turnips, 20c ½ peck; apple butter, 45@50c quart; sausage, 32@38c pound; pudding, 30c pound; steak, 40@45c pound; bone meats, 30@34c pound; lard, 30@32c pound; hogs, 20@21c pound.

Fruit.—Apples, Yorks, 30@50c ½ peck; Stayman, 60@80c ½ peck; common stock, and un-colored, 40@50c ½ peck.

Retail Grain Market.—Wheat, $2.75; corn, $2; rye, $1.75; oats, $1.10; bran, $3 per cwt.; middlings, $3.35 per cwt.

Wholesale Grain Market.—Wheat, $2.50; corn, $1.50; rye, $1.45; oats, 95c; bran, $56 per ton; middlings, $55@65 per ton.

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BALTIMORE PRODUCE

Fresh country butter quotations decreased 1½c a pound wholesale here Saturday afternoon, following the ruling of the Western markets. Under the new prices prints were listed at 74c to 74½c, and tub butter at 73c to 73½c. The market for fresh select eggs was firm, altho prices for those at mark were lower on account of the loss caused by candling. At the produce yards and wholesale districts general buying of foodstuffs was only fair last week. Receipts were moderate in most lines. The potato market was very firm and shipments light, prices having increased about 50c a sack. [illegible] Wheat, No. 3 red winter garlicky $2.60. Corn, No. 3 or better for domestic delivery $1.70@1.71. Oats No. 2 white $1.03½; No. 3 $1.01½. Rye near [illegible] to quality $1.60@1.75.

NEW YORK PRODUCE

New York City, March 22, 1920

Butter.—Firm; receipts, 4,947 tubs; creamery, higher than extras, 69@69½c; extra (92 score), 68½c; firsts, (88 to 91 score), 64@68c; packing stock, current make, No. 2, 39½c.

Eggs.—Firmer; receipts, 10,179 cases; fresh-gathered extra firsts, 49½@50c firsts, 47½@49c; state, Pennsylvania and nearby western hennery white, first to extra, 54@60c; do., brown extra, 54@55c; do. gathered brown and mixed colors, first to extra, 47½@52c.

Cheese.—Firm; receipts, 854 boxes; state, whole milk, flats, held specials, 30@31c; do., average run, 28@29c; state, whole milk, twins, held, specials, 29@30c; do., average run, 27½@28½c.

Poultry.—Live, firm; fowls, 44c; chickens, 35@38c; roosters, 26c; turkeys, 45c; dressed, dull; western chickens, broilers, frozen, 39@51c; do., fowls, 29@38c; roosters, 27@28c; spring turkeys, 51@55c.

Vegetables.—Potatoes, Maine, $5@5.50; per cwt.; Long Island, $9@10 per 165-lb. Beets, $3.50@4.50 per barrel. Carrots, $3.50@4; onions, $5@7 per 100-pound bag.

Fruit. — Apples. — Ben Davis, $4@5.75; Winesaps, $4@9; Greenings, $4@10.

PITTSBURGH PRODUCE

Pittsburgh, Pa., March 22, 1920

Butter.—Prints, 74@74½c; Tubs, 73@73½c; cooking, 54½@55½c; Ohio, 68@68½c.

Cheese.—New York full cream, 36½@37c. Ohio, 35@35½c; Wisconsin Swiss, 60@61c; Philadelphia cream, $1.00 per dozen.

Eggs.—Fresh, select, 49@50c; at mark, 44@45c.

Potatoes.—Round, $8.75@9 per 150-lb. sacks. Onions, $6.50@7.50 sack. Cabbage, 5@6c head. Sweet potatoes, $2.50@2.65 hamper. Turnips, $2.25@2.50 bushel.

Fruit.—Apples, $3@5 box.

PHILADELPHIA LIVE STOCK

Philadelphia, Pa., March 22, 1920

Receipts of live stock for week ending March 20, were as follows:

	Beef Cattle	Sheep and Lambs	Hogs
Total for Week	2,137	3,245	9,350
Previous Week	2,108	2,961	9,769

Calves.—Receipts of calves last week were 1,088 head against 1,249 head week previous.

Beef Cattle.—Offerings of desirable stock were light and values were well maintained, with prices of veal slightly higher. We quote: Steers, fair to good, $12.50@14; common to fair, $10.75@12.50; cows, per lb., good to choice, corn fed, 8@9½c; fair to good, 6@8c; common to fair, 4@6c; calves, extra to choice, $22.50@23; do. heavy to good, $16.50@19.50; do. common, $13.50@15.50; do., heavy and rough, $8.50@11.50. Tennessee, $16.50@18.50; other southern, $9.50@14.50.

Sheep and Lambs.—The market for sheep and lambs of desirable quality ruled firm, with demand absorbing the offerings of this description. We quote: Sheared sheep, wethers, extra, $15@15.50; do good to choice, $11@12; do., medium, $8.50@9.50; do., common, $5@6.50; ewes, heavy, fat, $12@13; lambs; spring, choice, $20@20.50; do., medium grades, $18.50@20; do., culls and common, $13.50@15.50.

Hogs.—The market ruled steady under moderate supplies and a fair demand for fine stock. We quote: Best western, $18 per 100 lbs.; hogs, nearby, good, $16@17.

City Dressed Stock.—Steers, heifers and cows of fine quality ruled firm under light offerings and a fair demand. Veal, sheep and lambs were quiet and without important change. Hogs sold fairly and values were well maintained. We quote: Steers, 16@23c; heifers, 15@22c; cows, 13@18c; calves, city dressed, choice, 28@30c; do., country, 24@26c; sheep, choice, 14@24c; lambs, choice, 33@35c; hogs, 29½c.

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PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., March 22, 1920

Baled Hay and Straw.—Receipts, 48 tons of hay. Scarce and market firm. We quote: Timothy hay; No. 2, $41@43; No. 3 $38@40; sample, $33@35. No grades, $30@32. Clover, mixed hay, light mixed, $41@43; No. 1 mixed, $40@41.

Straw.—No. 1 straight rye, $20@21; No. 2, do., $18@19; No. 1 tangled rye, $18@18.50; No. 2 do., $17@17.50; No. 1 wheat straw, $17@17.50; No. 2, do., $15@15.50; No. 1 oat straw, $17@17.50; No. 2, do., $15@15.50.

Bran.—Firmly held. We quote car-lots, to arrive including sacks. Soft winter bran. Western, in 160-lb. sacks, per ton, $57@57.50; spring bran, in 100-lb. sacks, per ton, $56@56.50.

Corn.—No. 2, Yellow, $1.70@1.80.

Oats.—No. 2 white, $1.05@1.05½; No. 3, white, $1.04@1.04½; No. 4, white, $1.03@1.03½.

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NEW YORK HAY AND GRAIN

New York City, March 22, 1920

Feed.—The market for mill feed was strong at the recent advance. Offers were again limited on account of the small output at the mills and buyers were nervous over the question of future supplies. The reaction in feeding grains, however, checked buying to some extent as there was a tendency among feeders to await development.

Quotations: City feed, bran, $53; middlings, $58, in 100-pound sacks; red dog, $71, nominal, in 100-pound sacks; Western spring bran, $55; standard middlings, $60; flour middlings $62; red dog, $69, all in 100-pound sacks, 30-day shipment. Oat feed, $32; rye middlings, $58; white hominy feed $67 all in 100-pound sacks. Cottonseed oil meal, $74; linseed oil meal, $71.50, in 100-pound sacks.

Hay and Straw.—Offerings continue liberal at all harbor points, trade very quiet and the situation is in buyers' favor thruout with the possible exception of high grade large baled timothy hay which is very scarce and wanted. Rye and oat straw continue scarce; pudding sales reported occasionally above quotations.

Hay.—No. 1 large bales $48@50 ton; No. 2 $44@48 ton; No. 3 $40@44; shipping $38@40 ton. [illegible] light clover mixed, $44@47 ton. Clover, No. 1, mixed, $40@43; No. 2 mixed, $37@40.

Straw.—Pertch; No. 1 rye, $32; No. 1, oat, $30.

Wheat.—No. 2, red, $2.70.

Oats.—No. 1 white, $1.08½; No. 2 white, $1.07@1.08½.

Rye.—F. O. B., $194½; Barley, malting, $1.66@1.70; feeding, $1.58@1.60.

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PITTSBURGH HAY AND GRAIN

Pittsburgh, Pa., March 22, 1920

Hay.—Receipts are about normal while the demand for the better grades is excellent. This includes No. 2 Timothy and light mixed. The poorer grades including No. 3, Sample and No. 2 Clover are somewhat difficult to dispose of. Would advise shipments of the better grades. Market firm.

No. 1 Timothy, $37.50@38; Standard Timothy, $36.50@37; No. 2 Timothy, $35@36; No. 3 Timothy, $32.50@33.50; No. 1 Light Clover Mixed, $36.50@37; No. 1 Clover Mixed, $37.50@38; No. 2 Clover Mixed, $33@34; No. 1 Clover, $37.50@38; No. 2, Clover, $30@32.

Straw.—Receipts are light while the demand is fairly active. All arrivals being packed at top figures. Would advise shipments.

No. 1 Oat, $15.50@16; No. 2 Oat, $15@15.50; No. 1 Wheat, $15@15.50; No. 2 Wheat, $14.50@15; No. 1 Rye, $15.50@16; No. 2 Rye, $15@15.50.

Ear Corn.—Light receipts while the demand is good but the call seems to be for Eastern stock. All arrivals being placed at quotations.

Yellow No. 2, $1.63@1.65; Yellow No. 3, $1.58@1.60; Mixed No. 2, $1.61@1.64.

Oats.—Prices are higher than we have known for years. All arrivals being readily placed at top quotations.

No. 2 White, $1.00¾@1.01; No. 3 White, 99¾c@$1.00¼; No. 4 White, 96@98c.

PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., March 22, 1920

Butter.—Receipts, 2,946 tubs. There was not much wholesale trading, as usual on Saturday, but supplies of desirable table grades were small and prices were firmly maintained. We quote the following: Fresh, solid-packed creamery, fancy, high-scoring goods, 71@73c; the latter for jobbing sales; extra, 70c; extra firsts, 68@69c; firsts, 63@67c; seconds, 56@58c; sweet creamery, choice and fancy, 72@74c; fair to good, 60@71c; ladle-packed, as to quality, 39@43c; packing stock, 35@37c; fancy brands of nearby prints jobbing at 78@80c; good to choice, 70@77c; fair, 67@69c.

Cheese.—Steadily held. Quotations follow: New York, whole-milk flats, held, fancy, 29½@30c; specials higher; fair to good, 28½@29c; current make nominal; Wisconsin, held, fancy, 29½@30c; specials, higher; fair to good, 28½@29c; jobbing sales of fancy held goods, 32@33c.

NEW YORK MILK MARKET

New York City, March 22, 1920

Local demand only fair, and with milk trains getting thru on schedule time, the market is reported flush in all parts of the city. Surplus heavy and increasing. The March rate to the shipper in 200 mile zone for 3 percent milk is $3.36 per 100 lbs.; 3.60 percent milk is $3.60 and 4 percent milk $3.76.

Receipts of milk and cream in 40-quart cans for the week ending March 20, 1920 were as follows:

Railroad	Milk	Cream
Erie	44,838	3,004
Susquehanna	10,548	369
West Shore	14,778	1,142
Lackawanna	58,518	1,410
N. Y. Central (long haul)	151,866	2,475
Ontario	44,783	2,710
Lehigh Valley	57,258	995
New Haven	7,510	62
Pennsylvania	12,282	428
Other Sources	6,500	300
Totals	408,881	12,895
Same Week Last Year	363,103	12,010

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INTERSTATE MILK PRICES

The basic price for 3 percent milk within 10 miles of Philadelphia is $3.26 per 100 pounds, and one cent per hundred less for each 10-miles distant. Four cents per 100 pounds is paid for each one-tenth of one percent fat above 3 percent. These are prices for the basic quantity or less. Amounts exceeding the basic quantity are paid for at a less price.

TOBACCO MARKET

Now that the subject of tobacco marketing is for the time more or less secondary to that of preliminary preparation for a new crop the remarkable instance of the veteran J. H. Hostletter, who is preparing to grow his sixty-ninth consecutive year in tobacco production is interesting. Since long before the days of the civil war this man annually has made preparation and grown sometimes with the help of others all the way from a mere "strip" to 28 acres of tobacco. During 1919 he had no help. His largest crop was 40,000 pounds for which $17.50 to 22 per cwt. was received. The highest price ever received was $2[illegible] per cwt. But few indeed will have the privilege of equaling this unique record.

Now that the delivery of the 1919 product is well under way it has become known that the general average weight of same has been less than expected, probably owing to dry weather during growing season. Those who ordinarily have some 1,800 pounds per acre have only 1,400 to 1,650 according to reports. It is estimated that packers will have but 80 percent of that which they had expected. Unless there should be a reversal of this shortage it is probable that the demand for all unsold tobacco will be greatly stimulated and holders may do well to defer selling until the force of the situation is felt.

Many were interested in publicity which it seems will be accorded tobacco localities by the Ford film service which it seems has contracted to visit the locality several times during the season thus procuring pictures of the industry in its various stages. This picture, it is promised, will be shown in not less than 6,000 theatres in United States and foreign countries and should result in renewed recognition of the great tobacco industry.

STANDARDIZING CONTAINERS.

The quoted prices of fruits and vegetables sold in containers, such as crates, boxes, or baskets, are frequently more or less misleading. The chance of misunderstanding is due to the multiplicity of sizes in general use and to the manufacture and use of containers similar in appearance that have nearly but not quite the same volume, such as the 14 and 16 quart peach abskets, 7-8 bushel and 1 bushel round stave baskets, or the 5 and 6 peck lettuce hampers. For example, Florida lettuce in 1½-bushel hampers is reported selling from $3.50 to $4 a basket in New York, December 29. Many of these hampers hold 5 or 5½ pecks and from 6 to 12 heads less than the standard 1½ bushel hampers.

The Bureau of Markes is now charged with the enforcement of the United States standard-container act providing standard capacities for Climax or grape-baskets and berry baskets. Standardization of larger shipping containers, such as hampers and round stave baskets, seems equally necessary if present marketing conditions are to be improved.

Lack of Uniformity.

The hamper is in general use in the Eastern and Southern states. The round stave basket appears to be more popular in the states lying north of Louisiana and Mississippi and reaching from the Allegheny Mountains to the Rockies. There are about 50 common types of hampers and over 20 sizes of round stave baskets. Many of these sizes are simply the outgrowth of custom in different shipping localities; others are used for the express purpose of deception. Whatever the intention the inevitable result is confusion and uncertainty, with constant opportunity for fraud.

Pending Legislation.

A movement is on foot to eliminate many of the sizes shown in the tables. This movement has the backing of many influential growers, shippers and basket manufacturers, and undoubtedly Congress will be asked to pass legislation granting relief. In place of the present large number of sizes, six standard hampers and four standard round stave baskets are believed sufficient to answer all requirements of the trade. These standard sizes are shown in the tables.

In addition to standardizing baskets as to volume, the dimensions or shape of the baskets must be considered and strength specificatons must be prescribed. Greater uniformity will tend to simplify and cheapen manufacturing operations and enable the railroads to work out more uniform leading rules. Such rules and specifications should have a tendency to reduce the large claims for loss and damage in transit, acting indirectly as a means of food conservation.

Containers For Produce

Proposed Legal Dimensions For Standard Hampers

Capacity	Inside Dimensions. Diameter of top.	Diameter of bottom.	Slant-height	Length of stave.
1 peck	10⅜	6½	9⅝	10⅛
½ bushel	13	8½	12	12⅝
⅝ bushel	14½	9	12⅞	13½
1 bushel	15⅛	9	19	20
1½ bu. No. 1	16½	9	26	27
1½ bu. No. 2	16½	10	23	24

Proposed Legal Dimensions For Standard Round Stave Baskets

Capacity	Inside diameter at top.	Average inside depth.	Number of staves.
½ bushel	13½	8½	20
1 bushel	17	10¾	20
1½ bushel	19	12½	24
2 bushels	21	13½	24

The wheels of big business run smoothly because the work is systematized and planned. Winter is the time for the business farmer to systematize and plan his work. Then the wheels of his farm work will run with less friction.

"What Are We Food Producers Going To Do About It?"

A Problem for the Dairyman

IN an article recently published in "The Milk Magazine", Professor Washburn of the University of Minnesota, after discussing the food value of skimmed milk and the large amount of this good human food that fails to reach humanity directly, says:

> *"What are we food producers going to do about it? Continue to waste or invent some better way of using the skimmed milk? Some of it is being well-used on farm-tables, though not by any means as much as should be; some amounts may be used as artificial buttermilk and as cottage cheese, but after all this is done, there still will remain great amounts of the most delicate and useful food with but a poor outlet."*

What This Means To You

THIS pertinent question, asked by a Dairy Expert, through the medium of a Dairy publication, shows that thinking dairymen are beginning to recognize the serious situation—that over one-third of their total output of human food substance is not being utilized as such, and therefore is failing to that extent in benefiting humanity and profiting the dairyman.

Professor Washburn in his article calls skimmed milk "liquid lean meat" because of its likeness to meat in its food value. He then shows that when skimmed milk is fed to stock, only 15 to 20 percent of its food value is returned to humanity in the meat of the animal.

In other words, the dairyman who feeds skimmed milk to stock spends 100% of human food to get back 15 to 20 percent of human food.

Is this good business?

To state it in terms of money—should you spend $100 to get back $15 or $20?

There is but one answer to this question. That is, skimmed milk should be used directly as human food, and a market value established for it as such, if the dairyman is to realize the greatest profit and humanity the greatest benefit from this valuable food.

Skimmed Milk as Human Food

TO do that, a market for skimmed milk as a direct human food must be created. But skimmed milk in its natural state is not a palatable food because of its lack of fat content.

To make it desirable for human use, then, a fat must be restored to it. Obviously butter fat cannot be used. Why not then use a wholesome vegetable fat?

"But that would not restore it to the equal of whole milk in food value", you say.

No it would not—but it is not desired to create an article that will compete in the market with whole milk as a direct food.

That brings us, then, to the question of use.

Skimmed milk, with a vegetable fat added, is particularly useful for culinary purposes in the home.

And there you have it. Skimmed milk with a small amount of vegetable fat added would *serve as an auxiliary to the family milk supply for cooking and baking*, and establish a new market for skimmed milk as a human food.

The new food product Hebe, which is composed of evaporated skimmed milk and cocoanut fat, scientifically combined, does just that.

Hebe Points the Way

TO make 100 pounds of Hebe it takes 210 pounds of skimmed milk and 7.8 pounds of cocoanut fat. Thus a small amount of vegetable fat serves as the agent for making a large amount of skimmed milk more desirable and therefore more readily salable as a human food product for cooking purposes.

Hebe thus points the way to utilize as human food the skimmed milk that is now being less profitably used, and it does this without interfering with the established markets for dairy products.

Hebe, then, is an ally to the dairy industry — opening a new and more profitable market to the dairyman for his by-product, skimmed milk — and co-operating in the effort for the increased use of dairy products in the home.

Indirectly, every dairyman profits by that which benefits the industry as a whole. As Hebe volume increases, there naturally will follow the extension of direct benefits.

You will be interested in reading our booklet, "The Missing Third." Ask us to send you a copy. There is no charge for this. Address 2358Consumers Building, Chicago. The Hebe Company, Chicago and Seattle.

Reading Bone Fertilizer

Quality Service Satisfaction

Service:—We have helped with honest advice hundreds of farmers in the East. We might be able to help you. Write us—no obligation whatever.

(This trade mark means quality)

Reading Bone Fertilizer Co., Reading, Pa.

Ask your dealer for Reading Bone Fertilizer.

Write for booklet and further information.

WANTED hay, corn and potatoes, write best [illegible] to box 926, ST. ALBANS, WEST VIRGINIA.

Too Late to Classify

Watchman for night work on country place 7 months and day work five. Single man, or married man whose wife would board men. State experience, wages and qualification in application. Box 31 care PENNA. FARMER, PHILADELPHIA, PA.

Farm Boy wanted. To help generally on country place. State experience, Box 33, care Penna. Farmer, Philadelphia, Pa.

FOR SALE: 200 BARRONS and Ferris Pullets, 260 egg strain, selected from 1,000 laying; 50 Ringlets, Barred Rock Pullets; the Leghorns, $3.00 each; Rocks, $1 and $. **G. ROUTZAHN, Aspers, Pa.**

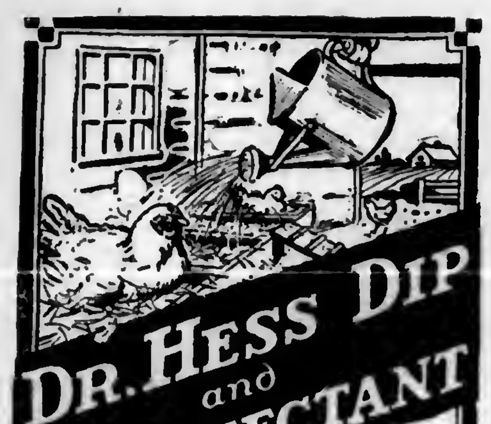
Hatching Eggs.—Thorobred S. C. Rhode Island Reds, $1.50 for 15, $8.00 hundred. Bourbon Red Turkey Eggs $4.50 for 9. White Pekin Duck Eggs, $1.65 for 11. Prepaid. **Mrs. L. J. Killian, Lebanon, Pa, R. 6.**

BERKSHIRE OPPORTUNITY

To provide for additional young stock we offer part of our foundation herd as follows: "King Pouts 20th," tried service boar and active breeder of excellent type and proven quality. Eight (8) young sows bred for late spring farrow. These animals are all large typical Berkshires, and prolific breeders, bred for their second or third litters.

This offer makes a splendid opportunity to found a herd and we will make a special price covering the entire lot. They also will be priced separately. It will pay you to get our prices now and take advantage of this splendid offer.

CRESTMONT FARM **SUNBURY, PA**



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Give your poultry and animals the best living conditions by using Dr. Hess Dip and Disinfectant. It is a powerful germ destroyer—helps to keep off contagious diseases. Make the rounds of the poultry house, pig pens and stables regularly with the sprinkling can. Kills hog lice. Don't neglect the garbage cans, drains, foul-smelling and disease-breeding places. An excellent disinfectant for the home. One gallon makes 100 gallons solution.

Dr. HESS & CLARK
Ashland Ohio

CHICKS
WHITE LEGHORN RHODE ISLAND RED
BLACK MINORCA
Increased incubator capacity enables us to fill your order for Pratt's "Superior" chicks. Three varieties bred for highest combination of practical qualities and standard requirements. ▲ farm—not a hatchery. Booklet.
PRATT'S POULTRY EXPERIMENT FARM
Morton, Delaware County, Pa.

ENGLISH WHITE WYANDOTTE & MAMMOTH PEKIN DUCK EGGS
for hatching, from the very best stock. Wyandotte eggs, 15 for $2.50. Ducks eggs, 11 for $2.50. All carefully packed and delivered. A. R. LOGUE, WOODBURY, BEDFORD CO., PA.

Chicks
Better Produced Day-Old Chicks are the kind you want—17 leading breeds at reas. prices. Send for free catalog today. Springfield Hatcheries & Poultry Farm, Box H, Springfield, Ohio.

BABY CHICKS White and Barred Rocks, White Wyandottes, Reds, Anconas, White and Brown Leghorns and Broiler Chicks. Send for Free Catalog and prices before ordering elsewhere. Trial convinces.
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NEW WASHINGTON, OHIO. DEPT. N.

LOOK: BABY CHICKS AND DUCKS 10 breeds of chicks, 4 breeds of ducks. Utility and Exhibition grades Postage paid and live delivery guaranteed. Capacity 100,000 weekly. Catalog free. Stamps appreciated.
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BIG STURDY BABY CHICKS AND HATCHING EGGS from high egg producing strains of quality. Martin's Dorcas White Wyandottes, Ringlet Barred Rocks, Shepard Anconas, Eglantine White Leghorns, S. C. R. I. Reds. Hatches every week after February 15th. Catalog free. SUNNY SIDE POULTRY FARM, COOPER HILL, N. J.

Baby Chicks S. C. Rhode Island Reds and White Leghorns. Improve your flock by buying chicks from these heavy laying strains. Bred for twelve years for heavy egg production. Write for delivered prices.
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Eggs $1 Setting Parcel Post paid. Purebred, Barred, White and Buff Rocks; White and Brown Leghorns; Reds, White Wyandottes, Buff Minorcas; Black Langshans; Buff Orpingtons. Philip Condon, Box 119, West Chester, O.

Selby Service Satisfies Ship us your produce, poultry and eggs. Peans, Potatoes a specialty. Return day goods are sold. Ask for our market letter
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PIELL'S BLACK LEGHORNS. Famous Leghorns, good layers, fine birds. Hatching eggs only, $2.50 setting. Information free. Book orders now.
RUSSEL F. PIELL, PITTSTOWN, N. J.

Hatching Eggs of Pure-Bred Poultry
Prices reasonable. Catalog free.
H. H. FREED, TELFORD, PA. BOX C.

Single Comb White Leghorns. Big Vigorous Birds. Good layers. Eggs and Chicks. Write
PAUL R. EMERICK, CLINTONDALE, PA.

Eggs Postpaid: 12 Mammoth Bronze Turkey $6.00 on farm range. 15 Bradley Strain Barred Rock $1.50 R. E. BLACK, QUINCY, OHIO

THE COUNTRY LIFE MOVEMENT

The most inclusive and far reaching aspect of the American country life movement is the rehabilitation of the rural school. The most marked characteristic of the revival of the rural school is a combined effort to consolidate schools and to make out of the school districts thus created true local communities with the schoolhouse as one of the community centers.

The second great phase of country life is the effort to give the country church a prime place in leadership of rural affairs by which it shall become a community building institution ministered to by a pastor who is a real community leader, and in every way stimulating and inspiring the finest type of thought and life in the countryside.

The public health movement in the country, including public health nurses and country hospitals, is gaining headway and promises soon to become an established part of the machinery of rural civilization.

The movement for providing adequate rural recreation is less well advanced, and yet has made great progress in the past few years.

The attempt to improve the conditions of rural home life has thus far taken the direction chiefly of the teaching of home economics in its broader aspects. The next great step is to treat home making as a vocation in all the possibilities of its personal and community relationships.

The community center as adapted to rural areas has been taken up by numerous agencies, thus testifying to the interest in rural affairs and the consciousness that the country life movement is gaining ground.

A further testimony in the same direction is the organization of the American Country Life Association, which has held two successful national country life conferences and which has succeeded in federating practically all of the country life interests of the United States.

In general, it may be said that there has been recently a fresh recognition of the old principle that the farmer is of more consequence than the farm. This is another way of indicating the rapid growth of the country life movement at home and abroad.—Kenyon L. Butterfield.

MARYLAND FARMERS TAKE CONSERVATIVE STAND

Dr. H. J. Patterson, director of the Agricultureal Experiment Station of the Maryland State College, in defending farmers a few days ago uttered strong protests against the recent rumors of these agriculturists joining the labor party on some of their radical plans. It would seem that these groundless rumors are circulated as propaganda—as the farmers have no idea of affiliating with anything that is not for the good of their country.

The National Grange came out clearly as not being willing to unite with the Federation of Labor movement—and it may be said that the National Grange represents the farmers of the whole country.

Dr. Patterson stated that he believed such rumors and utterances were doing the real farmers of the country a great injustice, that consumers thereby are made in many cases hostile and people in other lines of industry misjudge and blame the feeders of the world and stated further that it is high time the farmer was placed in his proper light before the people with reference to his status as the chief producer of the nation and of the world."

He believes that a careful investigation will find the farmers as they always have been in the conservative ranks. There is no question as to farmers raising all they can. They will work their usual long hours and do their best toward solving some of the great problems.

Farmers are not cutting acreage when they can plow and sow and reap. It is only those farmers who are unable to get labor or to pay the high price of labor who will of necessity curtail the tilling of their land.

Dr. Patterson was strong in his defense of Maryland farmers and declared that these men received only fair prices while unreasonable figures were added after they left the farmers and the consumer was forced to pay high prices. He said that a 44-hour week would neither feed or cloth the world at reasonable prices.—Manylander.

COUNTY NOTES

Mattawana, Mifflin Co., Pa., (C) March 15, 1920.—Since our last writing, weather cold, from freezing to zero, except a few days. Good sleighing to March 8. On the 4th it began to rain, raised the river. On the 5th the ice broke and began to move, then got colder with snow storms on the 6th which caused the ice to gorge and freeze tight for three days then it got very warm a few days and the ice moved off nicely. Eleventh rain again with a high river by the 13th, when it got colder again with 5 inches of a snow blizzard. Fourteenth some of the roads drifted shut, could have no services in some of the country churches.

Stock selling high; fairly good cows, $90 to $100; good ones, $150. Horses selling about the same. Markets: Wheat, good $2.30; corn, $1.25; rye, $160; oats, 60 to 75c.; potatoes, about $250; apples, $2.50; eggs, sold Saturday for 45c.; butter, 60c.; lard, 30c.—J. H. Byler.

Lebanon Co., Pa., (SE) Sheridan, March 12.—Spring has at last to all appearances arrived. Roads were badly blocked several days ago and while open now are very slushy and soft. The wheat does not seem to have been damaged by the severe winter, being well protected by the snow. Not much work being done on the farm just now but the spring rush will soon begin. Most of "our folks" attend the public sales regularly when at leisure to do so. Horses are selling higher than they had been for some time past. Cows are, however, slightly lower. Hogs and pigs are holding their own. Farm implements are not selling quite as high as last year. Wheat is $2.60; corn, $1.75; oats, 90c.; potatoes, $2.80 a bushel; eggs are 42c. dozen; live chickens 28c, a pound. The farm labor situation is acute.—L. F. Strickler.

Cum. Co., N. J., Shiloh, March 5.—Moderate temperate, frost coming out of ground. Creamery milk went down to 6c. the first of March. There is over-production. Skim milk is being dumped into the river. Bobbie Munyon is busy in the cow and calf business. Some people are cuting potatoes to be ready for early planting. Signs of spring are looked for soon.—C. J. S.

CHEAP CLOVER SEED MAY PROVE COSTLY

It is far better to pay the full price for clover seed of high quality than to pay a small price and get either poor seed, old seed, or seed that contins a large percentage of noxious weeds, say those who are in touch with the seed situation.

Th high prices of clover seed in the United States, further, is stimulating the importation of seed from Europe. This seed is in many instances old and of poor quality. Some of this seed contains considerable amounts of noxious weeds. At th present time, some of the importations are being sold for less than native grown seed. Farmers who are purchasing clover seed should bear this in mind; when the seed is offered at low prices, they should be especially suspicious of the quality.

TRACTOR BETTER THAN HORSES

(Continued from Page 4.)

an economical standpoint, have been fully realized.

Many of my neighbors, when they first saw my tractor, had skeptical ideas as to its practical use, but today I find those opinions reversed and you will find sixteen tractors in operation on neighboring farms.

(Note.—Will the writer of this article send us his name and address. —Editors.)

If you intend to go to work there is no better place than right where you are; if you do not intend to go to work, you cannot get along anywhere. Squirming and crawling about from place to place can do no good.—Abraham Lincoln.

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Come from Good Flocks
Make Good Flocks
Goodflox Chix are sturdy, healthy, robust youngsters—hatched under ideal conditions from sound strains of heavy-laying, meaty pure-breds. Goodflox parent stock is carefully selected—all undesirables are rigorously culled out. Our flocks are kept strong and sturdy with unlimited free range, therefore Goodflox youngsters are unusually vigorous and full of abounding vitality. Get the insurance of success that comes from the right start. Buy Goodflox Chix. We'll mail the Goodflox book, containing full information about our fifteen varieties, on request.
Goodflox Poultry Farms
Dept. F. New Brunswick, N. J.

BABY CHICKS
Three millions for 1920, delivered anywhere by Parcel Post. Catalog free.
Barred Rocks White Wyandottes
White Rocks Rhode Island Reds
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Brown Leghorns Anconas
White Leghorns Buff Orpingtons
Buff Leghorns Assorted
SMITH HATCHERIES, Dept 8, 1629 Chestnut St., Phila., Pa.

WHEN IT PAYS
All through the blustry winter months, our WHITE WYANDOTTES lay eggs, and lots of them. We offer a limited number of carefully selected eggs from this flock at $15 per 100, $8 per 50, $2.50 per sitting of 15. Also chicks at 40c each. We advise the purchase of this stock for those who want the best from our high production, trapnested birds. Terms—cash with order. Eggs and chicks forwarded parcel post prepaid. We know you will be pleased with our stock. Book your order early. J. V. BITNER, GORDONVILLE, Lancaster Co., Pa

BABY CHICKS
GULDIN'S WHITE LEGHORNS
Bred for size, vigor and high flock average egg yield.
PAUL R. GULDIN, Yellow House, Pa.

CHICKS from large, pure white, two-year-old hens. Wyckoff strain. 18 cts. Extra fine, Brown Leghorns, 20 cents. White Rocks, Barred Rocks, Orpingtons, R. I. Reds, Black Minorcas, 25 cents. Postpaid. Eggs: Half price of chicks.
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Baby Chix: Sturdy, thorobred chicks that live, grow and pay, from the four great American breeds—White and Barred Rocks, White Wyandottes, R. I. Reds and White Orpingtons. Safe delivery guaranteed. $25 per 100. Cash with order, postpaid delivery, any week after February 15th.
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Baby Chicks and hatching eggs from our high egg-laying strain. White Leghorn baby chicks $20.00 hundred. Hatching eggs $10.00 hundred. Safe delivery guaranteed. We invite your inspection of our birds, if possible.
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Tiffany's Superior Chicks That live. Silver, White, and Columbian Wyandottes, Buff, Barred, and White Rocks, R. I. Reds, White and Brown Leghorns, Pekin, Rouen, and Indian Runner Ducklings (heavy type). Aldham Poultry Farm, R. 30, Phoenixville, Pa.

Day Old Chicks and Hatching Eggs
White Leghorns, Barred Plym. Rocks, Rhode Island Reds. Safe delivery guaranteed. Place orders now to insure prompt delivery. PARADISE POULTRY FARM, BOX C, PARADISE, PA.

Hampton's Black Leghorn Chicks. Get my free circular before you order chicks. Tells why the Black Leghorn is the greatest layer and most profitable breed on earth. Write today. A. E. Hampton, Box F, Pittstown, N J

Barred Ply. Rocks, Chicago winners. Great winter layers. 100 choice Cockerels. Eggs for Hatching. Prices reasonable. Satisfaction guaranteed. 28th year.
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MAMMOTH White Pekin Duck Eggs. Splendid stock. High fertility. $12 per hundred, cash with order. Beech Dale Duck Farm, BIRD-IN-HAND, LANC. CO., PA

CHICKS Deduct $2 per 100 chicks from list price in placing your order or when sending in balance. Barred P. Rocks, Leghorns & mixed chicks. Booklet free.
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SHIREY'S S. C. White Leghorn Baby Chicks 14c and up according to season. They make the greatest egg producers on earth. C. P. Shirey, Stewartstown, Pa.

50 Breeds Fancy Poultry. Our big Instructive Book mailed. Stamps appreciated Address "HATCHWELL," Cochranville, Pa.

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Nice Lot Barred Plymouth Rock Cockerels, also egg settings from special mated pens. Write for prices EUGENE A. GROVE, Lime Kiln, Frederick Co., Md

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Hummer's Famous Baby Chicks. Big Healthy fellows. They live and grow. Six varieties. Circular free.
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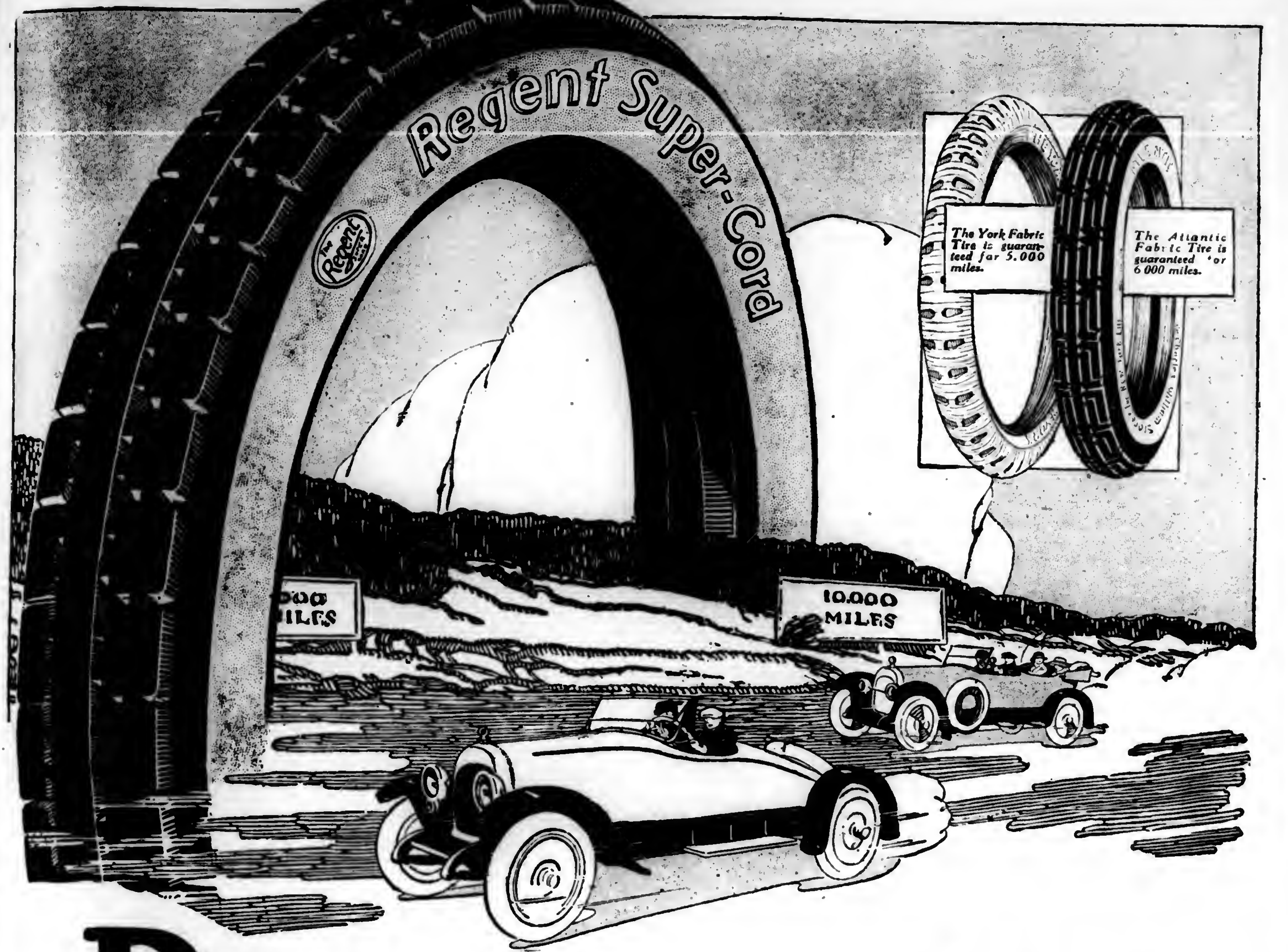
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A Cord Tire that is guaranteed for 10,000 miles; a Cord Tire that is remarkable for its percentage of oversize in comparison to the ordinary tire; a Cord Tire that is unusually low in price.

The Regent Super-Cord is the result of two years of experimenting. We wanted the Regent to be the "leader"—a tire that every motorist would want. So we waited until the claims that we were ready to make for the Regent were proved.

That is why the Regent is adjusted on a basis of 10,000 miles of service and why, more often than not, Regents run for 12,000, 14,000 and even 18,000 miles.

The Atlantic Tire
The Atlantic Fabric Tire, guaranteed for 6,000 miles, is made of black carbon-toughened rubber built extra thick in the center. You are bound to be impressed with their long wearing qualities, their ability to withstand the wear and tear of rough roads in all seasons, and their absolute dependability. The Atlantic is another tire which generally outruns its guaranteed mileage.

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York Hand Made Wrapped Tires have now been on the market for nearly four years. Some customers have reported Ford sizes to give as many as 17,000 miles of service.

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The Regent Red Tube is the ideal running mate to this sturdy family of tires. *It is guaranteed for Two Years* and is a tube that can be relied on for enduring service. It comes in one quality only—the best that can be made for the price we ask.

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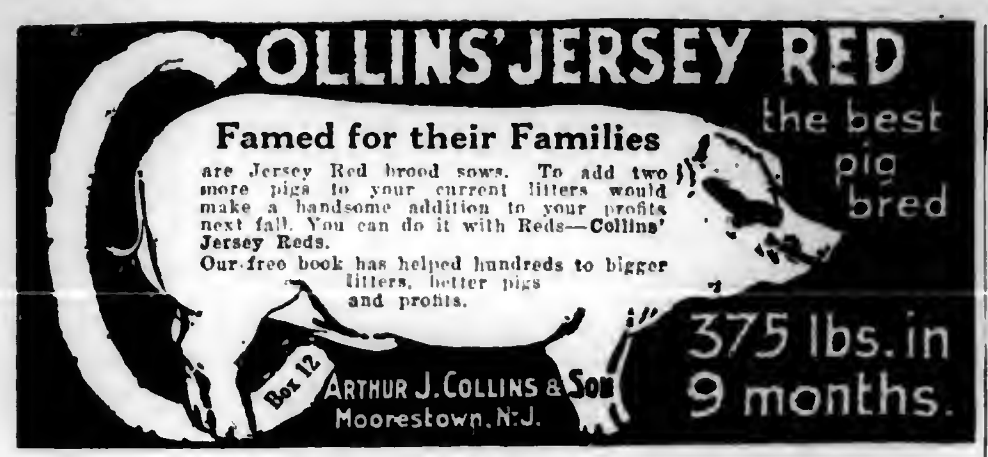

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A 60c or $1.25 box sent on approval if you will tell us how many hogs you have and name of your dealer. Send no money; pay when satisfied.

J. M. Snead, Scottsburg, Va., wrote Feb. 17, 1920: "I tried that package of Cal-Sino. It is just the thing for pigs. I told many of my friends how good it was. It is just what you said. I inclose money for another package."

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Will furnish you with foundation stock, registered and of most approved blood lines. Address, **Makefield Farms, 803 Broad Street Bank Bldg., Trenton, N. J.** Farms nearby at Yardley, Pa. All stock cholera immuned.

Durocs: Young Pigs, Bred Sows and Service Boars. Send for book "How to Raise Hogs." Visit our Farms, Enfield, Conn.
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LARGE ENGLISH YORKSHIRES, purebred. The bacon hog. Good feeders, gentle and prolific. J. Homer Beams, Luthersburg, Pa.

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Hampshires Eastern Quality Herd. National Swine Show and State Fair winners. Also Guernsey cattle. Free Cir. **Locust Lawn Farm, Bird-in-Hand, Box 2, Lanc. Co., Pa.**

REGISTERED DUROC-JERSEY PIGS
$10 each while they last, all from imported Southern stock, none better. Bargains in bred gilts, service boars, brood sows and spring pigs.
C. W. Ellis, Jr., Maple Lawn Farm, Cortland, N. Y.

Registered Durocs Best blood lines. Sold out at present. Will book orders for spring pigs. Northumberland County Duroc-Jersey Breeders' Association. J. M. FRY, Corresponding Secretary, Sunbury, Pa.

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O. I. C. Pigs registered free, six weeks old. $10 for best of litters. $8 for rest. Your order now for Spring delivery.
OAKS DAIRY FARM. WYALUSING, PA.

BELROSE DUROCS— EXPRESS PAID Boars and Bred Sows, bred and open gilts all sizes. Prices right.
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BERKSHIRES—Longfellow and Masterhood breeding stock. Superior length, depth and extra thick hams. All ages. Booking orders for spring shipment. Mariandale Farms, A. L. Hostetter, Manheim, Pa. R. 1.

REG. BIG TYPE POLAND CHINAS. Special price on Oct. pigs this month; also spring pigs. Giant Buster and Blue Valley Blood. Prices reasonable.
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Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Out of Condition.—I have a black horse about 12 years old in fair condition, altho not fat. He rests five days each week, but only travels 6 miles Saturday and same distance on Sunday. I feed him corn fodder and hay, some unthrashed oats, but he does not care for roughage. He is what should be called a dainty feeder. Will you tell me what to give him? J. M., Riegelsville, Pa.—Feed him two parts corn, one part oats and ½ a part dry wheat bran. His roughage should be sweetened, then he will eat more of it. I don't believe he needs drugs.

Shy Breeder.—Our 18-year-old mare was a regular breeder up to 4 years ago, when the stallion on the farm died. No effort was made to breed her until last year (spring of 1919) when she was served by a 2-yearold cold, but did not catch. She is a healthy mare, comes in heat regularly, has no vaginal discharge. what do you recommend? A. C. R. Snow Hill, Md. During each heat period, she should be served more than once, and she should be mated to a sure foal getter. The mistake made was in allowing her go unbred for 3 years, for by doing so she is less likely to get with foal. I am inclined to believe she will get with foal.

Nasal Gleat-Ulcerated Tooth.—I have a 6-year-old mare that has nasal discharge of an offensive odor but she seems to be in good health. I purchased her 4 months ago, brought her from the west. Do you believe this ailment serious? W. G. Elmira, N. Y. Doubtless, if you will examine her mouth you will examine her mouth you will find either one or both of fourth upper molar (grinder) teeth ulcerated, causing the nasal discharge you mention. Very soon after the diseased teeth are extracted her nasal discharge will cease. Give her one dram powdered sulphate of iron at dose in feed 3 times daily.

Cracked Heels.—We have a horse troubled with what our local doctor calls scratches, but local remedies fail to heal the sores. Will it to bim harm to work in mud? We keep only one horse and need his work. A. W., Bucks Co., Pa. Clip off hair, wash with soap and water, paint sore parts with tincture of iodin, occasionally. Dissolve one ounce acetate of lead, 6 drams sulphate of zinc in one quart of water, shake and apply to sore parts 2 or 3 times a day. It will do no particular harm to use the horse in muddy road or field, but of course too much wet and filth are exciting causes of this ailment.

Infected Udder.—Have cow due to freshen in ten days, teat became sore, it healed, this quarter of udder inflamed. I milked her and have been doing so ever since. P. C. S., Covington, Pa. Apply on part fluid extract of phytolacca and 12 parts olive oil twice daily to infected quarter. Strip her clean 3 times daily, as milk left too long in this quarter will do harm.

Loss of Appetite.—I have 30 hogs that will each weigh about from 100 to 200 pounds. During last November while fattening them feeding mostly corn they lost their appetite. Whatever ailment it is it came on gradually and twelve of them refused to eat and three died from starvation, the other nine are now sick. Most of their hair drops off, but the mouth is not sore and teeth are not affected. Have given them commercial tonic without result. The pigs seem to be hungry, but do not eat, stand up most of the time, until they die. N. P. G., Worton, Md. First of all each sick hog should be given 2 or 3 ounces of castor oil—one dose only. Also give fluidextract of gentian in feed 3 times a day, or give it as a drench. A teaspoonful is right dose. Change their feed. Feed some tankage and roots.

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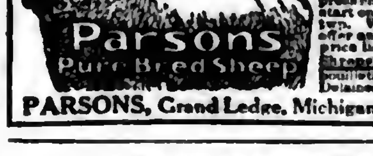

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Light Milker, Nervous Cow.—I recently purchased Holstein cow with her eighth calf by her side, but when calf sucked she is nervous and uneasy. Am sure calf does not get enough milk to satisfy its appetite, but the cow seems to be well. She is a fine animal. R. B. J., East Berlin, Pa. Increase her food supply and be sure it's the kind to produce greater milk yield. Don't expect a cow to give much milk unless she is well fed.

Indigestion.—Have a cow without horns and of course am unable to tell her age, but she has good appetite, showing no symptom of sickness. However she is not giving more than half as much milk as we believe she should give. She was bred about one month one. J. L. Crosby, Pa. If you will change her feed keep her bowels open and exercise her daily, she will give more milk. She should be milked clean and fed properly. Give her one ounce baking soda and one ounce of powdered wood charcoal in feed 3 times a day.

Vertigo—Worms.—My pet Fox Terrier dog has spells of staggering, during which time the cords of legs become rigid, also the muscles of neck are hard. Ever since he was a puppy he has been troubled with this ailment and he is now 6 years old. I might add these spells last only about 5 minutes. What shall I give a rabbit that has worms? G. S. Lacona, N. Y. Chronic vertigo is incureable, but if you will keep him well exercised and bowels active he may live for some time. For every pound of live weight of rabbit, give one grain powdered kamala in a tablespoonful of milk twice a week, but don't give this remedy unless it is necessary.

Worms.—I have a ten-year-old horse that has ravenous appetite, but is not doing well. When down, is hardly able to get up. We have thought that his trouble might be in his back. J. H. C., Grantville, Pa. Give him a teaspoonful powdered sulphate of iron and one tablespoonful of powdered gentian in ground grain. Also give him a teaspoonful in his drinking water twice a day. Hand rub his back twice daily.

Constipation.—What can I do for a cow that is troubled with constipation? F. F. J., Corning, N. Y. Feed her sloppy mash and give her two tablespoonsful Glauber's Salt in each feed until the desired results are obtained. Clover, alfalfa and roots when fed to cows have a laxative tendency. It must not be forgotten that exercise increases bowel action.

Dehorning Young Calves.—I am in need of some instruction how to prevent the growth of horns on calves and at what age they should be treated? J. B. P, Meadville, Pa. Before the calf is four days old, sandpaper or scrape the stub with a piece of glass or knife blade, then cautiously apply pencil of caustic potash to stub. Be sure and dip the end of stick of caustic in hot water before it is used and don't burn surrounding tissues. Be sure to examine calf a few days later, for if you have failed to be thoro, you may need to do the work over again.

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Even tho it may be true that the motor-driven vehicle has begun to put the farm horse "on the run," there is no evidence that he has developed much speed, and his total value still compares favorably with other classes of farm animals. On January 1, 1920, the Bureau of Crop Estimates of the United States Department of Agriculture estimated the total value of horses on farms in this country at $1,993,000,000, or just a little below the value of milk cows, which was $2,022,000,-000.

What is our basic industry? A Guarantee Trust Company bulletin answers the question statistically. Thirty million people live on farms in the United States. Twelve million more live in villages which are farmers' trading centers. The total membership of all labor unions is about 10 per cent the farmers and villagers. The total output of all the mines and the iron and steel mills is a fraction of the product of the farms.

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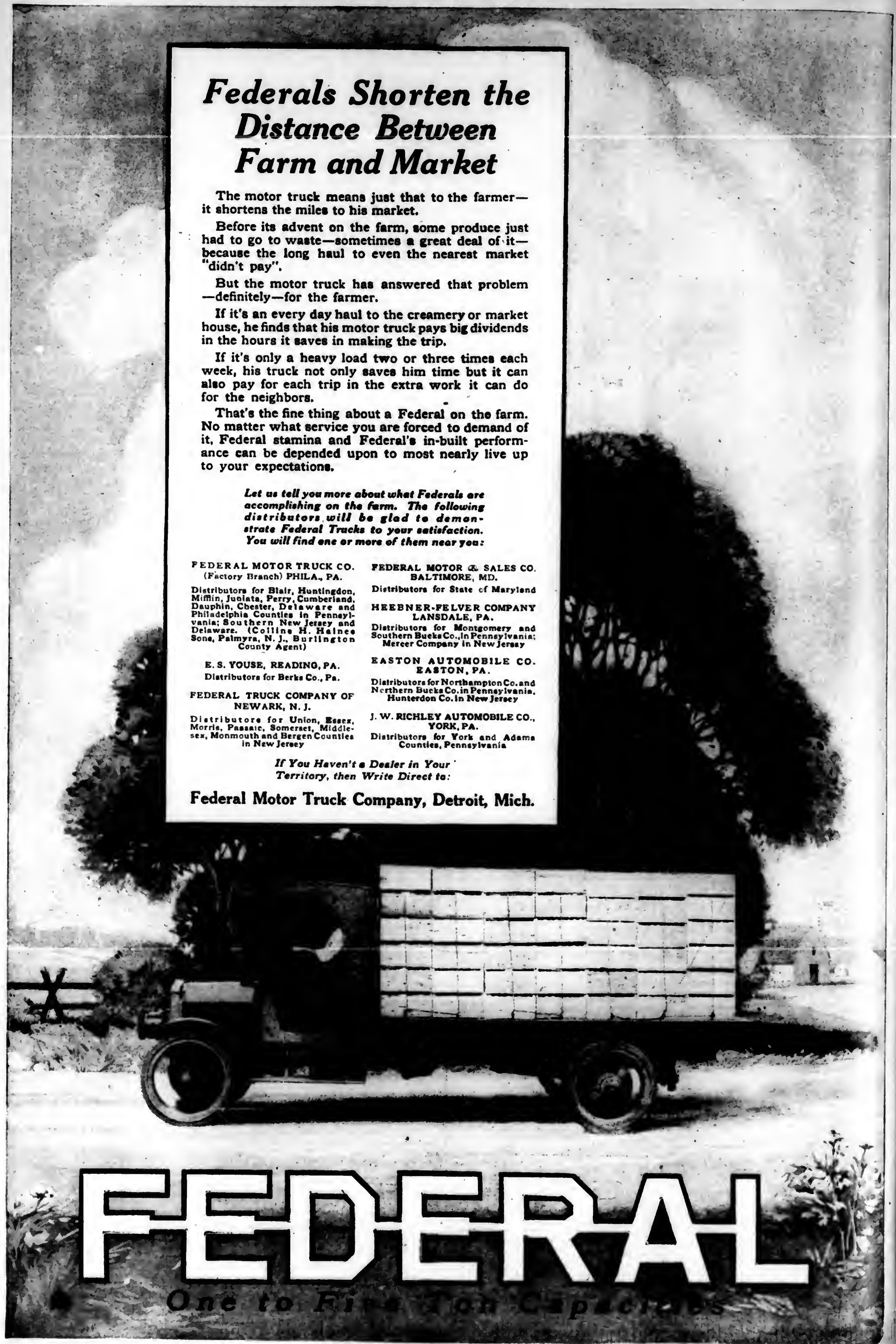
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How Shall We Cut Seed Potatoes?

Summary of Experiments in Selection and Cutting Seed Potatoes for Largest and Best Yields

By E. V. HARDENBURG, CORNELL UNIVERSITY

Compact Seed Pieces, Not Smaller Than Normal Hen's Eggs, Are Most Desirable. Size More Important Than Number of Eyes

With the possible exception of variety tests and fertilizer experiments, no other phase of potato production has received so much experimental attention as the question of type of seed piece. Nearly every state experiment station in the United States has at some time conducted experiments to test the relative influence on yield of (1) large versus tubers for seed; (2) whole versus cut seed; (3) large versus small seed pieces; or (4) number of eyes.

A review of the literature on the results of these tests leads to much difficulty in drawing definite conclusions as to the real influence of each of these factors, because in a majority of the tests one or more of the factors has been confused with the one intended for study. In nearly all of the experiments to date, the all-important factor, amount of seed per acre, has been neglected. This has led to false conclusions and a mass of published data of quesionable value. To illustrate, in tests comparing the influence on yield of whole, half, quarter and eighth tubers, the results have generally favored the whole tuber for seed, and it has been concluded that the larger the seed piece planted, the greater the yield is likely to be. In reality, eight times as much seed is used on an acre when whole seed is planted as is consumed when one-eighth tubers are planted. If grain were used instead of potatoes, the credit would be given to difference in amount of seed planted per unit of area. Most of these experiments have therefore, in reality not shown that whole tubers are to be preferred to eighth tubers provided the eighth tubers are planted enough closer in the row to consume the same amount of seed per acre as would be used in case whole tubers were planted.

Large vs. Small Whole Tubers

Three factors are principally concerned with the size of tuber which is used by a given grower or a given locality, namely, (1) prevailing cost of seed; (2) prevailing standard of quality in the mind of the grower; (3) type of seed stock available. To the writer, it appears that of these three, the estimated relative value of large versus small tubers is probably the controlling factor in the mind of the grower. More small, whole seed is used in southern New York than in any other potato section of the state. Here the standard of excellence is lower than in other regions. Certainly small seed is not used on account of high priced goods, because relatively lower prices prevail in this than in any other sections.

Adams of Wisconsin, Aicher and Welch of Idaho, Plumb of Tennessee and Zavitz of Ontario are among the experimenters who in years back have compared the influence of large versus small tubers for seed on yield. They all found that the gross yield increased as the size of tuber used increased. In most cases the marketable yield also increased with size of tuber used. In a few instances, owing to the increase in number of stalks per hill as the size of tuber increased, the marketable yield was not greatest from the largest seed tubers. In all these tests, the same spacing of hills was used for each type of seed. It must be concluded from these tests therefore, that large whole seed is better than small whole seed under equidistance of planting only because of the greater weight of seed used.

Whole Versus Cut Seed

The question of whether or not to cut seed potatoes depends upon three factors, namely, (1) cost of labor; (2) cost of seed; and (3) the relative yield from whole versus cut seed. Inasmuch as a man will normally cut only about 20 bushels of seed in a ten-hour day, the labor cost of cutting is of some account in determining whether to cut seed. Again, with potatoes selling at 50 cents or less a bushel, it becomes somewhat of a question whether average sized potatoes should be cut at all. Experimental literature deals only with the third factor above mentioned.

Cutting a seed tuber at once allows of less of cell sap by bleeding and permits the entrance of rot-producing soil fungi and bacteria. On the other hand, Appleman of the Maryland Station has shown a distinct advantage from cutting. Whereas whole tubers planted or germinated above ground normally develop only the sprouts near the apical or seed end, by cutting such tubers, both medium and basal end eyes may be made to grow. Briefly, Appleman has shown that anything which will facilitate the entrance of oxygen into the tuber tissue will enhance growth phenomena. Should oxygen be cut off entirely the tuber might remain dormant for an indefinite period. This indicates a more economical use of cut seed potatoes than that of planting it whole.

Aicher and Welch at the Idaho Station made a three-year comparison of whole and cut seed and while obtaining a greater total yield from whole seed, the marketable yield in all cases was greatest from the cut seed. These tests are not a true criterion of the relative value of whole and cut seed, however, as far more seed per acre was used in the case of whole seed. Many years ago, the Tennessee Experiment Station tested the comparative yields from whole seed and from an equal weight of half tubers, taken from the same lot of seed. Nearly two and one-half times as much marketable yield came from the half tubers, but owing to the fact that the halves were planted on twice as much area, the comparison is of little value. The best test of this question was made by the New York Station when equal weight of seed pieces of whole and cut tubers were used per acre. Whereas about equal total yield was obtained from the cut and whole seed, the marketable yield from cut seed was nearly double that from whole seed. Apparently with equal rates of planting, cut seed is the more economical to use.

(Continued on Page [illegible])

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PENNSYLVANIA FARMER
AGRICULTURE THE KEYSTONE OF NATIONAL PROSPERITY
ESTABLISHED 1880 PUBLISHED WEEKLY

The Lawrence Publishing Company Philadelphia

The Proper Care of Seed Potatoes

How They Must be Kept to Produce Best Crops

By JOHN MARSH

OHIO

The importance of high-grade seed in potato growing can scarcely be overestimated. The use of good or poor seed may result in a difference of 20 to 50 percent in the yield of marketable potatoes. The cost of growing a crop of potatoes is the same in either case, and it is obviously poor economy to plant poor seed. On most northern farms the basement or cellar under the dwelling house is the only available place to store potatoes, whether they are intended for market, home use or seed. In many places there is a furnace located in the cellar, but even when the dwelling is heated from above, the ordinary farm house cellar is not the most suitable place to store seed potatoes, as the temperature is hard to control. A carefully protected cave, or a cellar under an outbuilding is more favorable for the preservation of seed in a dormant condition.

There is a general belief in the superiority of seed potatoes which were grown farther north than the latitude in which they are to be planted. Careful experiments have shown that the apparent advantage of northern grown seed is due to its more perfect condition at planting, rather than to the fact that it has been grown in a more northern location. Seed which has been grown and stored in a cold climate usually keeps till planting time in a solid, dormant condition, which is the most favorable for the production of a maximum crop.

The temperature of cellars and storage houses can be regulated to a certain extent by ventilation. If the interior temperature rises to 40 degrees, more outside air should be admitted at night, when air is cold; on the other hand, it may be necessary to close down doors and ventilators tightly during extremely cold weather, when the interior temperature drops to 30 degrees or lower. Potatoes may be uninjured for seed after exposure to a temperature of 30 degrees or even 28 degrees if the exposure is of short duration. If it becomes necessary to maintain the temperature by artificial means, one or more lanterns, large lamps or small oil stoves will be found effective. Such devices must be carefully arranged, in order to guard against fire.

If potatoes have been stored in a warm, dark place. They soon show the characteristic growth of long, white sprouts which are caused by too high temperature. These sprouts must be removed before planting, and the vitality and reproductive power of the seed is weakened to a considerable extent. Seed which has been kept at the proper temperature should come out of storage at planting time firm, crisp, only slightly wilted and showing very slight sprout development. Short, healthy sprouts which are not over ½ inch long, even when grown in a dark cellar, are favorable to early growth and should not be removed at planting.

Most potato growers have noticed that bright daylight, and particularly direct sunlight has a remarkable effect on the sprouting of potatoes. If the tubers are spread out in a thin layer, so that sunlight can shine around and thru them, in place of the long, sickly sprouts which appear when the potatoes are in darkness, short, stubby, green buds appear at the eyes of the potatoes, buds which in time develop into tough, green sprouts an inch or more in length, and with every indication of vigor and strength. It usually requires from one to two weeks for these buds to appear, and about four weeks for them to attain a growth of one inch. Sun sprouted seed will mature a crop one or two weeks earlier than dormant seed. Moreover, the exposure to direct sunlight for two or three weeks is a positive and efficient method of killing the spores which cause potato scab and other fungous diseases. Sprouted seed must be handled with care when cutting the seed and planting. More or less damage will result to the sprouts when a planter is used, therefore hand planting is preferable to machine planting. If the sprouts or buds have attained a length of one inch or more, the seed pieces should be dropped in the furrow with the sprouts up, as this favors a more rapid growth.

In order to determine the relative productivity of seed under different conditions of treatment, the Ohio Experiment Station planted on June 30 a test plot of sun sprouted seed, another plot of seed taken from a cellar and from which long, weak sprouts had been removed, and still another plot of seed which had been kept perfectly dormant in cold storage. The results of this test prove conclusively the superiority of sun sprouted seed for late planting, the yield being 67 bushels as compared with 33 bushels from the cellar seed and 38 bushels from the cold storage seed.

Right Selection of Seed May Mean Many Dollars in Yield

The results of the above test correspond with those obtained at the Rhode Island Experiment Station. Seed of Early Rose which had been sun sprouted for four to six weeks yielded 191 bushels and a similar plot which was planted with dormant seed yielded 136 bushels, or 55 bushels less than the yield from sun sprouted seed.

Can small potatoes be used profitably for seed? As a rule planting very small potatoes will result in a decrease in yield, altho if the growing ocnditions are favorable the difference in yield may be of small importance. What is commonly known as seed size stock, potatoes which measure from one to two inches in length, can be safely used for seed if they are in good condition. Planting small potatoes from the same stock year after year will result in deterioration of the variety, as this method unavoidably allows the selection of potatoes from unprofitable hills which produce only a number of small potatoes. In proof of this statement, let us notice the following conclusion from an experiment by C. W. Waid, of the Ohio Experiment Station. From 100 hills he secured the following yield of potatoes: Planted with seed from high-yielding hills, 138 pounds; from low yielding hills, 73 pounds; from unselected hills, 110 pounds. Remarkable results have been secured by the selection and planting of seed from the highest yielding hills for a number of years, the increase over unselected seed running from 30 to 100 percent. In any case, the grower will be well compensated for the time and labor spent in selecting and improving his seed stock of potatoes.

A Plea for Better Tools

Most of the implements that come from the factories of this country to the farm are so perfect and so beautiful that no word of criticism can justly be placed upon them. There are, however, some kinds of tools that have serious defects which ought to be remedied by those who put them on the market.

Let me speak for one or two such tools. My son bought a little machine for drilling iron and steel. It was quite an expensive affair, and if it had worked right would have been a valuable addition to the equipment of the farm shop. Owing to imperfection in the "chuck," so I was afterward informed, the bit never ran true. It always wobbled. We took it back, and the dealer complacently told us the tool was just as perfect as any designed for hand use on the farm. It was, so he declared, perfect enough for all ordinary purposes. I felt a bit warm around the collar to think that farmers do not want tools that are just as perfect as men in any other kind of business.

But this was not my only experience along this line. I bought a pair of table scales for weighing small articles. It never was right. The balances did not work quickly enough. I spoke to the man of whom I bought the scales and he told me the manufacturers made this scale especially for farm use! It was not, so he admitted, as perfect in its construction as some designed for other purposes nor as delicately balanced. Think of it! As if farmer folks should be imposed on that way and their intelligence insulted.

Now, I submit that no honest house will send out defective or poorly consructed things, no matter whether they are to be used on the farm or anywhere else. It may be said that the makers of such tools cannot get the men to do first class work in these days. That is absolutely no excuse. Better turn out fewer machines and have them right than to make more, and have a share of them imperfect and unreliable.—E. L. V.

Pumping With Hydraulic Ram

One of the jobs which must be done on the farm twice or three times every day in the year is to pump or furnish water for stock. It takes time and effort to pump water by hand; and for that reason many farmers used wind pumps or gasoline engines to do this work along with other jobs on the farm.

But on many farms there is a stream or creek near the buildings, and this can be dammed up, and made either to run a water wheel or a ram to pump water. On our farm their is a stream called Beaver run, which starts from and is fed mostly by springs along its course, 550 feet from the farm barn, with an elevation of 23 feet up to the milk house. We have a well of good water in the barn yard and one at the house, just outside of the kitchen door.

But the time and labor of pumping water daily for all the stock on a 100 acre farm was so great, that we had a double-acting hydraulic ram put in at the run to pump the water for the stock.

In order to find the fall we had a surveyor give us the fall from where this stream enters the farm to the place near a spring where it suited best to locate a ram, and it was found we had 18 inches of fall without backing the water onto the next farm.

There is a spring about 40 feet from the run, but it was not strong enough, nor had it fall enough to run a ram, tho it is a fine spring.

A wooden dam was built over the run near the spring to give us a fall of 18 inches. This dam leaked some, so four years ago a concrete dam was made, and it holds plenty of water with plenty of power.

The ram and pipe were furnished and put in for $150 by the inventor of the ram, 20 years ago; we dug the ditch, the ram pit and furnished the lumber for the dam.

A barrel was placed in the stream at one side of the dam and 20 feet of four inch pipe connecting this barrel and the ram in the ram pit furnished the power to operate the ram.

The side of the barrel towards the main body of water in the dam had holes bored into it and a screen placed over the end of the pipe to keep out dirt.

Then an inch pipe from the spring runs to the ram pit also which is supposed to furnish part or all of the water which is pumped to the barn, but the waters mix and not all spring water is pumped, tho it is cooler than the water of the run.

Water comes to the milk house where it empties into a tank in which the milk cans are placed to cool the milk before taking it to the creamery.

By means of 2 pipes, water flows into a large trough in the barn yard where the stock is all watered.

An inch overflow pipe is in this water trough to carry off the water when the trough is full, and pipes are laid thru the yard to carry this surplus water into the meadow where it soaks into the ground or flows back to the run.

A ram needs very little attention, tho the leather vale must be replaced every few years, and the bearings need oil occasionally, as well as leather to keep them level, so the ram works properly.

The ram pit has a cover over it to keep it warm and from freezing. The first ram gave out, and we had a second one installed at a cost of $25 ten years ago.

Where one has a stream, they furnish the cheapest kind of power for pumping water, with small expense when installed.—J. N. Glover, Union County, Pa.

In planning the garden it is well to keep in mind the old rule that it is better not to repeat the same crop where it grew last year.

COOPERATIVE PRODUCTION OF MAPLE SYRUP

In the past maple syrup producers have sold their product for whatever local buyers offered. They have generally felt that the business did not pay on this basis. There now seems to be three very good reasons for changing all this. First, the value of lumber has increased. Second, the acute shortage of desirable sweets makes the making of all the pure maple syrup possible advisable as an economic measure, and third, the improved method of selling the product co-operatively directly to the consumer makes the price to the latter a reasonable one.

Last year Cortland County producers organized a cooperative selling Association. With other counties getting about $1.45 to possibly $1.75 a gallon the makers of the organization secured $2.30 net a gallon for its members. They began work too late in the season to do much, but they did make a reputation for the quality of their goods and they learned many valuable lessons in marketing.

This year most of the counties of central New York will cooperate with the Cortland association and a big bottling business is to be built up near Cortland.

The State College is cooperating in trying to estimate the exact cost of producing syrup. Questionnaires are being sent to leading producers whose methods are known to be modern and efficient in an effort to determine the exact cost of this year's product.

Based on figures kept by the president of last year's association in Cortland County, it is found that if this year's crop sells for $3.50 a gallon in tin cans the profit for the season on 300 gallons or the output of the average sized bush would be but $61 60.

Professor C. H. Collingwood of the department of forestry of the Cornell College of Agriculture assisted in making this estimate and says he believes no maker can afford to sell for less than $3.50 a gallon this year.

The figures on last year's crop of 300 gallons were made as estimated by Prof. Collingwood and the Cortland producer are:

Interest on investment of $6.500	$360.00
2 men, 40 days @ $2	160.00
1 man, 50 days @ $2	100.00
10 cords of wood @ $6	60.00
3 tons coal @ $8	24.00
Drawing coal	12.00
1 team 20 days @ $2	40.00
5 percent depreciation of equipment	75.00
2 men's board 40 days	50.00
5 yards cheesecloth @ 20c	1.00
2 gallons kerosene @ 20c	.40
3 cans @ $20 per can	60.00
50 crates @ 50 cents	25.00
Drawing syrup to market	8.00
Canning Syrup	10.00
Total cost	$985.40
300 gallons at $3.50	$1050.00
Cost of production	985.40
Profit	$ 64.60

The estimate is a conservative one unless in the case of the item of interest on the investment. In this case the actual value of the woods the sugar house and syrup making equipment was considered to be that amount. The trouble has been in this business as with all farming business in the past, no account has been taken of the overheard expense. This is wrong, vitally wrong and accounts for farmers in general not being able to afford the ordinary comforts and conveniences deemed necessary by the average laborer's family of the city.

The Cortland Association is to have the plant of the Clover Farms Company of Homer. A committee has been selected to equip the plant and they hope to have it ready to receive the farmers' syrup. Local bankers will loan the association money so that the producers' will receive 60 percent or 70 percent of the value of their syrup in cash the balance to be paid when the syrup is sold. The farmer receives the actual balance left after the cost of carrying on the business is deducted.

Delaware County has organized an association as has Chenango County, Otsego County organized last year, but did not get into the work of selling as did Cortland. The Franklin County producers have also planned to organize this spring, Chenango, Cayuga, Onondaga, Broome and perhaps some other producers will sell their product thru the Cortland Association.—M. G. F., Tompkins Co., N. Y.

Helps for Home Mixing

To furnish 1% of Nitrogen in one ton of Fertilizer Requires:

166 lbs.	Dried Blood.	12% N.	
250 "	Fish Scrap.	8 " N.	This am't also contains 15 lbs. phos. acid
222 "	Tankage,	9 " "	" " " " 20 " " "
270 "	Tankage,	7.4 " "	" " " " 25 " " "
345 "	Tankage,	5.8 " "	" " " " 47 " " "
345 "	Tankage,	5.8 " "	" " " " 23.5 " " "
285 "	C. S. Meal	7.0 " "	" " " " 8.5 " " " and " " 5.7 potash
95 "	Ammonium Sulphate	21 percent N.	
129 "	Nitrate of Soda	15.5 percent N.	
143 "	Nitrate of Potash		(This am't also contains 63 lbs. potash.

To furnish 1% of Phosphoric Acid in one ton of fertilizer requires:

75 lbs.	1½—60 Bone	27.5% P.	This am't also contains .9 lbs. of N.
87 "	3 —50 "	23.0 " "	" " " " 2.1 " "
145 "	2 —30 "	13.75 " "	" " " " 2.4 " "
71 "	S. C. Phosphate Rock	28.00% P.	
62.5 "	Tenn. " "	32.00 " "	
117.0 "	Basic Slag	17.00 " "	
143.0 "	Acid Phosphate	16.00 " "	
125.0 "	" "	14.00 " "	

To furnish 1% of Potash in one ton of fertilizer requires:

40 lbs.	Muriate of Potash	48% K.	
43 "	Sulphate of potash	46 " "	
166 "	Kainit	12 " "	
45 "	Nitrate of Potash	44 " "	This am't also contains 6.2 lbs. Nitro.

When a fertilizer company or manufacturer quotes a fertilizer formula as 4—8—2, he means that it contains four percent of ammonia, eight percent of phosphoric acid, and two percent of potash. On the other hand the experiment station worker means four percent of nitrogen, eight percent of phosphoric acid and two percent of potash. Ammonia and nitrogen are two different substances tho the former contains nitrogen. Either method may be followed if the difference is understood. In other words it must be remembered that there is only ⅘ of a pound of nitrogen in a pound of ammonia and the difference of ⅕ of a pound is hydrogen which has no value as a fertilizer.

In the same way phosphoric acid in ground bone is often quoted in terms of bone phosphate of lime. For instance a 3—50 pound bone contains 2.47 percent of nitrogen and 22.9 percent of phosphoric acid.

The following table gives the figures by which one may be expressed in terms of the other.

To convert the guarantee of:	Multiply by:
Ammonia into an equivalent of Nitrogen,	.8235
Nitrogen into an equivalent of Ammonia,	1.2140
Bone Phosphate, into an equivalent of Phosphoric Acid	0.4580

BARIUM PHOSPHATE

Pennsylvania Farmer has received a number of inquiries regarding the fertilizing value of barium phosphate, a material of rather low grade containing phosphoric acid.

So far as supplying phosphoric acid to soils is concerned there is yet to be developed a material superior to acid phosphate, sometimes called acid rock.

Experimental trials are not as yet conclusive, but so far the results at New Jersey, Rhode Island, and Maine do not prove it to be superior to acid phosphate. However, it should not be condemned without further trial, but farmers will do well to remember that it is a low grade, slowly available material, and that the price which is now being asked for it is only a little below the price of acid phosphate, which is a thoroly tried and readily available phosphatic material.

Don't be afraid of one or two garden novelties but in the main stick to time tried varieties.

My Experience With Manure Spreaders

What a New Jersey Famer Has Found Out About Their Use and Value

By CHAS. A. UMOSELLE

My first manure spreader experience was with one of 40 bushels capacity, and my present one has a 50-bushel capacity. Their extended use convinces me that they just cut in half the cost of removing and distributing farm manure, hardwood ashes, floats and that class of fertilizers, and doubles their value. The only labor done by the man is in loading the spreader. This is done a little more rapidly than when he must also spread the load by hand, for he is not exhausted by the hard work required in spreading. The only time he needs to hurry is while loading. At all other times he is riding on a spring seat and the team can do the hurrying. He also becomes more interested in the work and takes a pride in it, for I have observed that in hauling manure on a wagon each man prefers to let one of the others do it. While with the spreader each one prefers to do the work.

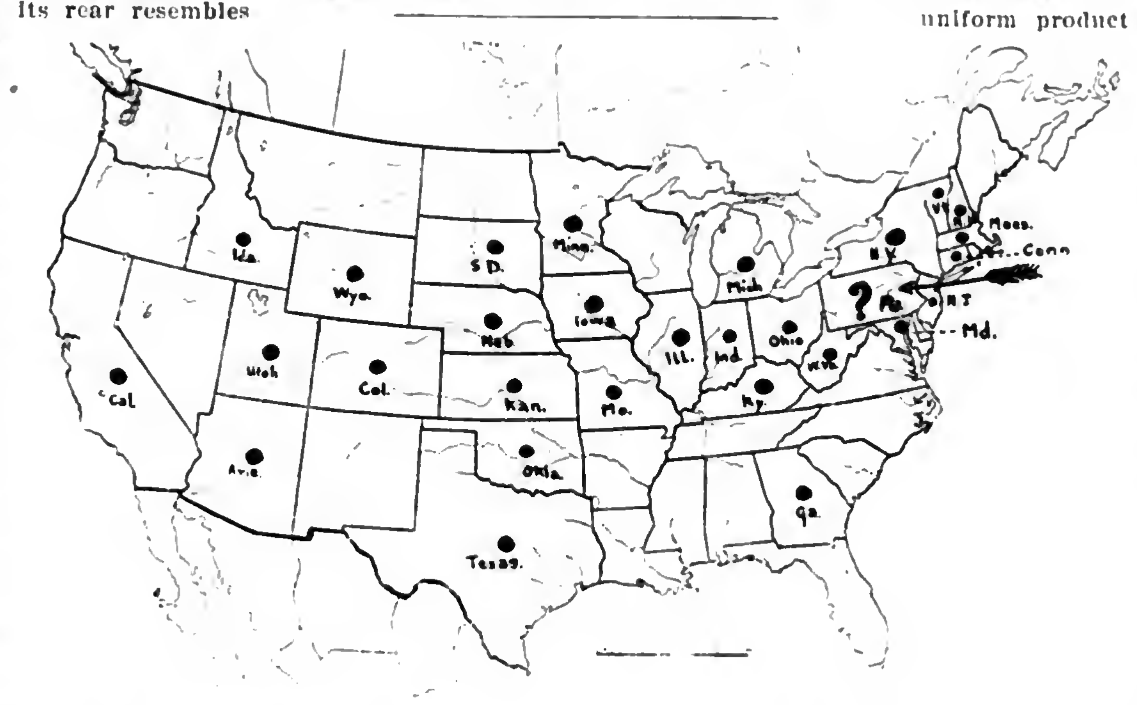
The time taken to drive to the field with a loaded spreader is a little less than with the ordinary farm wagon for the reason that the high hind wheels, wide tires and turned axles and bearings makes a lighter draft to the spreader and larger loads can be hauled. The spreader will save from 45 to 50 minutes in distributing a 50 bushel load. The conveniences in loading, the condition of the ground over which we haul, the distance we are hauling, and other things may change the amount hauled, but I conclude that a fair average is that with a spreader the manure is removed and distributed in less than one-half the time required when handled on an ordinary farm wagon and distributed by hand.

Perhaps the statement that the spreader halves the work will be more readily accepted and understood by the reader than that it doubles the value of the manure. My experience is that from four to six loads of manure per acre produces as good results when applied with a spreader as double that amount has for me or my brother farmers when spread by hand on very similar soil, and the benefit has been apparent during the second, third and fourth years after applying I account for this by the fact that the beater of the spreader revolving rapidly in its rear resembles somewhat the cylinder of a threshing machine and makes even the coarsest manure very fine. Not only this, but it distributes the manure so uniformly that practically every square inch of the soil receives its share in a condition to be more surely and readily available for the food of the plants than it can possibly be when left with many lumps and much coarse material, as it must necessarily be when spread by hand. The prime benefit from a fine pulverizing of soil and manure is that the roots of the plants can more easily secure the plant food which they contain and which is made more readily soluble.

The favorite argument which farmers advance to defend the practice of spreading manure by hand and applying from two to five times as much as the spreader does and leaving it coarse and lumpy, is that the fertility is there and it will do good some time. The same argument is equally good to defend the practice of leaving the soil in clods and lumps. Most of us farmers spread the manure, till the soil and plant the seed to get a crop at the next harvest instead of years hence. No place is the benefit of finely pulverizing and evenly distributing the manure more apparent than in top dressing newly seeded fields or meadows. The fertilizer acts more quickly and gives the grasses and clovers an early start, which is very important. The stalks, straw and lumps are torn into fine pieces so that they are not raked up with the hay to its great damage. In fact many kinds of manure which could not be used at all for top-dressing because of its coarseness of solid packing would be pulverized by the spreader and made a valuable top dressing. Thru the action of the spreader these coarse materials used in the bedding are broken to pieces.

One great benefit derived from the use of the spreader is that practically each square yard of land has the same amount of manure distributed upon it while by hand spreading some square yards will have at the rate of 75 to 100 loads to the acre while others will have little or none, and the thinner we attempt to spread by hand the more serious the difficulty. To obtain the most benefit from the use of my manure spreader, I apply the manure to heavy sod for corn, and top dress meadows. With my spreader we can distribute three, six, nine, and twelve loads per acre. All other farm machines save manual labor, but no other machine increases the fertiliy of the soil so much. If you have no manure spreader get one now for spring top-dressing.—Chas. A. Umoselle, Atlantic Co., N. J.

A Durable Farm Garage Built of Hollow Till



Dots Show States Belonging to Farm Bureau Federation. Find the Question Mark

GROWING SORGHUM FOR SYRUP

The scarcity and high price of sugar naturally arouses an interest in sorghum growing. There seems to be an increased demand for sorghum syrup of recent years. At the coal works sorghum sold last year at retail as high as two dollars a gallon.

A good crop of sorghum will produce as much as from 100 to 150 gallons of syrup to the acre. The blades on one acre produce several dollars worth of excellent forage, and from 20 to 25 bushels of seed that is worth nearly as much as corn for poultry and other animal food.

The first consideration in preparing for a sorghum crop is to select a nice mellow soil or one that can be well prepared with plenty of available plant food. The young weeds on the surface soil should be killed by frequent cultivation before the seed is planted. From 200 to 300 pounds of acid phosphate to the acre should be broadcasted or drilled into the soil.

Lay off the land in rows from three and one half to four feet apart and either drill the seed in with a one horse corn drill or plant the seed in hills about two feet apart in the row. About one hundred pounds to the acre of a high grade complete fertilizer should be drilled in with the seed.

This should be done in order to start the young plants rapidly as they are very small and do not grow fast at first. As to variety the sugar drip is one of the best varieties to grow for syrup, and I think that no one will make a mistake by selecting this variety for syrup making.

The cultivation is very similar to that of corn. Frequent shallow cultivation should be given and the crop should be carefully thinned down to four or five stalks to the hill before the plant begin to run up and joint.

When the crop is ripe the blades are stripped off and left to cure. When they are well dried out they are tied in bundles and drawn to the shelter and stored for winter use. The heads are cut off and after they are cured out, they too are stored for future use. I cut the canes very close to the ground and crush out the juice in a cane mill.

The size of the mill and evaporator or pan should be selected according to the amount of work to be performed. For a small crop I prefer a small mill and a pan made with a sheet iron bottom and wooden sides set over a furnace dug into the ground and built up with mortar and stones.

In this way the pan is filled full of juice and skimmed as it approaches the boil. It is then boiled into syrup without adding any more juice until it is done. In this way we get a more uniform product and a better quality of syrup than when an evaporating pan is used. Where a large crop is to be worked a more expensive and larger outfit should be used.

A method of cleansing the juice before putting to boil is to make a long deep box of plank large enough to hold a whole boiling. Then bore half inch holes in one end down the the end and stop them with wooden plugs. This is done so that the juice may be drawn off as it settles without stirring the juice.

The box is set on a frame for convenience of drawing the juice. The juice is put in the box and about one-fourth bushel of a finely powdered silty white clay is pored in it and thoroly stirred.

As the clay begins to settle it takes the green skim with it and all settles to the bottom. The top hole is opened and the juice is drawn off and put to boil.

In this way all skimming is avoided and we get a clear pure syrup without the trouble of skimming by hands.—A. J. Legg, Albion, West Virginia

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One ton of vitamine-rich butter every minute night and day is turned out in the United States, for American children who should spread it liberally on their bread

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PHILADELPHIA, PA., APRIL 3, 1920

VOLUME 47 NUMBER 11

Our job is to serve our readers. Whenever and wherever we can help you, write us.—The Editors.

No Drink Recipes Printed

DURING the past year we have received a number of requests to publish recipes for making all kinds of wine, hard cider, raisin beverages, etc. In every instance either no name was signed to the letter, or a request was made not to publish the name. Naturally, we have not responded to these requests, nor do we intend to. Pennsylvania Farmer stands squarely behind the spirit of the Volstead Act and this may be taken as final notice that we will not print recipes for making alcoholic drinks.

Radicals and Reactionaries

A MAN made the remark the other day that he did not know which was most to be feared—the radical radicals or the radical reactionaries. We have been puzzling ourselves over the same question. We are in the midst of warfare between those who have the votes and those who have money and property and many fool things are being said and done by both sides. There is a happy medium position which the business and nature of the farmer admirably fit him to occupy, but this does not mean that he should be a "straddler" or that he should compromise principles, but that he should be the balance wheel of the great political and economic machinery of our social order. The farmer can not consistently wage open warfare on the principle of private enterprise and ownership, neither can he appove of plans, laws or practices which are unjust and antagonistic to labor. Certain leaders have been guilty of trying to commit farmers to both these courses, and the rank and file of farmers should quickly unseat any would-be leader who becomes a radical or a reactionary.

Penny Wise and Pound Foolish

FARMERS may form some idea of how little Congress knows about what is either just or necessary to the best interests of agriculture by the way it cut and slashed the appropriations asked for by Secretary Meredith. While the Senate restored some of the items the net result will be to seriously reduce the work of the Department. When one takes note of the particular lines of work which are thus crippled, he is inclined to wonder whether other interests have not inspired Congress in its knifing business. For instance, the reductions will seriously cripple the work of dairy investigation, the market service, the soil surveys, cereal investigations, animal diseases, etc. Important crop reports on fruit and truck crops which have been issued frequently during the growing and marketing season, and which were of interest and value to growers, will have to be discontinued. When it is known that certain interests have opposed much of this work it looks suspicious to say the least. The House of Representatives did most of the slashing, yet appropriated $250,000 to continue the free seed graft! While the Senate rejected this item, it may be restored in conference.

Oh, Consistency, Thou art a Jewel.

Taxing Land Bank Bonds

THE Farm Mortgage Bankers Association and other similar interests are putting up a hard fight to have Congress eliminate the tax exemption feature of the Federal Land Bank bonds. If they succeed these bonds will be taxed by the government and this added cost will not only make it more difficult to float the bonds but will partially eliminate the advantages of the Farm Land Banks and the Joint Stock Land Banks. It is a scheme to take away the competition of these banks and place farmers again at the mercy of the Farm Mortgage and other old-system banks. In order to get the newspapers behind the proposition the editors are being informed that unless the taxing bill is passed, another bill, one introduced by Congressman Thompson, proposing a ten percent tax on advertising may be passed. If you find an editor favoring a tax on Farm Loan Bonds, remember this argument.

Our Washington Letter

Hearings on the pure fabric legislation now being held before the House Interstate and Foreign Commerce committee are attracting to Washington quite a number of representative wool growers. There are several bills before the Committee designed to prevent deception in woven fabrics, but the Truth in Fabric bill introduced in the House by Representative Burton L. French, and in the Senate by Senator Capper, is evidently the measure most nearly meeting the approval of wool growers and the public generally.

Representative French reviewed the history of textiles for the past fifty years, showing the enormous increase in shoddy as compared with wool in woven fabrics. His bill is based upon the recognition of shoddy as a useful product, the supply of virgin wool being so small that we could not get along without shoddy; and to say that the manufacturer would lose by the use of the name shoddy is to say that he is selling his products under false pretences.

The term "all wool" now means one thing to the manufacturer and another to the public. The public understands that "all wool" means the fresh virgin wool from the sheep's back, while the manufacturer applies the term to shoddy made from woolen rags. The Truth in Fabric bill protects the people by giving them knowledge of the kind of materials used in the goods they buy. The passage of the bill would aid production of wool.

It was pointed out by Mr. Bonney of the National Sheep and Wool Bureau that the opposition to the Truth in Fabric bill was based on the theory that it is to the interest of the people to be kept in ignorance as to the contents of the woven fabrics. Encouragement of the wool industry, he said, is essential to the security of the country. No country is safe unless it is able to clothe its people. Representatives of the woolen and shoddy manufacturers are in attendance and will no doubt undertake to show that the methods of marking woven fabrics as provided in the Truth in Fabric bill, are impracticable.

* * *

Secretary of Agriculture Meredith recently received a large delegation of grain growers and elevator men from the Northwest, asking him to modify the existing grain grading rules. It was said that no one was benefitted by these rules except the millers, and they did not ask for it. They caused more dissatisfaction than anything else the farmers had had to contend with. It was also shown that while the country elevator men are obliged to grade much of the wheat as No. 2 and No. 3, the millers mixed these grades with No. 1 in such a way as to make No. 1 flour. The Federal grading system is too technical, and the buyers use the technicalities to reduce the grades and prices.

* * *

The National Board of Farm Organizations has prepared and submitted to the presidential candidates a questionnaire, asking their views on a number of problems in which the farmers are especially concerned. Among the questions asked are these: Will you do your best to bring about such direct dealing between producer and consumer as will secure to the farmer a fair share of the wealth they create; to secure to farmers and consumers the right of collective bargaining; to see that the farmers are represented on boards and commissions in whose membership various interests are recognized; to appoint a secretary of agriculture satisfactory to farm organizations; to secure improved credit facilities on reasonable terms for farmers; to secure the payment of the war debt by a chiefly graduated income tax; to enforce the national conservation policy; to secure and enforce effective Federal control over the packers and other great interstate combinations of capital engaged in the manufacture and distribution of food and other farm products and farm supplies? The candidates are also asked if at the end of two years of further trial of private ownership the railroads fail to render reasonably satisactfory service to the people, will you then favor reopening the railroad question?

T. C. Atkeson, Washington representative of the National Grange, and W. I. Drummond, chairman of the board of governors of the International Farm Congress, have issued a statement of disapproving of the questionnaire, and disclaiming any responsibility for themselves or their organizations.

* * *

Hearings on the Muscle Shoals nitrate fixation plant development before the Senate committee on Agriculture the past week have brought out much information in regard to this proposition, showing that there is a wide difference of opinion regarding the capacity of the plant and its relative importance in supplying the needs of the country for nitrates.

Secretary of War Baker appeared before the committee in behalf of the bill, and presented strong arguments in its favor. It was pointed out by the experts that the capacity of the plant will be about 240,000 tons of sulphate of ammonium a year, equal to about 350,000 tons of the Chilean product. Upwards of $72,000,000 has already been spent on the Muscle Shoals plant No. 2, and $12,500,000 more will be required to equip it and finance its operation. But Secretary Baker said that if the bill passes, the War Department could sell 150,000 tons of nitrates now in hand for enough to pay the expenses of developing the Muscle Shoals plant and operate it until such times as it becomes self sustaining without the necessity of an appropriation.

The government will largely determine the selling price of nitrates after the plant is operated. Secretary Baker thought the plant could be perfected to produce sulphate of ammonium in commercial quantities by next season, and that when running in full capacity an annual profit of $2,900,000 would result from government operation, after selling the product at a considerable reduction under the price now charged by the Chilean nitrate trust.

It is proposed that the plant be operated primarily to provide the government with nitrates for military use in time of war, and to supply the farmers with fertilizer in peace times. Nations have failed thru defeat in war or thru loss of soil fertility. Here is a proposition which will safeguard both interests. Not only the committee on Military Affairs but the Agriculture Committee are evidently favorably impressed with the Muscle Shoals proposition.

Senator Norris of Nebraska says it is time the citizens of the United States quit paying tribute to Chile in the form of an export duty on nitrates. The absurdity of paying an export duty on something which the country itself can produce in abundance should be apparent to even a superficial thinker. We are paying Chile in export duty alone about $10,000,000 annually for the nitrates she permits us to use. The farmers of this nation have no voice in naming prices that are paid for the Chilean product. The price is fixed in London by a commission, which fixes prices for practically all nitrates used in fertilizing the soil of the United States. The farmers are entirely at the mercy of this foreign body. They must either pay the commission demands or dispense with the needed fertilizer.—E. E. Reynolds, Washington, D. C.

HARRISBURG LETTER

The Institute Attendance.—While the complete figures for the attendance at farmers' institutes thruout Pennsylvania during the season just closed are not available enough is in hand to show the number of persons gathering in thirty-one counties. These thirty-one counties showed an attendance of 30,305 which is considered very gratifying when the weather conditions prevailing during most of the winter are borne in mind. The institutes this season were conducted upon a number plan and efforts were made to have specialists familiar with the problems of the various localities speak to the farmers and to have general interchanges of opinion and as much discussion as possible.

Taxpayers to Have a Say.—Dr. Thomas E. Finegan, the state superintendent of public instruction, who is planning to get all hands agreed upon a teachers' salary bill before the next legislature meets so that there will not be the prolonged controversy that raged during the last session, is discussing an idea to have a state wide committee of taxpayers to discuss the subject.

Rural Districts to be Changed.—One of the policies which the Department of Public Instruction has laid down is to bring about changes for the better in the rural districts, and Dr. L. L. Driver, the director of this branch of work, in a series of addresses has urged that people get ready for consolidation. Dr. Driver has come out for better salaries for the rural teachers and better facilities and believes that the only way to obtain them is to consolidate the schools. In addition to these thoughts Dr. Driver believes that women should be put in charge of the primary grades.

Farm Handbooks.—Secretary of Agriculture Fred Rasmussen has launched his plan for a series of State handbooks on various branches of agriculture. The program will require three or four years and intensive study of the various specialized branches of agriculture in Pennsylvania, which Governor William C. Sproul says ranks with Missouri and Kansas. Federal authorities will assist in the gathering and arrangement of material and so will State College and men in charge of farm bureaus and other agencies. Tobacco will form the subject of the first handbook and the publication will be issued during the year giving not only data about the Pennsylvania crop, but information for planting and caring for it. Tobacco culture is extending again in Pennsylvania and last year's crop was a very profitable one. Later on the orchards of Southern Pennsylvania, the dairying of the northern tier; the Lehigh potatoes, the Washington county sheep, the buckwheat, grapes and other crops and the story of Lancaster County, garden county of the nation, will be told in book form. The idea is unique, and the secretary believes that it will not only serve a useful purpose, but stimulate interest in various lines.—Hamilton, Harrisburg, March 29.

NEW YORK LETTER

Meeting of Grange Heads.—At a meeting of State and National Grange heads in Syracuse this week the failure to repeal the daylight saving act by our Legislature was called a grave mistake as lining up the city against the country. Food production decreases amounting to 25 percent was prophesied. When the shortage is felt the error will be known for what it is. George R. Fitts, the new farmer fair commissioner conferred with the grange as to fair policies and grange day at the fair. A meeting of the advisory council of the New York Grange Exchange was also held.

Milk Company Prosecution.—The Sheffield Farms Company, the biggest milk distributor of New York City is to be prosecuted for violating the food control act in posting notices refusing to take on additional dairies, and urging farmers to decrease milk production. The federal assistant attorney general is in New York to "put the thing clear thru." As the new spring flow of milk comes on hundreds of farmers are left with no market for their milk. New York officials and the Dairymen's League officials are conferring over the plan of having the city buy the big surplus, which amounts to 2,500,000 quarts, and undersell the regular distributors. The matter of terminals, shipping stations and containers is going to require time and money. Over 90 percent of all cans now in use are owned by the present distributors. The League proposes to open a chain of retail stores and even the plan of selling this big surplus thru the city's 510 schools is also mentioned.

Milk Company Fails.—In these days of milk profiteering it seems unbelieveable that a company can fail. Yet this week the Ekenberg Milk Products Company went into the hands of the receivers with many thousands of the farmers' dollars involved. The reason is that so much of their products went into pancake and other prepared flours and the war hit their trade hard.

Fair Buildings Contest.—The fair commission meet in Albany today for a conference on the two bills before the Legislature one for a horticultural building and one for a cattle coliseum. The commission will favor neither bill. Both interests have a hearing the latter part of the week. W. N. Giles, master of the State Grange will go to Albany to favor the horticulturists' cause, tho he admits that both buildings are much needed.—F.

NEW JERSEY NEWS

No Daylight Saving Law.—Despite a very urgent appeal sent to the New Jersey Senate to pass a daylight saving bill no such action was taken, apparently because the Republicans of both the Upper and Lower Houses are fighting along partisan lines against the Executive. In some parts of this commonwealth, therefore, the clocks are running an hour ahead of those in other sections. While the farmers of the state are elated over the situation, the workers in the populous centers in North Jersey are operating under a daylight system like that of New York. Senator William B. Mackay, who presented a daylight saving measure in the Senate and who comes from Bergen County in which are located many agriculturists, is being blamed for not taking heed of the appeal of the Governor, when he asked that the daylight bill be favorably acted upon.

To Form Association.—A Vegetable Growers' Association is to be formed soon from among the produce men located in Central New Jersey. A committee was named to draw up a tentative constitution for the proposed organization and suggest remedies for some of the present difficulties, one of which is poor marketing facilities.

Says Honey Scarce.—The producing of more honey in New Jersey has been urged upon the beekeepers of the State by Elmer G. Carr, deputy bee inspector of New Jersey, who has had a great deal of experience in raising and handling bees. Mr. Carr declared that there are about 2,500 beekeepers in this state with an average of ten colonies of bees apiece.

Annual Field Meet.—The Annual Summer Field Meeting of the New Jersey State Agricultural College and Experiment Station is to be held this year at the college farm in New Brunswick from June 16 to 19, inclusive. A change in the policy of the meeting was made last year and a three-day session held in June as a result of the change.—Kelly.

Statement of Ownership and Management of the Pennsylvania Farmer, Published Weekly at Philadelphia, Pa., Required by the Act of August 24th, 1912.

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Business Manager, Neff Laing,	Phila Pa
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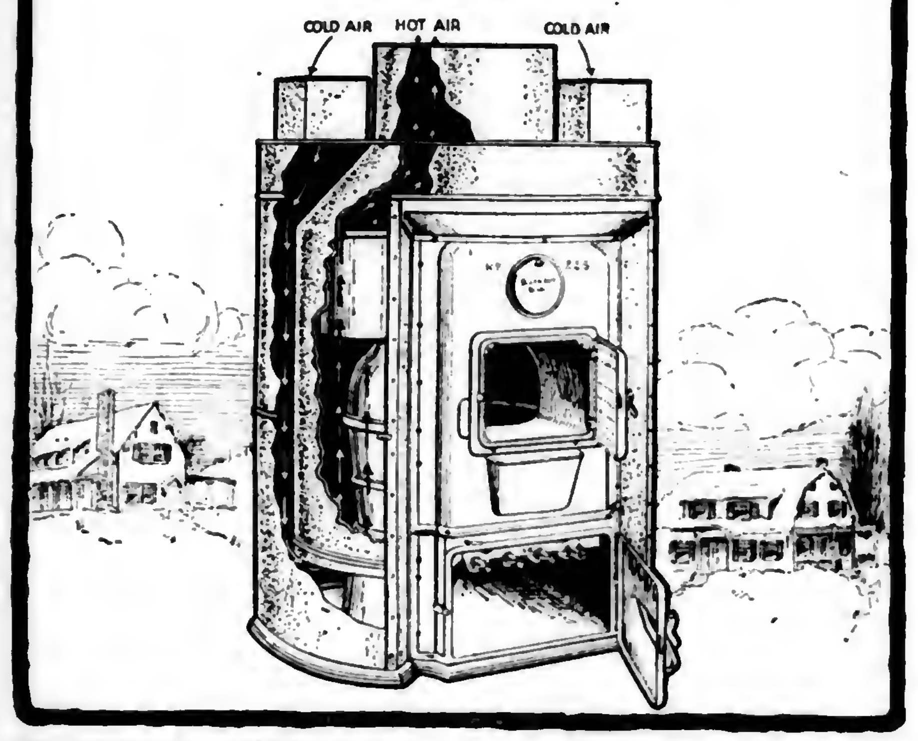

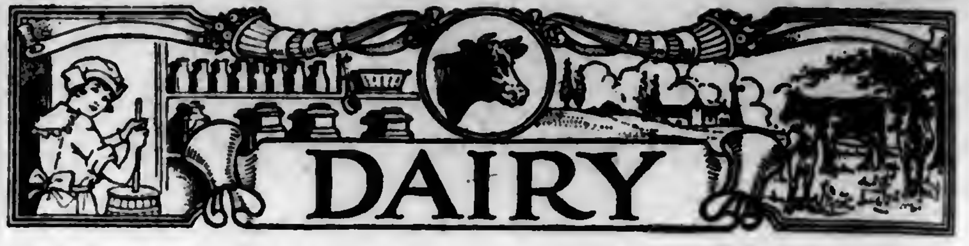

MAINE JERSEY MAKES WORLD'S RECORD

Where is the man who said that an ordinary farmer, under everyday working conditions, cannot make a world's record with his cows?

Thrice within a year this theory has been contradicted by Jersey cows in working farmers' hands. First by Vive La France, an Oregon farmer's cow which made the four year old and breed record of 1031 pounds fat; then by Lulu Alphea of Ashburn, a yearling which made 800 pounds fat for her owner, who only two years before had graduated from grades to pure-breds.

The third and latest case is that of Plain Mary, a registered Jersey that found her way into the barn of two farmers who had decided to try their luck with purebreds. Their cow has made 15,255 pounds milk and 1040 pounds of butterfat in one year and gained the title of world's champion Jersey. She is now owned by F. W. Ayer of Maine, who bought her at a fancy price from Kelly and Cossar, the men who owned the cow until the sixth month of her present test, at which time Mr. Ayer bought her. She was sold on condition that she remain at the old home farm to finish her record.

Mary started her test at eight years and eleven months of age and during the first six months she averaged more than 100 pounds of butterfat per month. From then on she had a few reverses and did not make as large a record as was expected.

The country in which she lived is subject to severe extremes of weather and the setbacks were due to a weather variation of eighty-four degrees in one day in June and then in December she was subjected to fourty-five degrees below zero in an unheated barn. The farm is located in an unprotected spot on the shores of the Penobscot River and Mary had the benefit of all the fresh air that blew across fields of ice and snow. In spite of her handicaps she finished strong and averaged twenty-eight pounds of milk a day during the last month of her record.

Plain Mary's record is more of a tribute to official test work than it is to breeding, as she does not belong to any particular strain. She reverts to St. Lambert blood chiefly, but no plan of breeding is brought out in her pedigree. As an individuel she is much better looking than her picture. Cattle experts who have seen her say she is an almost perfect specimen of the producing dairy cow. She has plenty of barrel, strong constitution, good udder and tests, a very fine hide and every evidence of "dairy temperament," or willingness to work.

Plain Mary occupied one of the two box stalls built for Register of Merit cows in Kelly and Cossar's barn. There is a total of fifty-one animals in the barn, five of which are on Register of Merit test.

Plain Mary was milked three times a day. Mr. Cossar did the night and morning milkings, while Frank Baker did the noon milking. Had she been milked four times a day as some animals are milked on large farms, she undoubtedly would have done even better.

Plain Mary's record was very closely supervised. There were 22 supervisions by official testers (each of whom stayed two days). They represented five state agricultural colleges and every one was a recognized expert in this line of work.

Stable in Which "Plain Mary's" Record Was Made

A WAYNE CO., PA., ASSOCIATION

A keen interest and a friendly rivalry is being manifested by the members of this association. Many new springers are on test now. We find in the month of February a total of 43 quality cows, either producing 1200 pounds milk or 40 pounds butterfat, or exceeding both. Twenty-one cows produced over 1200 pounds milk each and 5 produced over 50 pounds butterfat each.

The highest butterfat record held by any one individual cow for the month was made by a Gr. Hol, owned by G. H. Knapp. Her yield was 61.4 pounds from 1229 pounds milk.

The herd of G. G. Gaylordo leads in the production of butterfat. The average yield per cow being over 45 pounds butterfat.

Much interest is shown in getting purebred sires. Three purebred Holstein cows were purchased during the month.

Seventeen members out of twenty-seven are using purebred sires. Two members have bought silos, while another expects to install a milking machine soon.

It is surprising to know that the honor in producing butterfat is still held by a Gr. Hol, while the majority of the cows in the association are Jerseys.

Following is the list of honor members and number of cows each producing over 40 pounds butterfat.

R. G. Erk, 4; Geo. Gaylord, 8; F. G. Folley, 1; G. H. Knapp, 5; C. R. Bunting, 1; W. E. Rude, 3; S. A. Snedeker, 1; M. J. Hauenstein, 4; R. S. Wildenstein, 4; W. S. Martin, 5; W. J. Hauenstein, 3; and G. J. Wildenstein.—Ken. S. Bailey, supervisor.

Milk is the cheapest animal food; since we must all have some animal food, milk should be first considered by those who want to defeat old H. C. L. without harming health.

Every member of the Salem County Cow Testing Association owns a purebred bull. Moreover, of the 500 cows in the association, 432 are purebred. Incidentally, Salem County is making itself heard in dairying.

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FEBRUARY REPORT PEQUA COW-TESTING ASSOCIATION, LANCASTER

Cows on test	351
Grade Cows	294
Purebred Cows	57
Quality Cows	58
Grade Quality Cows	46
Purebred 2 Cows	12

One out of every six cows were in quality class. Purebreds forms about 16 percent of all cows. Purebreds form about 20 percent of quality cows. Fifteen and one-half percent of grades were quality cows. Twenty-one percent of purebred were quality cows.

Highest cow in association for 6 months—Posch Concordia Beatrice, registered Holstein, owned by Ross B. Denlinger, 10,171 pounds milk, 311.8 pounds fat.

Highest cow for February.—Abbekerk Pietertje Beauty, registered Holstein, owned by Ross B. Denlinger, 2592 pounds milk, 72.6 pounds fat.

Second highest cow.—L. H. C. Lady Inka Alcartra, registered Holstein, owned by H. L. Here and son, 2297 pounds milk, 68.9 pounds fat.

Third highest cow.—Loyal Sock Colantka Canary, registered Holstein owned by Henry R. Here, 2266 pounds milk, 89.5 pounds fat. This cow led in fat production.

The owners of the Quality cows are as follows: D. B. Book, 2; Jacob R. Houser, 2; H. H. Snavelly; H. R. Hen, 5; Martin H. Myers, 2; H. L. Hen and son, 4; C. H. Hendig; Lewis Creamer; Aldus Lauskey; C. F. Landis, 3; Aaron P. Beiler, 5; D. Eby, 4; Sol. J. Stoltzfus, 4; Chester D. Ranck, 3; Enos G. Ranck, 4; R. B. Denlinger, 7; Ira J. Book, 2; W. J. Hen, 3; J. Howard Brinton.

Prices of feed are as follows: Cottonseed meal $80 per ton; Linseed meal, $85 per ton; brain, $50 per ton; union grains, $79 per ton; gluten, $77 per ton.—H. T. Murdock, tester.

REPORT OF BUFFALO VALLEY COW TESTING ASSOCIATION, UNION COUNTY, PA.

During the month of February 350 cows were tested. Quality cows 50. The highest cow is owned by J. S. Ziegler, Lewisburg, Pa., a grade Holstein, giving 65.8 pounds of butterfat and 1569 pounds of milk.

Three Highest Herds in Association

J. S. Wehr, 8 Holsteins, 32.31 pounds fat, 1031 pounds milk; Wm. Stahl, 14 Holsteins, 37.30 pounds fat, 936 pounds milk; W. J. Erdley, 7 Holstein, 3164 pounds fat, 925 pounds milk.

The following men have cows on the honor roll: P. C. Shade, 2; W. J. Erdley, 4; J. S. Hackenburg, 4; C. E. Erdley, 2; J. M. Erdley, 4; M. A. Brouse, 1; W. E. Gast, 1; A. F. Rishel, 1; Wm. Stahl, 4; M. E. Keiser, 2, J. S. Zeigler, 2; C. L. Miller, 3; J. A. Roush, 2; J. L. Reitz, 4; G. B. Frederick, 5; E. W. Groover, 1; J. S. Wehr, 4; C. C. Dyer, 5

The honor list includes 15 registered and 35 grade Holstein cows. —Lester Ruhl, Tester.

DO YOU MIX YOUR OWN FEEDS?

The high protein feeds have a much greater manurial value than the low protein feeds. Use as much high protein food in the ration as cost and the health of the animal will permit.

The following mixtures are suggested by Professor S. E. Savage:

For Dairy Cows.

200 lbs. wheat bran	$7.68
200 lbs. corn meal	6.72
200 lbs. oil meal	8.22
300 lbs. gluten feed	11.73
1000 lbs. will cost	34.35
100 lbs. will cost	3.44
2000 lbs. will cost	68.70

For Calves and Young Stock

[illegible] lbs. ground oats
[illegible] lbs. hominy or ground barley.
200 lbs. wheat bran.
100 lbs. oil meal

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As a word, a trade-name, "Kodak" is simply an arbitrary combination of letters. It is not derived from any other word. It was made up from the alphabet, not by lucky chance, but as the result of a diligent search for a combination of letters that would form a short, crisp, euphonious name that would easily dwell in the public mind.

As a trade-mark, "Kodak" indicates certain of the products of the Eastman Kodak Co., to which it has been applied, as, for instance, Kodak Cameras, Kodak Tripods and Kodak Film Tanks.

As an institution, "Kodak" stands for leadership in photography. To the world at large it is best known for its simplification of photography for the amateur, for its Kodak and Brownie Cameras, for its films and papers. To the professional photographer, it is known for its progressive leadership in the manufacture of everything that is used in the studio. In the cinema world it is known as the producer of the film that made the motion picture possible. To the army and navy, it is best known for its aerial cameras and aerial lenses—the latter a modification of the Kodak Anastigmats. To the scientist, it is known for its X-Ray products, now so vital in the mending of men, and for the work of its great Research Laboratory.

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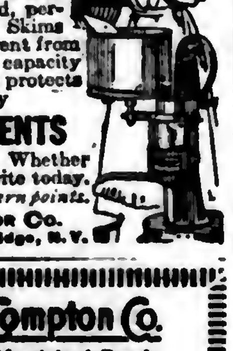

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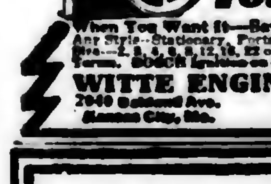

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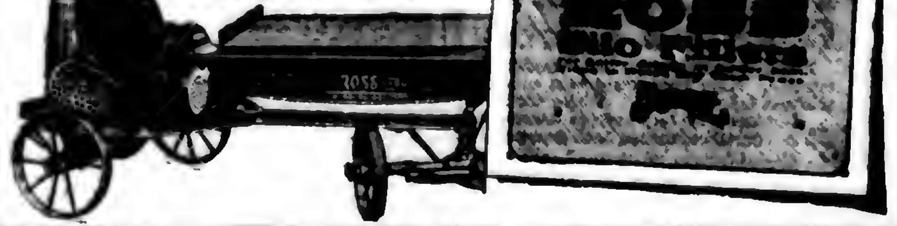

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237 BIG PRODUCERS

The reports of the four Cow Testing Associations in operation in Bradford County show that there were 237 cows to produce 40 pounds or more of butterfat during the past month. One hundred and ten of this number were in the Canton Association, 61 in the Troy Association, 54 in the Laurel Hill Association and 12 in the Wilmot Association.

The highest producing cow for the month was a grade Holstein, owned by Charles Chaffee of the Laurel Hill Association. This cow produced 92.2 pounds of butterfat. The second high cow was a registered Holstein owned by James Cowl of the Troy Association. She produced 90.1 pounds of butterfat. The third high cow was a registered Holstein owned by Charles Chaffee, of the Laurel Hill Association. Her yield was 80.5 pounds of butterfat. The fourth high cow for this month was a registered Jersey owned by M. A. Taylor of the Canton Association. She produced 74.8 pounds of butterfat.

The fifth association was organized this month for its new year and another new association will start work about April 1st. Indications are that if testors can be secured, Bradford County will have eight or ten Cow Testing Associations by January 1, 1921.

As a result of the continuous operation of these associations, Bradford County dairymen are gradually becoming breeders of purebred cattle. It looks now, as if such dairymen will be better able to withstand the competition which is coming in the future in the dairy business by having more efficient producers.—D. K. Sloan, County Agent.

"Plain Mary," Jersey World's Champion, 1040 Pounds Fat in One Year

YORK VALLEY COW-TESTING ASSOCIATION

The third month's work of the York Valley testing association was competed February 28th. Thirty-five cows were on the honor roll during the past month.

The following men had one or more cows from their herd on the honor roll: J. A. Poorbaugh, 6; A. G. Emig and sons, 1; H. N. Forrey, 2; W. A. Gross, 1; Isaac J. Rishel, 3; Norman Rishel, 5; C. Allen May, 1; John C. Smith, 3; F. L. Krall, 2; John L. Reisinger, 4; H. E. Robertson, 3.

Membership for the second association has been completed and work has just begun. Impassable roads have held up the second association to some extent. Many men are becoming interested in purebred dairy cattle and plans are being made to bring in several car loads as soon as spring opens.—Geo. G. Weber, Secretary and County Agent.

BUCKS COUNTY COW-TESTING REPORT

During the short month of February ninety-two cows produced enough milk and butterfat in the Bucks County Cow Testing Association to win a place in the honor list according to the official tester, W. W. Whetstone. Seventeen of these cows produced over 50 pounds of butterfat and six of them over 1500 pounds of milk. The high cow again belongs to the J. Heacock Dairy Co., producing 1723 pounds of milk and 57.8 pounds of butterfat. A cow in the same herd produced 67.8 pounds of butterfat and 1616 pounds of milk.

Name of owner.	Above 1500 lbs. milk	50 lbs fat
Delaview Farm	....	52.3
Heacock Dairy Co.	1647	....
" " "	....	67.1
" " "	....	50.1
" "	1708	56.3
" " "	....	50.7
" " "	....	56.1
" " "	....	51.3
" " "	1555	....
" " "	1586	....
" " "	1616	67.8
" " "	....	52.5
" " "	....	62.6
" " "	1723	57.8
Harry Wilson	....	52.0
Harry Wilson	....	53.2
L. P. Satterthwaite	....	50.3
Alex. Dixon	....	51.7
Wm. S. Duerr	....	53.0
Jos. S. Briggs	....	54.5

Average of Five Cows in February Honor List.

Low in butterfat, produced 1079 pounds milk and 29.3 pounds fat.

High in butterfat, produced 1503 pounds milk and 62.3 pounds fat.

Low in milk, produced 925 pounds milk and 42.3 pounds fat.

High in milk, produced 1656 pounds milk and 55.7 pounds fat.

In other words, milk production in the county should not be compared to the monthly records of the high cows because there is a difference of $32.34 a cow in value received between the low butterfat producer for the month of February, when milk is selling for 8½c. a quart f. o. b. station, or 98c. a pound butterfat f. o. b. creamery.

There is a difference of $28.53 between the average cow in the high milk yielders for the month and the low milk yielders. These are comparisons between those cows that won distinction in the honor lists. There is a greater difference between those not in the honor lists. There is also a larger number of cows not eligible to the honor lists.

We cannot all discard our low producers immediately because it would cause a milk famine but we can all aim for higher production in the future.—N. E. Garber, County Agent, Bucks Co., Pa.

INDIANA COUNTY, PA., COW TESTING ASSOCIATION.

REPORT FOR FEBRUARY, 1920

During the month of February 275 cows were tested, of which 25 qualified for the honor list. Twenty-one qualified by making over 1,000 lbs. of milk and four by making over 40 lbs. oyf butter fat. Fifteen of those making over 1,000 lbs. of milk, also made over 40 lbs. of fat.

Three cows produced over 60 lbs. of fat, and five others produced over 50 lbs. of fat. Two entire herds made an average of over 1,000 lbs. of milk.

Harry Kimmel's cow, Queen Butter Boy 3rd, again leads the association with 1,882 lbs. of milk and 64 lbs. of fat. Harry Barnharts grade Jersey, "Beauty" is a close second with 930 milk and 62.3 fat. M. S. Grumbling's cow "Ten" is a close third with 1,656 lbs. milk and 61.3 lbs. fat.—Norman Barkley, Tester.

GET ACQUAINTED

Editors Pennsylvania Farmer:—

I note in the March 6 issue of Pennsylvania Farmer that you would like the views of your readers, so will advance a few ideas that have come to mind from reading your much valued paper. While I enjoy reading nearly everything printed in the Pennsylvania Farmer and am interested in anything written for the benefit of the farmer in any way, nothing has come to my notice in a long time that has interested me more than the article by Bachelor and the replies thereto by your readers printed some time ago.

Now I sort of feel that the readers of any standard farm paper are like a big family with the editors at the head, or perhaps it would be more appropriate to say a large community. I think that one thing we farmers lack about as much as anything is that we don't get acquainted with each other enough. We don't know what splendid fertile, helpful thoughts there are, sometimes right over in the next neighborhood, until something like the above mentioned article occurs to bring them out. I enjoy getting the views of just the common readers, like myself. Those who are right out in the country on the small farms; those who are doing things in a small way but have aspirations to improve and do business on a larger scale, as well as the views of those who have gone on ahead and are doing things in an ideal manner. And then, anything to bring out a variety of thought helps to promote the spirit of "help each other along" which is what we all really enjoy the best of anything in life.

Now, I would like to see a regular "Get Acquainted" page in your paper where everybody could express their views on any subject. Who knows what good might come from it.—Bradford Countian.

Silage Corn on Farm of Chas. Nash, Luzerne Co.

WOOL PRICE ON DECLINE

Since November, 1918, the prices of wool have declined in comparison with the same month of the preceding year. The highest average price reached was 60 cents per pound in March and April, 1918, since which time the prices fell to as low a figure as 47.9 cents in April, 1919. In January, 1918, the average price was 58.1 cents; January, 1919, 55.1 cents; and in January 1920, 53.3 cents. The producers' price of 16.7 cents per pound in 1913 advanced to 58 cents in 1918, and fell to 51 cents in 1919. These figures are in accordance with reports received by the Bureau of Crop Estimates of the United States Department of Agriculture.

THINGS WORTH REMEMBERING

That your neighbors are good people.

That good neighbors are the result of good neighbors.

That no community can raise higher than the average level of its people.

That discussion, publicity and education will raise the average level of any community.

That the strongest community in the state is the best organized one.

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There is no longer any mystery in making tires. Anyone can do it who cares to buy the necessary machinery and materials. But to "make tires" and to *"make tires right"* are two different propositions.

The extra mileage in a well-made "right" tire is the result of painstaking, conscientious attention to details—not only material and equipment.

BRAENDER TIRES are making new friends daily because of the habit of taking pains and the sense of responsibility—call it conscience if you like—which will not permit a tire to leave the factory unless it *is* right.

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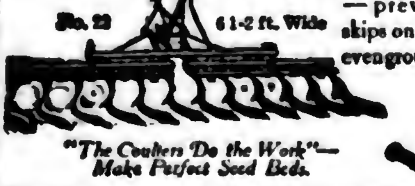
"ACME" TILLAGE TOOLS enable you to make better seed beds than you have ever made before. They provide the plants with smooth, fine, firm soil which promotes quick root growth. Crops planted in "Acme"-made seed beds yield heavier.

"ACME" Disc Harrow —10 Sizes

Better Tillage — Bigger Crops

"ACME" Disc Harrow has offset gangs which disc *all* the soil — leave no "comb" or middle ridge. The discs are specially formed so that they enter the soil with a clean cut. They lighten the draft yet pulverize thoroughly. Special ball bearings take up the end thrust. Pressure springs hold the gangs to their work — prevent skips on uneven ground.



"The Coulters Do the Work"— Make Perfect Seed Beds.

"ACME" Coulter Pulverizing Harrow completes the work so well begun by the "Acme" Disc. It is almost universally used on truck farms where perfect seed beds are the common thing. And it's equally valuable on fruit and general farms. Everywhere, "The Coulters Do the Work"—make perfect seed beds.

"I have used both your 'Acme' Disc and 'Acme' Coulter Harrows at the State Institute of Applied Agriculture on Long Island," writes Wm. Ryan, Inspector in Farm Management, "and find that they do excellent work. I can recommend them either with tractor or with horses."

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located near thriving towns, good markets, railways—land of a kind which grows **20 to 45 bushels of wheat to the acre.** Good grazing lands at low prices convenient to your grain farm enable you to reap the **profits from stock raising and dairying.**

Learn the Facts About Western Canada

—low taxation (none on improvements), healthful climate, good schools, churches, pleasant social relationships, a prosperous and industrious people.

For illustrated literature, maps, description of farm opportunities in Manitoba, Saskatchewan and Alberta, reduced railroad rates, etc., write Department of Immigration, Ottawa, Canada, or

F. A. HARRISON
200 N. Second St., Harrisburg, Pa.
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HORTICULTURE

SPRAYS FOR THE APPLE AND PEACH

By J. P. STEWART

The spraying season is again on hand, with the difficulties in the shape of labor, pests, and cost of materials probably greater than ever before. For these very reasons efficient spraying is likely to be more valuable than ever before. Certain economies may also be possible if one knows just where they may be introduced without interfering with the final effect. Time and labor may be economized, for example, by providing more efficient loading and spraying devices. The new "spray guns" are important from the time-saving viewpoint, and they should be fully as effective as the ordinary nozzles if sufficient pressure can be maintained.

The home preparation of lime-sulphur, using the powdered commercial sulphur which is the cheapest form, should also be very helpful this year, wherever the necessary facilities are available. The efficiency of the final product moreover is in no way reduced, providing the dilution is made in accordance with the actual density of the solution obtained.

It may also be possible to reduce the number of applications somewhat, at least in some localities. In the apple schedule, for example, it may often be possible to combine the first and second sprays by the use of a single application a few days before the pink would naturally show in the blossoms. In this case, the time of application to the prevalence of the San Jose scale. If the scale is present in serious numbers, the date of application can be hastened a few days and the full dormant strength of lime-sulphur be used. Otherwise the time and strength of this application may well be graded off toward the regular "scab or pink spray" shown in the schedule. Where the "first and second codling sprays" are applied with special thoroughness, it may also be possible to omit the "late summer spray." This must be decided by the general conditions in the orchard, however, and in case of any doubt, the application should be made.

The following schedules are given so that those in need of the fullest protection will know just how to proceed. All waste and unnecessary applications should be eliminated so far as possible this year, but the saving should not be effected at the expense of the fruit.

The Apple

Cut out and burn fire-blight and other cankers before growth starts.

1. Dormant Spray. Preferably when buds begin showing green tips. Lime-surphur, 32° Baume, diluted 1 to 9°; or any L-S concentrate diluted to a specific gravity of 1.03°. For scale, blister-mite, scab and other diseases. If aphids are hatching, add tobacco extract as in No. 2.

2. Scab or "Pink" Spray. When the blossoms first show pink, and flower clusters are spreading. Lime-sulphur, 32°, idluted 1 to 30; or any L-S concentrate diluted to a density of 1.01. For scab or other diseases. Add tobacco extract (40 percent sulphate) ½ pint to 50 gallons, for redbugs and aphids. If canker worms, budmoth or other leaf eaters are present, add lead arsenate, 2½ pounds of the paste or 1¼ pounds of the powder in 50 gallons.

3. 1st Codling or "Calyx" spray. May start when 2-3 of the petals are off, and should be finished within 7 days after petals fall. Lead arsenate, as in No. 2, for codling moth, curculio, and other fruit or leaf-eating insects. Lime-sulphur, as in No. 2, for scab and leaf spot. If redbugs are present, add nicotine as in No. 2. (Use plenty of spray and direct it to fill the calyx cups).

4. 2d Codling Spray. About two weeks after the completion of No. 3, although best applied when moths actually begin emerging as determined by cage observations in orchard. Lead arsenate and lime-sulphur as in 2 and 3. For codling moth, curculio and other insects, scab, sooty blotch, apple blotch and fruit spot.

5. Late Summer Spray. About last week in July. (If second brood codling is had, time this spray by banding a few trees and watching for cocoons to empty). Materials same as in No. 4. For second brood of codling moth, late feeding caterpillars, scab, sooty blotch, apple blotch, and fruit spot. Where bitter rot or apple blotch is serious, bordeaux mixture (4-4-50) may be substituted for the lime-sulphur, and one or two additional applications may be needed.

Explanatory Note.—The lime-sulphur dilutions are indicated in the schedules in two ways. The common commercial concentrates, which usually test about 32° on the Baume hydrometer or 1.283 on the specific gravity hydromter, are to be diluted at the rate of 1 part of the concentrate to 9 parts of diluted spray (formed by adding 8 parts of water) for all dormant spraying, and at the rates of 1 to 30 or 40 for summer sprays, depending on the fruit involved. Concentrates of any other density should be diluted so as to produce a final spray of the density or specific gravity indicated in the schedules, as 1.03 for dormant sprays, or 1.003 to 1.01 for the sprays during the growin gseason.

The rates of dilution needed to secure sprays of these, or any other densities, may be found by consulting the dilution table, No. 1.

The Peach

Destroy all mummied fruit before growth starts.

1. Dormant Spray. In spring, before buds start. Lime-sulphur, 32° Baume, diluted 1 to 9, or any L-S concentrate, diluted to a density of 1.03; for San Jose scale and leaf curl. For lecanium or other soft scales, use miscible oil, as recommended by manufacturers.

2. Curculio Spray. When husks or calyces are being shed. Lead arsenate paste 2 pounds to 50 gals., and 2 pounds lime, slaked. Add tobacco extract (40 percent nicotine sulphate), ½ pint to 50 gals., if aphids are serious.

3. 1st Brown Rot and Scab Spray. Three or four weeks after No. 2. Self boiled lime-sulphur (8-8-50); for brown rot and scab. Where staining fruit is very objectionable, lime sulphur solution alone 1.003, or 32° concentrate diluted 1 to 100, may be substituted on varieites that are fairly resistant to spray injury. (If weather is not especially warm and moist or otherwise favorabe to the rot, this spray may sometimes be omitted with impunity.)

GRAFTED TREES LONG-LIVED

Often we hear people make the remark that the grafted and budded trees of today are not nearly so hardy and do not live to be so old as the seedling trees of a generation or two ago. Granting this to be true, we wonder if they have tried to find out the reason why and have set themselves to work to help nature in her effort to stamp out the wrongs, correct the mistakes, and summon whatever forces there may be toward the development of longer-lived, hardier trees and more nearly perfect and delicious fruit.

When our grandparents and great-grandparents were setting their first fruit trees, occasionally in the very heart of the mountain fastnesses they came upon great old apple trees. The seeds of these were probably dropped by some lone traveler as he climbed the dim mountain trails little dreaming that from the hills and valleys where he then stopped to hear the occasional call of wild birds there would in future years come the very voices

of rosy cheeked children as they bore baskets of fruit in harvest time. Far be it from us of robbing these trees of their just praise and tender sentiment, or of dimming or marring any of that almost sacred love and reverence with whch we look back upon the old home orchard planted by grandparents or great-grandparents. But in justice to our trees of today let us bear in mind a few conditions:

As a general rule only a limited number of trees were in each of these old orchards and as the orchards were widely separated, diseases or the spread of diseases would necessarily be less evident. Today, we have not only our small home orchards to be considered, but there are also thousands upon thousands of acres of commercial orchards with infinitely increased numbers and kinds of insect pests, fungous diseases and bacterial infections, many of which have been imported into this country within the last four decades. Scale, our most widely scattered and harmful insect, was first discovered in this State at Harriman in 1896; now it is on nearly every orchard. Blotch and bitter rot have cost the United States in a single year the total of $12,000,000. Until these are relentlessly fought and controlled, we shall still have short-lived trees. In many instances, we have worked contrary to nature and made mistakes in selecting the proper stocks and scions or the improper varieties for different localities.

With proper care and attention, there is no reason why budded and grafted trees will not be as long-lived as old time varieties. The earliest definite history of a grafted tree is a Summer Boncretien, from Europe, planted by Governor Stuyvesant at New Amsterdam in 1647. The trunk of this tree remained standing in New York city on the corner of Third Avenue and Thirteenth Street until 1866 when it was broken down by a dray running over it. Here we had a grafted tree standing at the ripe old age of 219 years. This seems to us to prove that the longevity of a tree is not necessarily determined by whether it is grafted or seedling.—F. D. Garrison, Tenn. Hort. Society.

GARDEN SEEDS PLENTIFUL AND CHEAPER

Indication that there is a plentiful supply of garden seeds this spring, with the possible exception of certain varieties of peas, is contained in reports received by the Bureau of Markets, United States Department of Agriculture, from representative seed dealers engaged in wholesale, retail, and mail-order business. Study of several mail-order catalogues indicates that in the majority of cases the prices of seeds are less than for the past two years, the greatest reduction being for cabbage seed. Marked reductions are also shown in the prices for garden beet, carrot, onion, spinach, and English and Swedish turnip seed. An increase of about 18 per cent is noted in the prices for garden peas, while similar increases are shown for muskmelon, summer and winter squash, and tomato seed. This condition should prove favorable to extensive garden planting, which is urged by the United States Department of Agriculture.

Replies to inquiries addressed to representative seed dealers showed that a few in industrial centers, particularly in the East, were selling from 10 to 30 per cent less seed than last year. The cause, apparently, was the shortage of labor on truck farms. Compared with normal conditions before the war, the reduction in these eastern centers ranges from 10 to 45 per cent.

On the whole the sales to home gardeners seem to be larger than those of last year, ranging from a 5 per cent increase in some sections to [illegible] per cent in others. Dealers in the most northerly cities were unable to report adequately because the season had not advanced sufficiently at the time replies were sent in.

Another use for paraffin: Iron baking shelves for cookies produce better results if, instead of being greased, they are warmed and rubbed very lightly with paraffin.

The mileage record tells the tale of motor oil quality

Miles per gallon is the one simple, sure test of motor oil quality.

The function of lubricants is to resist or counteract heat. Quality lubricants offer much greater resistance to heat (that is what quality means in motor oil), therefore they last longer.

Make a careful note of how many miles per gallon your present motor oil is yielding—then give Crew Levick Motor Oil exactly the same test.

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The Moline Universal Tractor places the power of nine big horses where the horses stood—is driven just like horses are driven, from the seat of the implement, and hitched up to the implements just as horses are hitched.

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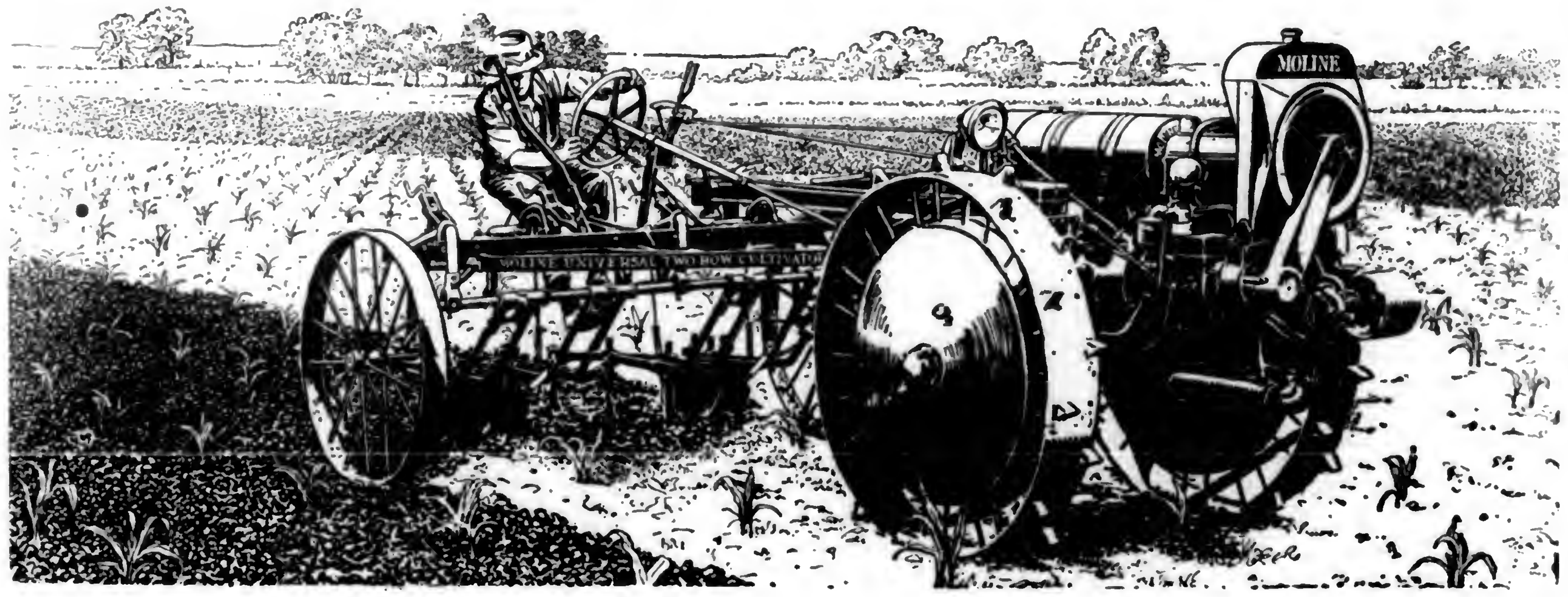

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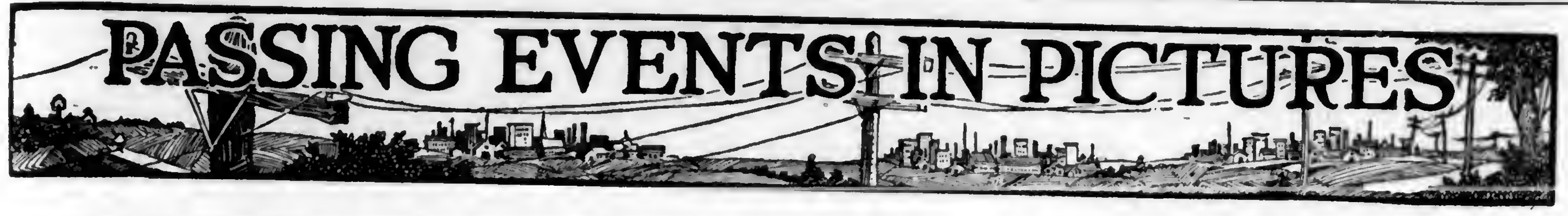

PASSING EVENTS IN PICTURES

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Photo Copyright by Underwood & Underwood.

1.—Ben Mahomet, a Sheik of Turkey in America searching for his brother's Fiancee

2.—Police Boat Raising an Auto that had Plunged into a Creek off Harlam River

3.—The "Gompers" of Cathay" a Delegate from the Chinese Labor Organization

4.—The Amphitheatre at Arlington, near Completion, built at a cost of $825,000

5.—Scene at New Brunswick, N. J., after the Recent Big Storm and Blizzard

6.—Misses Margaret and Gertrude Roane who aided in Uncovering plot in Bergdoll [illegible]

7.—Miss Julia Lathrop, Head of the Child Welfare Department of the Department of Labor. She recently sailed for Europe

8.—Shirley Mason, a Noted Film Star, and Some of her Pets. She is a Lover of "The Great Out of Doors."

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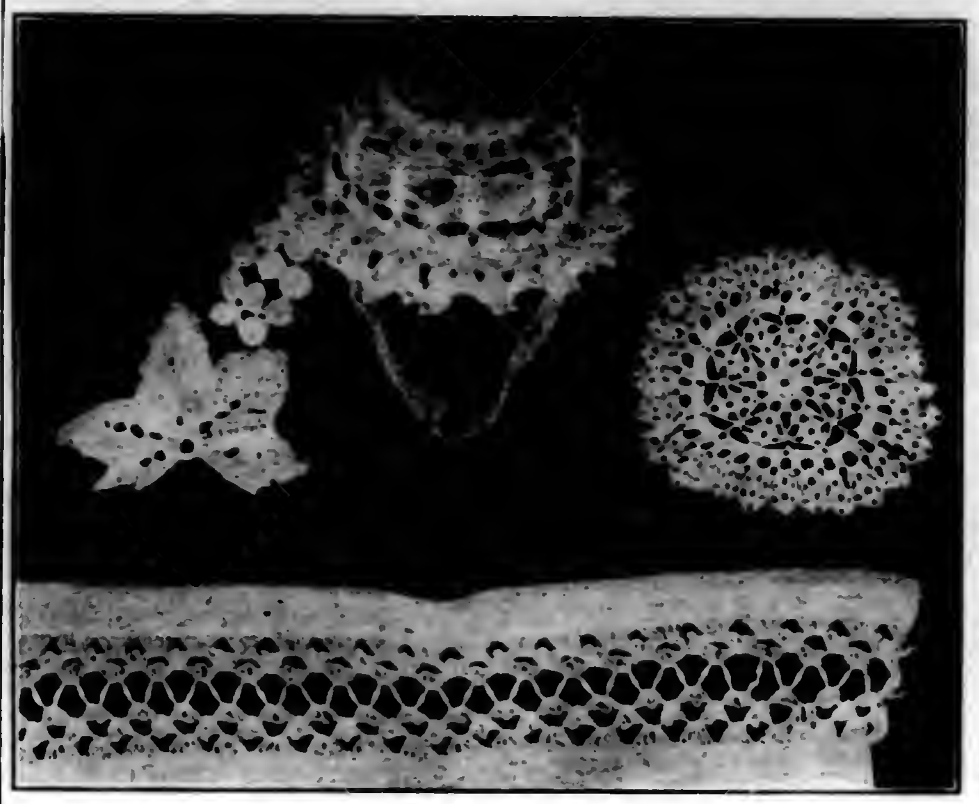
Crochet Trims for Spring Hats

A friend of mine has a lovely new hat that cost more money than I'd care to pay for it. The back-turned brim is a smooth shiny straw, but the crown and the flat, long bow trimming are a very good imitation of crochet work laid over silver-cloth. I feel perfectly sure that a top and trimming done in new blue crochet silk (fiber, silk) laid over cloth—of—gold or silver would look even prettier and cost dollars less. The effect of my friend's blue overlay was of meshes composed of double crochet stitches in groups of four interspersed with four chain stitches, the whole worked back and forth that way, that is, in meshes made by underneath chain, and every other mesh skipped, leaving little square holes thru which the brilliant cloth-of-silver showed. The effect is "stunning" in the evening and very pretty at any time.

The crochet ideas shown here gave me some very excellent plans for hat trimmings. For instance, what about a hat banded with coarse lace like that shown on the towel end? Only, I should use in place of the coronation braid a gilt trimming braid, as gilt is so much worn this spring. I would prefer a very narrow, thick braid, and I should use two tones of a favorite color, say taupe, in fiber silk for the shells that compose the two edges of the braid. I'd use the darker, then the lighter, then the darker shade again, in coarsely crocheted shells, as you see them in the towel end. I'd fasten over the lapped ends an imitation buckle made of a square of cardboard wound smoothly with taupe color fiber silk, and then I'd wind gilt braid over this buckle one way, leaving an edge at each side of the crochet silk.



Crochet Ideas for Spring Hats

I'm planning another hat trimmed with crocheted grapes, in two or three well blended grape shades. If painting a grape, we would have the lightest shade in the center, toning down to the darkest shade at the edge to give a rounded effect. Such grapes in grape shades of purple or green or even brown with contrasting leaves(only slightly contrasting tho) would make a most artistic hat garniture. Just now such a hat occurs to me, made with the crown overlaid with brown grapes, and olive-brown leaves made of some castor-colored silk I have in the house. I have some brown straw for the brim.

Some of the crocheted dollies we make would make charming hat crowns, and what about a shopping bag to match, its two sides composed of crocheted doilies, with the silk or satin underneath like that used underneath the crocheted hat crown cover? Fiber silk would answer for the crochet, or highly mercerized crochet cotton. Cream or ecru cordechet would also be charming, and would be just as pretty for the grapes. Can not you "see" a fine black straw trimmed with a twist of cordechet grape-stem around the crown, the bunch of grapes and leaves, or duplicate bunches of grapes and leaves, being sewed in place at each side of the hat crown front?

Now look at that crocheted basket. Imagine the basket a small hat size with a round crown, a couple of forget-me-not blue ribbon ties in place of the chocheted handle, and dainty Miss Two-Year-Old's flower like face peeping out of it. Make one of stiff white cordechet, line it with a dainty color and put on ribbons to match, possibly a bow of the same ribbon trimming for the crown—can you think of anything sweeter in a basket than a girl baby's face?

I love millinery and make most of my own hats and some for other folks. Perhaps that's why I always see hat trimmings or whole hats in many objects originally intended for other use.

Here is how to do the grapes, leaves and stem above referred to.

To Make Grape Leaves

For the leaves make a chain of 18 stitches. Turn, miss 3, to (treble crochet) in each of 15 stitches. Turn; slip over 3 tc, ch 3, to 1 in each of 11 tc, 3 tc under 3 ch. Chain 6, 3 tc under 3 ch, 12 tc in 12 tc, leaving 3 tc for notch of leaf; turn, slip over 3 tc, ch 3, tc 1 in each remaining tc, and 3 tc under 6 ch. Ch 6, tc 1 in each of 15 tc. Turn, leaving 3 tc.

Ch 3, tc in tc, 3 tc under 6 ch. Ch 6, 3 tc under ch, and tc in tc to end, making a wide notch; turn, slip over 3 tc, and proceed to make one more narrow and one wide notch in this last row, putting 6 tc under 6 ch at base of leaf, but omitting the 6 ch.

This makes the center section of leaf, which should consist of the top, one narrow notch, one wide one, one narrow one, and five holes formed by 6 ch thru middle.

The next two sections, one on each side of center, are made by following directions for center, i. e. one narrow notch, one wide, and two narrow ones. These sections have four holes thru the middle; the last two, or lower, sections have the center made as described, with three narrow notches and two holes.

Join the sections with single crochet at side, leaving the rib on the right side. Make a ring of padding cotton with an opening that will admit a small pencil; fill closely with double crochet and sew to center of leaf.

The Grape Stem

Make a chain of 70 stitches, with a row of double crochet on each side. Join one end of stem to the ring between the lower sections of leaf, and form a loop, catching the latter to the lower section. To the other end attach a bunch of grapes.

New Spring Sailor Hat

It belongs to the type called mushroom, and is being made up in all colors of the beautiful rough straw indicated. The brim droops slightly and gives better protection to the eyes than a straight brim sailor does.—(Photo by Underwood & Underwood.)

Crocheted Grapes

To make a grape, wind the thread over your finger once, having the end toward you, and fill the ring with seven dc (double crochet); draw up closely, make two dc in each dc for two rounds, dc and tc for next round, then miss every other dc for three rounds in order to make the grape cup or round up. Have one grape at tip of cluster, two above this, then two rows of three grapes each, and again a row of two.

Join the stem between these two. The stem may be made longer if liked, so as to be crossed over itself and curved gracefully. Pin in place, then sew to hat.

The Round Motifs

A hat crown may be made from almost any doiley design, the popular pineapple, or horn of plenty—there are many pretty crocheted round mats whose designs are suitable for hat crowns.

The mat here pictured was made entirely of treble crochet and chain stitches; it is intended as an idea rather than as a pattern. Directions may be obtained by request.—The Make-Over Lady.

STUDIES IN NUTRITION

By Pearl MacDonald, Penna. State College

Mineral Matter

There are sixteen or seventeen elements which enter into the structure of the physical body. Among them are carbon, hydrogen, oxygen, nitrogen, sulfur, phosphorus, iron, lime, potash, etc.

In the previous articles, in the discussion of the proteins the supply of nitrogen was made plain to the reader. And since both sulfur and nitrogen are supplied in the same protein foods, if protein foods are used in the diet each day the requirement for these elements will be taken care of.

Lime, phosphorus and iron are the three elements which are likely to be deficient in the diet unless foods known to be rich in them are provided.

Lime is necessary, together with phosphorus, to make good bones and teeth. Milk is richest in lime, and should, therefore, be provided generously in the diet of children, since childhood is the time when bones and teeth are built up. Lime is also found in much smaller amounts in eggs, fruits, vegetables and grain products in which the outer coats have not been removed in milling

Phosphorus is just as important to the body as nitrogen. It is necessary not only for every living cell, but also, in combination with lime, to make the bones and other hard tissue. We get phosphorus in milk and eggs, also in grain and fruits and vegetables.

Iron is very necessary to the physical body, being used in the red corpuscles of the blood and in all living cells. While not needed in very large amount, yet the small amount required is extremely important. The most available sources of iron are egg yolk and green vegetables, especially spinach; it is also found in grapes, figs, raisins and prunes. Milk does not contain much iron, but what is there seems to be in a form especially well used in the body.

The conclusion then is that in a mixed diet in which milk, eggs, fruits and vegetables are used generously the necessary supply of lime, phospohrus and iron will be furnished. There will be no lack of the other elements if these three are provided for.

The next article will take up fuel or energy food materials.

INEXPENSIVE PICTURE FRAMING

In almost every home several favorite prints can be found that have been laid away with the thought that they would be nice to have framed sometime, but the problem of framing cost has bothered us. Passe-partout, at one time very popular, was inexpensive, but it resulted in simply a flat binding that often detracted fom the picture.

But recently I saw some modernized passe-partout framing that overcame to some extent this objection, because it gave the effect of the depth of the wood or gilded frames. The framing was just as wide or narrow as the picture demanded. Even mahogany, circassian walnut and other wood frames were quite well imitated in this manner, and the tints in the pictures were matched very nicely.

This binding is secured in three or four widths from ¼ to 1½ inches wide. It comes in all the wood finishes, also in gold, silver, black and white. Hangers, mounting material and cardboard for the backs may also be secured ready for use. If your stationer does not have the glass, your hardware man will cut it to suit you.

Choose a color of mat and binding which harmonize well with the colors in the picture. Cut the cardboard back and mat the same size as the glass. Punch two holes in the cardboard back 1½ inches from the top and insert the metal hangers and to these secure a tape and a ring to hang the picture up by.

Daub a bit of paste on each corner of your picture, and affix it to the mat In the same manner attach the mat to the cardboard back, using glue instead of paste for this because it sticks better.

Next glue four strips of card board ½ to 1 inch wide around the glass even with the edge. Cut the binding into four pieces, each a little longer than the side on which it is to be used. Moisten a piece of binding and apply to one of the cardboard strips, allowing it to extend over the inside edge of the cardboard for one-eighth inch. Rub the binding down along the strip of cardboard nice and smooth with some blunt instrument, then bend down the one-eighth inch extension and smoothly cover the inside edge of the cardboard with it.

Next apply the binding on the opposite side and other two edges in exactly the same manner, except that you miter the corners. Put your picture and back into place, lay your glass on it, and the whole thing face down on the table. Moisten the ends of the binding again if necessary and fold it carefully down securely on the cardboard fully over the edge and press it back.

The inside edge of the cardboard may be covered with narrow white or gold. To obtain a very pretty effect first bind the cardboard strips on their inside edges with gold binding, then glue them to the glass. The wider binding is then applied in the manner described above except that you do not place it quite to the inner edge of the cardboard. This allows a narrow border of gold to show around the inner edge of the frame, next to the picture.

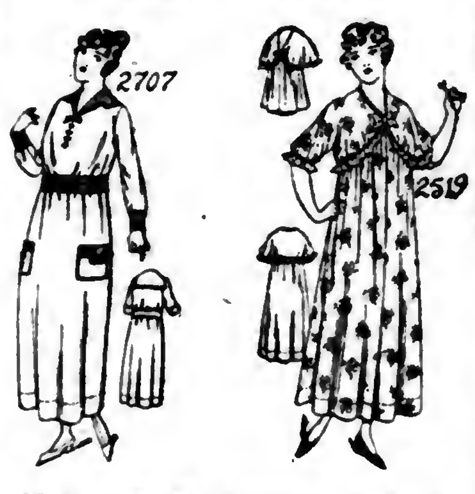
Shadow Box Pictures

These always interest children. They are pictures in which landsscapes are used for backgrounds, and objects like rocks, trees, houses, boats, people, etc., are pasted on this background according to the child's fancy—"just like theatre scenery." I shall never forget one that we made of a Holland scene on which we pasted a little Dutch girl in wooden shoes, then put in a windmill, a boat, some trees, and a little white dog.—Mrs. Escoe H. Ervin.

PENNSYLVANIA FARMER PATTERNS

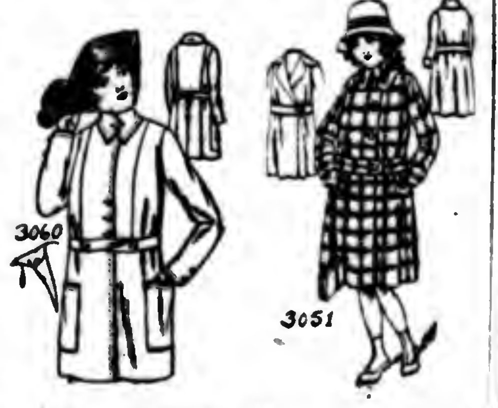
Give figures and letters of each pattern exactly as printed at beginning of each description or we will not be responsible for correct filling of orders. Give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261 S. Third Street, Philadelphia, Pa.

2707.—Good Day Dress.—This is a "slip on" style. Sleeve is in wrist or elbow length. Pattern is in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires 5¼ yards of 36-inch material. Width at lower edge is about 2⅛ yards. Pattern, 10 cents.

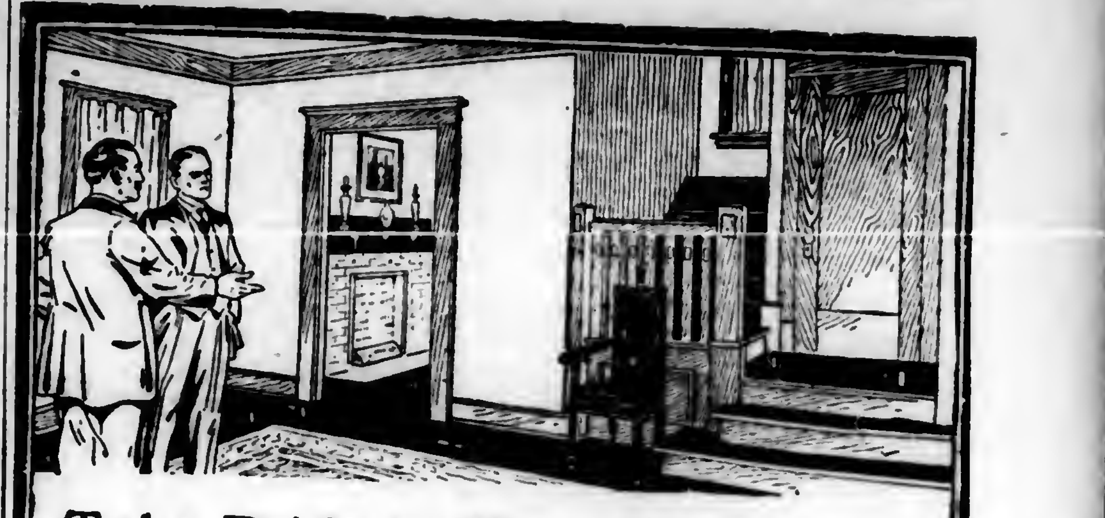


2519.—Ladies' Kimono.—The pattern is perforated for sack length in straight or pointed outline. This garment is easy to make and very comfortable. The waist is in empire effect, finished with a heading at its lower edge. The neck is cut low in a becoming "V." The pattern has 4 sizes: Small, 32—34; medium, 36—38; large, 40—42; extra large, 44—46 inches bust measure. Size medium will require 5¾ yards for full length, and 1½ yard less for sack length, of 36-inch material. Pattern, 10 cents.

3060.—Smart Coat Style.—Tricotine, broad-cloth, cheviot, serge and tweed mixtures may be used. The collar may be rolled low with the coat fronts open, or closed to the neck edge. Pattern is cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires 3⅝ yards of 44-inch material. Pattern, 10 cents.



3051.—Popular For Girls.—Good For Tweeds.—The front may be turned back in low outline, or closed to the neck edge, with the collar rolled high. Pattern is cut in 5 sizes: 6, 8, 10, 12 and 14 years Size 12 will require 4½ yards of 44-inch material. Pattern, 10 cents.



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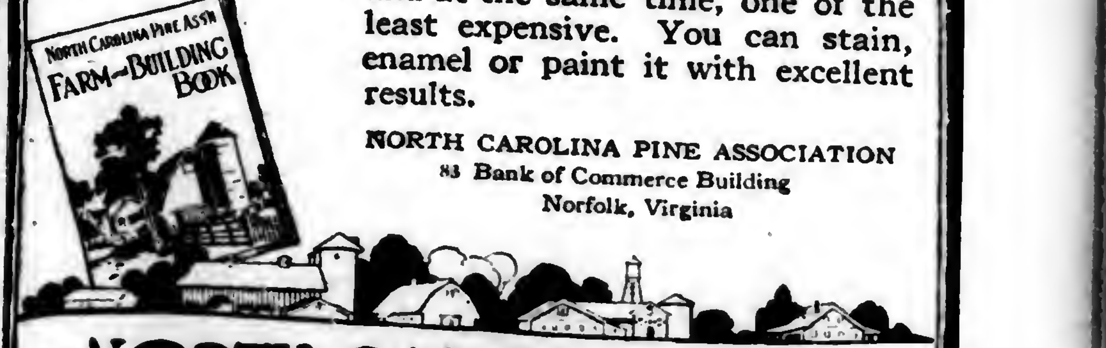

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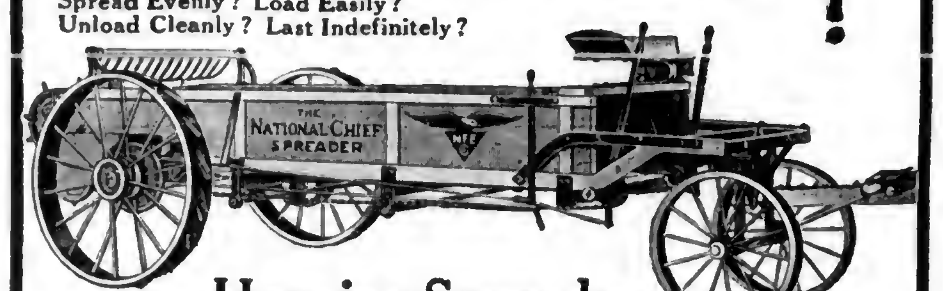

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After a careful search for a spreader, the "National Chief" was selected as being "head and shoulders" above the rest—the best designed, the best built and the most durable—the one most worthy to bear our trade-mark.

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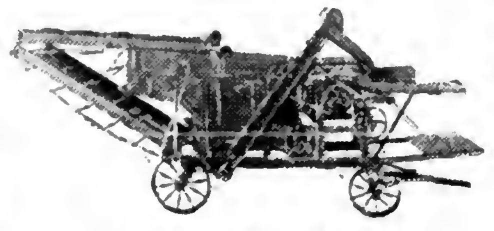

Junior America Grain Threshers For the Farmer

Pneumatic Straw Cutter Attachments

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ESTABLISHED 1851 DOYLESTOWN, PA.

Smite The Smut—Increase The Yield

The annual loss from grain smut for the U. S. would range around $100,000,000 if preventative measures were not used. Prof. Bolley, N. D. Experiment Station, country's greatest smut expert, says all seed should be treated every year with formaldehyde. Won't you do your share to help stop this waste? It's easy, simple, cheap if you use a

Cummer One-Man Smut Machine

Costs less, operates faster, won't injure the seed. One man can disinfect all his seed alone, in few hours—no crank, no power. Put seed in hopper, fill reservoir with formaldehyde solution, turn grain at solution valves, disinfected grain comes out at bottom. Nothing to get out of order or need regulating—so easy your boy or girl could do it.

It Will Increase the Yield and Pay for Itself In One Season

For the price of nine or ten bushels of wheat buys it. You would stop disease in your family or stock—spend a few dollars to stamp out dreaded grain diseases. Difference on 20-acre field would pay for trouble and expense; grain grown from treated seed yields more. Buy one now, have a greater yield of better grain. Write for circulars and full information.

CUMMER MFG. CO., Dept. T, CADILLAC, MICHIGAN
Distributors for Pennsylvania Territory, I. W. SCOTT COMPANY, Pittsburg, Pa.

PAPERS FOR PRACTICAL FARMERS.

The practical part and science of farming cannot be successfully taught by men who depend altogether on technical training without any practical application of their theories.

The President of Pennsylvania State College once said in his annual report, "Laboratory manipulations are useful in proportion as they are to fix attention upon and define the application that the laboratory furnishes and directs, a valuable preparation for the study of a profession is indeed one of its great advantages, but it is only a single advantage and that by no means the most important. If the technical trained man is to hold his own with the large competition of modern life, some way must be found to give him acquaintance with those outlying fields of knowledge and research which can only be obtained by actual contact with the work."

Some of our agricultural papers seem to have fallen into the hands of theoretical cranks—men who are hooked up on laboratory work and theory to the exclusion of all knowledge obtained by actual work and experience in the fields. We have still many readers of agricultural papers who have stores of the most useful knowledge obtained by actual experience in the fields, and tho they may lack in some of the technical and scientific questions, their general opinions may be valuable. I have found the experience of many of those old farmers in their methods of doing farming—their successes and failures—with various experiments in raising crops—the treatment of the land in tillage and fertilizer used—showing the profit or loss of the experiment very interesting and instructive. Thru the research and experimental work of the colleges and universities, many of the basic principles of advanced agriculture are being demonstrated.

It is well known, however, that the mass of our people cannot be educated in colleges and universities. Every boy and girl on the farm, rich or poor, is entitled to a good industrial education. The demand of more thoro industrial training cannot be met by the schools in the town and city. It is to the country school,—the school that is to be attended by the boys and girls from the farms—that we must look for the ideals and lessons that will influence the life and work to be done on the farms and in the home.

The more in touch with the rural districts and their best interests; the more useful can those agricultural papers be to the cause of agriculture which furnishes the very foundation of the prosperity of the world. The most advantageous and cheapest methods of producing large yields of all kinds of food stuff should be encouraged and published broadcast by agricultural papers. Even tho the reports of some of the farmers do not always appear in classical terms, they may contain a most valuable lot of information backed up by an absolutely reliable farmer whose long practice and much experimental work makes his opinion worth while.

Agriculture is the oldest, the most varied and most important industry in the world. I love to talk with a man of years who has spent his life along that line and I have never failed to obtain valuable information—if I would content myself to let him do the talking.—W. R. McGill, Meadeville, Pa.

THE TOWN FARMER WIFE'S WASHDAY.

There are a great many farmer folks nowadays that for one reason or another live down in the village, or larger town or city at least a part of the year. Most of these carry with them to town the habits of the country to a greater or lesser extent. For one thing, the wife feels that she ought to do her own washing. If she has ever tried the work done at the public washery it is not strange that she should in a woman's way, "swear off" on ever sending the clothes there again. One look at the mess which comes home from the average laundry is enough to sicken the heart of any woman who loves good work. So the next best thing is to do the work herself.

Usually the young folks have gone out of these farmers' homes who live in the city. Just two old people left. No one to care how the work is done, and it is well nigh impossible to find a girl or a woman in these days who will come to do a washing. Now is there anything the man of the house can do to lighten the work of his wife on washdays? This is the question every man of us ought to ask.

For myself, this is the way I have answered it. First, for a good many years we have had a washer. It helped out on the farm; it helps out in the city while we are sojourning down town, waiting for spring and summer to take us back to the farm. This machine we keep in the cellar so that it may be out of the way more. It is my job to bring it up Monday mornings. No woman ever ought to have that to do. Then, your humble servant puts the boiler of water on to heat for the washing. When it comes to handling the machine, this, too, is my job. Same way with the wringer. Taking the water out of the washing machine, getting the rinsing water into the tub, again turning the wringer to finish up the rinsing, carrying the basket of clean clothes out, getting on the water for mopping the kitchen, these are the work of the man of the house, as well as taking all the utensils back to the cellar from whence they came. And I am glad I can do it.

"Oh, well, you have nothing else to do. You ought to do these and a good many other things about the house." So some might say. But I wonder if anybody that lives all the time on the farm is busier than is the writer? I doubt it.

Note.—Why refer only to town farmers? The suggestions should apply on the farm also.—Editors.

TESTING ROADS FOR HEAVY TRAVEL

State highway departments are vitally interested in the successful outcome of comprehensive experiments and tests now being made by the Bureau of Public Roads of the United States Department of Agriculture. One State engineer recently declared that millions of dollars in his State are involved in the proper design of road surfaces, which makes up one of the problems being investigated by the Federal engineers.

The coming into general use of the heavy motor truck has practically revolutionized the science of road building. Big new problems came when loads weighing 10 to 15 tons took the place of vehicles that placed a weight one-fourth as much or less. The roads build 10 years ago were constructed before this fact could be realized—which is one of the reasons why many "permanent" roads have proved to be impermanent.

One of the testing experiments being made by the Federal bureau involves the use of a 49-section roadway in the Arlington farm, owned by the Department of Agriculture. Each section was built from a different type of material, or with a different method of construction. The same use is given to each section, so that eventually the type of construction best suited to heavy traffic will prove itself.

CROP NOTES

Pennsylvania.—The past winter has been unusually severe with a great deal of freezing and thawing, and it is thought that there has been considerable damage done to winter grains.

New Jersey.—It is feared that there has been considerable damage done to winter grains, due to the unusually severe winter and a great deal of freezing and thawing.

Maryland.—The alternate freezing and thawing which has caused the wheat to "lift" and become exposed to considerable windy weather has done some injury to the roots of the grain. Some grain on high land is looking fine. The long spell of cold weather has kept the bud development so that it is believed no [illegible] has been done to the fruit so

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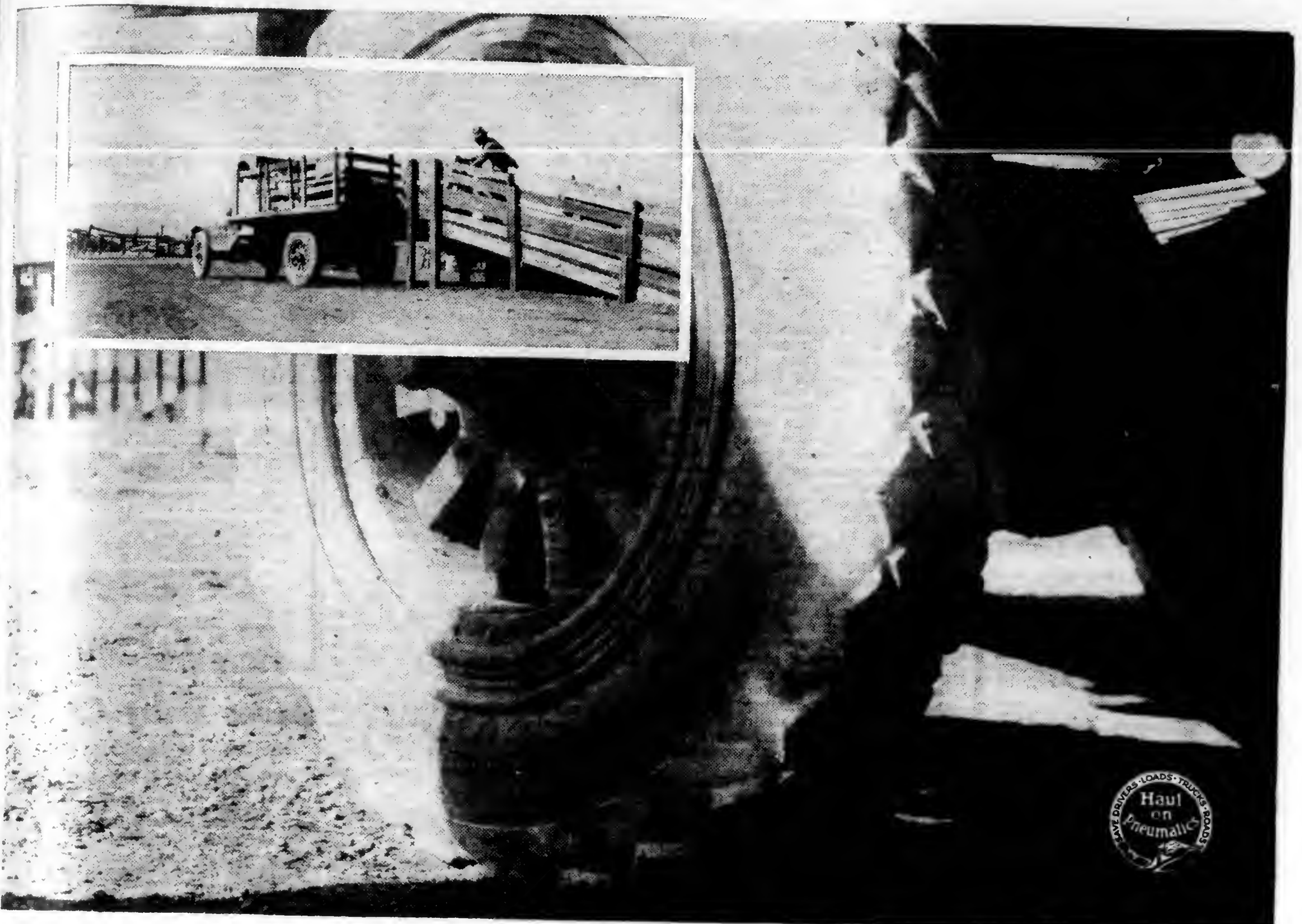

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"THE use of Goodyear Cord Tires on our hog ranch is a source of all-round farming economy as well as of simple hauling economy. These tires save time and the handling of supplies and animals while reducing wear on truck, minimizing operating cost, saving hog shrinkage and sickness in transit and demonstrating other important advantages."—N. T. Shearman, Owner, Shearman Hog Ranch, P. O. Box 452, El Paso, Texas

As in the instance cited above, a large number of farmers, planters, dairymen, and ranchers are reducing much of their general farming work, in addition to their actual hauling work, with pneumatic truck tires.

By freeing farm trucks of the handicaps imposed by solid tires, Goodyear Cord Tires relieve farmers of the necessity of hauling slowly and laboriously either with teams or solid-tired trucks and thus hindering other activities.

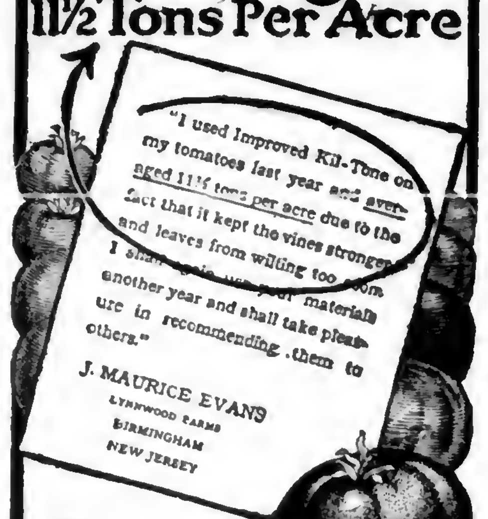
The full traction, cushioning and nimbleness of Goodyear Cord Tires primarily equip a motor truck to go anywhere on and off a farm with utmost protection to mechanism, load, driver and plowed ground or paved road.

Thus these athletic pneumatics save time and labor in the handling of supplies, crops and stock, and in the operation of power-driven farm machinery, enabling easier feeding, watering, fencing, threshing, wood-cutting and the like.

The rugged strength of Goodyear Cord construction, affording the foundation of the whole success of pneumatic truck tires, results both from Goodyear pioneering work and that extraordinary care in manufacturing which protects our good name.

The detailed reports of many farmers using pneumatic truck tires to improve the work connected with diversified crops, or such specialties as fruit, livestock and dairy products, can be obtained by writing to The Goodyear Tire & Rubber Company, at Akron, Ohio.

GOODYEAR CORD TIRES



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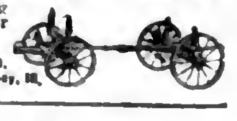

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92 Acres for $4,200

Good buildings [illegible] described in catalogue No. 49. Write for catalogue of 500 Ohio Farms fully described. Any size and price I want.
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The Best Farms for the money, all sizes $50 to $100 per acre, good buildings, Cent. Schools, good soil. List free.
F. B. STEWART [illegible], PA.

HOW SHALL WE CUT SEED POTATOES?

(Continued from First Page.)

Large vs. Small Seed Pieces.

Probably the easiest, most interesting and most frequently conducted seed potato experiment is that of testing the influence of size of seed piece on yield. Nearly all of our state experiment stations have published the results of such tests. The basis of size has been both by weight and by proportion of tuber. In these as in the experiments previously cited, the usual increase in yield has been accredited to the larger seed rather than to the increased amount per acre used. As a result, it is commonly concluded that the larger the seed piece used, the greater the yield. Under equidistance of spacing this conclusion may express the truth. But these tests are in reality tests of rate of planting rather than size of piece.

Notable exceptions to this criticism are the experiments of Emerson of Nebraska and Zavitz of Ontario. Emerson planted eighth, quarter and half tuber pieces 6, 12 and 24 inches apart, respectively, this using 18 bushels per acre in each case. This gave him greatest total yield per acre from the quarter tuber and lowest total yield from the half tuber, a result warranting a conclusion quite contrary to that drawn from the other tests cited above. Zavitz compared yields from one and two ounce pieces, the one ounce pieces being planted twice as close in the row as the two ounce pieces, thus consuming the same weight per acre of seed. Here also the greatest total marketable and net yield came from the one-ounce pieces.

We may conclude from these two tests, therefore, that with the same rate of planting, smaller pieces down to one ounce planted closer are likely to give larger yields than larger pieces planted further apart. This data should not—however, influence the grower whose system of spacing seed may be justified, to cut his seed smaller than the two ounce or hen's egg size.

Number of Eyes.

Many of the older and experienced potato growers stress the importance of cutting seed pieces to a certain number of eyes. The so-called proper number may be one, two or three, depending on the personal taste of the grower. With constant weight of seed piece, the average number of eyes to the piece naturally depends upon the type or variety of potato concerned. Most varieties of the Rose, Burbank and Hebron types contain many eyes, while varities of the Rural and Pearl groups normally have few eyes. Ballou, of Ohio, has shown by a comparison of the varieties Bovel and Carman No. 3, a many eyed and a few eyed variety respectively, that with a given size of seed piece, the more eyes present, the more stalks that will develop, altho the ratio of eye to stalk increase is not proportional.

At the time of making a potato crop survey of production in Steuben County and on Long Island, New York, the questioner occasionally asked why the Rural type is preferred in Steuben County and the Green Mountain type in Long Island. Curiously enough the Rural was preferred in Steuben County because too many eyes are present on the Green Mountain seed piece, while on Long Island one reason for preference to the Green Mountain was the paucity of eyes on the size of piece generally cut in this region.

A few growers even now practice clipping off and discarding seed or apicol end of tubers because of the idea that too many stems will form, causing the development of small, unmarketable tubers. Other growers discard the stem end because of shallower and often less vigorous eyes on this portion. There are three potent reasons why these practices are both wasteful and unwarranted:

(1) Appleman, of Maryland, has shown that lateral and basal eyes, which tend to remain partially or wholly dormant on seed planted whole, may be made of approximately equal viability and value by cutting the tuber.

(2) Equality in basal and epical seed pieces is possible, and the likelihood of too many stems from the seed are avoided by cutting most seed tubers longitudinally, thus dividing the "bud cluster" and leaving eyes of equal value on all pieces.

(3) In general, all experiments have shown that yield is directly proportional to size of seed piece; therefore there is no just cause to discard any portion of the seed tuber.

Whipple, of Montana, thinned stands of potatoes planted to two ounce pieces to one stalk per hill in order to test whether the marketable yield might be increased thereby. Such thinning improved the market shape and uniformity, but the results do not justify any conclusion that either total or marketable yield was increased.

Most experiments testing the influence of number of eyes on yield have in reality, also been tests of the influence of size of seed piece, because size of piece increased with the increase in number of eyes. Zavitz, of Ontario, should be again credited with a valid answer to this question, since in his five-year test of the influence of number of eyes, he kept size of seed piece constant by using one ounce pieces in all plots. Comparing plots planted to such pieces containing one, two, three, four and five eyes, respectively, he found that as the number of eyes increased the total yield increased, while the percent of marketable yield decreased. The difference in marketable yield was, however, not more than five per cent in any case. These tests show that yield is proportional to number of stalks per hill. Since other tests indicate conclusively that yield is also proportional to size of seed piece, nothing is to be gained by cutting to a certain minimim number of eyes.

Interval Between Cutting and Planting.

In general, seed potatoes are cut only a day or two before planting. This is by all means to be advised. On the contrary, there are occasional regions and occasional growers who practice cutting several days, perhaps a week or more, before time to plant. An example of this may be found in Suffolk and Nassau Counties, Long Island, where apparently the practice is justified. Here, earliness of planting is important and bears directly on the marketing of the resulting crop at a date sufficiently early to profit by early market prices. These growers cut seed an average of six days before planting. The large quantity to be cut for the large average acreage planted makes it good policy to cut in advance in order that the crop be planted just as soon as weather and soil conditions are favorable.

A study of the practice by 272 growers on the Island in 1913 shows that as the interval between cutting and planting increased, the percent of growers dusting seed increased. This being true, no detrimental influence on yield on account of the interval was noted. In other sections of New York, the average interval is about two days, the increase in interval being accompanied by an increase in the dusting practice. Without dusting it is safe to say that the sooner seed is planted after cutting, the better for the seed and the yield. A few growers have been observed to purposely cut and store seed for drying some time prior to planting with the idea that such seed is thereby improved. Cut seed will as quickly callous and the vitality will be better conserved by planting at once.

Dust Material.

There is little to choose between the several materials used for dusting cut seed stock. Among 1390 growers visited in 1913 and 1914 in New York, land plaster or gypsum, sulphur, hydrated lime, air slaked lime, road dust and ashes were used. By far the greater proportion of these growers used land plaster or sulphur, with preference for the former. Sherbakoff, at Cornell, several years ago showed that there is little benefit in the use of sulphur for scab prevention. Land plaster because of its adhesive qualities and cheapness, has been and doubtless will continue to be most used.

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Our Vibrator with Self Feeder, Wind Stacker, etc., is suitable for large crops and merchant threshing. Improvements giving increased separating and cleaning facilities added this year.

We also make a special Thresher for Peas and Beans, and a Peanut Picker.

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Saves Baby Chicks

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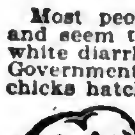
Most people lose half of every hatch, and seem to expect it. Chick cholera or white diarrhoea is the trouble. The U. S. Government states that over half the chicks hatched die from this cause.



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Mrs. Wm. May, Rego, Ind., writes: "I was losing 10 or 15 chicks a day from diarrhoea before I received the Avicol. I haven't lost a one since."

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SEED CORN Selected seed of the [illegible] varieties testing 90 per cent or better. Early Butler, Pride of the North, Leaming, White Cap Yellow Dent, Mammoth White Dent. Price $3.00 per bushel. Bags extra at 60 cents each. Sample ears at 25 cents each. THE HORN BROS. CO., MONROEVILLE OHIO

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Seed Oats Choice Swedish Select and [illegible] Seed Oats testing 40 to 4[illegible] Price $1.50 per bu., bags extra at 20c each. THE HORN BROS. CO. MONROEVILLE OHIO

Pure Garden Seeds. Ensilage and [illegible] Oats and Potat[illegible] [illegible] for catalog. ALLENS SEED HOUSE, [illegible]

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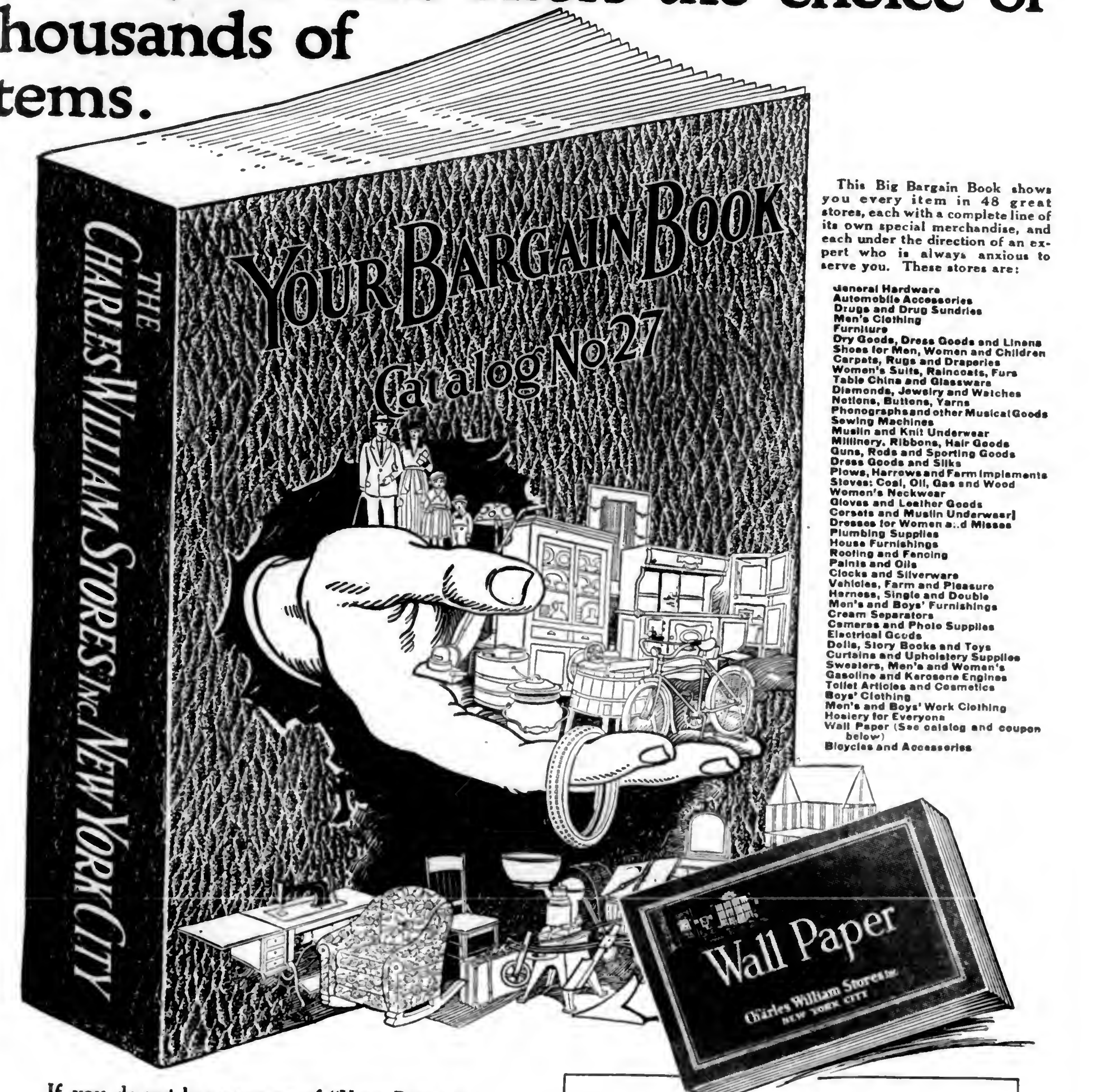

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CHARLES WILLIAM STORES
NEW YORK CITY INC.

KEZIAH COFFIN

By JOSEPH C. LINCOLN

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(Continued from Last Week.)

"At last Cap'n Zeb couldn't stand it no longer.

"'Belay there!' he sings out, jumping to his feet. "I want to ask you one question, Elkanah Daniels: Are you tryin' to say somethin' against Grace Van Horne's character?'

"Well, that was a sort of sticker, in a way, and I cal'late Daniels realized it. He 'hum-ha'd' and barked a little and then give in that he couldn't swear the Van Horne person's character wa'n't all right, but ———

"'Couldn't swear!' snorts Zeb. 'You better not try to, not when the minister or Nat's around. Aw, belay! you want us to fire John Ellery out of this society—the best minister it ever had or ever will have—because he had the sense to get sweet on a good clean girl and the spunk to ask her to marry him. And you're down on her because she's been brought up in a Come-Outer family—at least, that's the reason you give out, though some of us have suspicions 'tain't the real one. Why! she risked what she thought was smallpox to keep him from dyin' that night she picked him up, ravin' distracted, in the middle of the lighthouse lane, and if he hadn't married her after that I, for one, would have been willin' to vote to give him his walkin' papers. Come-Outer she may have been, but, by time, she's got religion that's good enough for me and I'll be proud to see her the wife of my minister. Don't let's have no more chin music. We know what you want and what you called this meeting for; now let's vote on it.'

"Three or four sung out 'Question' and 'Vote.' But Elkanah held up his hand.

"'Gentlemen,' says he, 'before I ask for the vote I want to say just one word. I've worshiped in this meetin' house ever sence I was a child. I was christened in it; my father worshiped here afore me; I've presided over the meeting's of this body for years. But I tell you now that if you vote to keep that rascally hypocrite in your pulpit I shall resign from the committee and from the society. It'll be like cuttin' off my right hand, but I shall do it. Are you ready for the vote? Those in favor of retaining the present minister of this parish will rise. Those opposed will remain seated.'

"Every man on the floor stood up. Daniels himself was the only one that stayed settin' down.

"'It is a vote,' says he, white as a sheet, and his voice trembling. 'Gentlemen, I bid you good day.'

"He took up his hat and cane, give one look around the vestry, as if he was sayin' good-by to it, and marched down the aisle as straight and starchy as he'd come into it. Only, when he reached the door, he put up one hand as if he was steadyin' himself. There was precious few in that vestry that liked Elkanah Daniels, but I'm bettin' high there wa'n't a one who didn't feel sorry for him then.

"'Twas quiet as could be for a minute or so after he'd gone. Then Cap'n Zeb draws a big breath and flings up his hand.

"'Shipmates,' says he, 'this is the Almighty's house and we've got to do it quiet, but I propose three whisperin' cheers for the Rev. John Ellery and the lady that's goin' to be his wife.'

"So they give 'em—hearty, too, if they was whispered—and that's all there is to that meetin' worth tellin' about."

Captain Daniels and his daughter moved to Boston that summer. They never came back to Trumet to live. Annabel remained single until after her father's death; then she married a man very much younger and poorer than she was. It was remarked by acqnaintances of the couple that the difference in age became less and less apparent as their married life continued.

"Humph!" observed Captain Zeb, summing up the situation, "he started about ten year astern, but he'll beat her on the run into the cemetery, now you mark my words. Annabel's temper's cal'lated to keep any average chap drivin' on that course, bows under. There's a three-reef breeze blowin' off her tongue, day and night."

On a Sunday morning, a few weeks after the committee meeting, the Regular church was crowded. John Ellery was to preach his first sermon since the San Jose came ashore. Every member of the congregation was present. Even Mrs. Prince, feeble but garrulous, was there. Gaius Winslow, having delivered his brood of children at the church door, made a special trip in his carryall to fetch the old lady. Captain Zebedee and Mrs. Mayo beamed from their pew. Dr. Parker and his wife smiled at them across the aisle. Didama Rogers's new bonnet was a work of art and her neck threatened to twist itself off as she turned to see each one who came in.

Lavinia Pepper sailed to the front. She was dressed in a new black alpaca which rustled so very much like silk that nearsighted people might have been deceived by it. With her was a man, apparently suffering from strangulation because of the height and tightness of his collar. "It's Caleb Pratt, from Sandwich," whispered Didama. "Thankful Payne's relation, you know. Have you heard what folks are sayin'? I guess it's true, because—Look at Kyan! you'd think he was goin' to his own funeral."

Abishai's expression was not cheerful, certainly. He followed Mr. Pratt and his sister to the Pepper pew and subsided sadly in the corner next the wall. Occasionally he was observed to wipe his forehead and once—it was during the prayer—he groaned audibly. Lavinia's dig in the ribs prevented his repeating the sound, but, judging by his looks, he continued to groan in spirit.

There was a stir at the door. All heads swung in that direction—all but Mr. Pepper's, that is. The minister and Grace were coming up the aisle and behind them came Captain Nat Hammond and Keziah Coffin. Nat was smiling and selfpossessed. Never before in his life had he entered the Regular meeting house as a worshipper, but he seemed to be bearing the ordeal bravely. It was Grace's first visit to the church, also, and she was plainly embarrassed. To be stared at by eighty-odd pairs of eyes, and to catch whispered comments from the starers' tongues, is likely to embarrass one.

Yet the comments were all friendly.

"I declare!" whispered Mrs. Prince, "I never see her look so pretty afore. I knew she was the best lookin' girl in this town, but I never realized she was such a beauty. Well, there's one thing sartin'——we've got the handsomest parson and parson's wife in this county, by about ten mile and four rows of apple trees. And there's the other bride that's goin to be. I never see Keziah look so well, neither."

Keziah did look well. Her parson had emerged triumphant from his battle with disease and adverse fate and was more than ever the idol of his congregation. He was to marry the girl of hs choice—and hers. The housekeeper's ears were still ringing with the thanks of John and Grace. Both seemed to feel that to her, Keziah Coffin, more than anyone else, they owed their great joy. Some of the things they said she would never forget. And her own life, too, was freed forever of its burden, the secret which had hung over her for so many years. Only a very few knew that secret, and they would not disclose it. Toward the memory of the man buried in the stranger's lot at the cemetery she felt almost kindly now. While he lived she had feared and dreaded him, now she was beginning to forgive. For he had paid his debt with his life, and wih her, beside her, was the other, the one whom she had loved, had given up, had mourned for, and who was now to be hers always. No wonder Keziah looked well. She was happy, and happiness is a wondrous beautifier.

The minister went up the stairs to the pulpit. He was still white and thin, but his eyes were bright and his voice clear. He gave out the opening hymn and the service began.

They said it was the finest sermon ever preached in that church, and perhaps it was. When it was over, before the benediction was pronounced, Ellery stepped out from pulpit to the edge of the platform. He looked over the friendly faces upturned to his and, for an instant, it seemed that he could not trust himself to speak.

"My friends," he said, "I cannot let you go without a personal word. I owe you so much, all of you, that nothing I can say will convey to you my feeling of gratitud and love for this congregation and this church. You have stood by me all thru. You trusted me and believed in me. I came to Trumet a stranger. I have found here the truest friends a man could hope to find—yes, and more than friends. If I live, and while I live, I shall hope to prove by the best effort that is in me my realization of the great debt I owe you and my desire to repay it, even though the payment must, of necessity, be so inadequate. God bless you all—and thank you."

"Wa'n't it lovely!" gushed Didama. "And when he said that about true friends he was lookin' straight at Gracie all the time."

"Didn't seem to me so," declared Gaius Winslow. "I thought he was lookin' at Cap'n Hammond."

"Well, now, that's queer," put in Mrs. Parker, the doctor's wife. "I would have sworn he was looking at Keziah Coffin."

Captain Zebedee grinned. "I cal'late you're all right," he observed. "I wouldn' wonder if he was lookin' at all of 'em."

There was much hand shaking and congratulation and the church emptied slowly. Among the last to leave were the Peppers and Mr. Pratt. Lavinia took the minister aside.

"Mr. Ellery," she simpered, "I've—that is, Caleb and me—will prob'ly want you to— That is, we want you to be the one——"

"Yes, Miss Pepper?"

"Oh, my sakes! you see— 'Bishy dear, come here a minute, won't you?"

"What do you want?" he asked gruffly.

"Heavens to Betsy! Don't look so sour. A body'd think you was goin' to be hung, to look at you. 'Bishy, you tell Mr. Ellery all about it, there's a dear. He'll tell you, Mr. Ellery; and remember we count on you. Neither me nor Caleb wont have nobody else."

She seized Mr. Pratt by the arm and led him hastily away. Kyan looked after them.

"Hung?" he muttered. "I wish, by godfreys mighty, I had the hangin' of some folks! I'd put a tighter collar on 'em than they've got now, I bet you!"

The minister's lips twitched. He knew what was coming. Hints of a surprising nature had been circulating about Trumet.

"What's the matter, Mr. Pepper?" he asked.

"Matter? Matter enough! You know what she's goin' to do? She's goin' to marry that!"

The last word was emphasized by a furious gesticulation toward the back of the gentleman from Sandwich.

"Who? Mr. Pratt? Is your sister to marry him? Indeed! I congratulate them both—and you."

"Me? What in tunket—I ask your pardon, Mr. Ellery, for talkin' so in the meetin' house—but what are you congratulatin' me for?"

"Why, because your sister is to have a good husband; at least people speak highly of him."

"Ugh!"

"And because—well, Mr. Pepper, you have been quite confidential with me; we have shared secrets, you know; and I thought possibly the new arrangements might make it a bit more pleasant for you."

"Pleasant? How?"

"I suppose Mr. Pratt will take his bride home to Sandwich, and you, being here alone, will be more free."

"Free?" Kyan repeated the word wrathfully. "Free! I'll be about as free as a settin' hen under a barrel, I will. Is a feller free when he's got two pickin' at him instead of one? I thought I was goin' to have a little peace and comfort; I thought that same as you, Mr. Ellery. I've had my suspicions as to her and him for some time. That day when I cal'lated I'd locked her up and come back to find she'd gone buggy ridin', I thought 'twas queer. When she went to conference and left me alone I smelt a rat. When she took to letter writin' the smell got stronger; until the last few weeks I've been sartin of the game she was up to. And I never complained, no sir! Some brothers would have ripped up the eternal foundatons afore they'd have let their sister break up their home and desert 'em for a stiff-necked, bald-headed old shoe peddler like——"

"Hush! hush! Mr. Pepper. You forget——"

"No, I don't forget, nuther. Mr. Ellery, you don't know it all. When Laviny come to me and told me what she was goin' to do, was I obstinate? Did I stand on my rights as head of the family and tell her she couldn't do it? No, sir-ee, I didn't! I was resigned. I says to her, 'Laviny,' I says, 'I won't say that I shan't be turrible lonesome without you. I won't say that I an't sort of shocked and grieved at our partin' after all these years. But what's my personal feelin's when I compare 'em with your happiness? Nothin,' nothin' at all!' I says. 'Bless you, Laviny,' says I. 'When you goin' to go away?' And what do you s'pose she says to me? Why, that she wa'n't goin' away at all. That—that Pratt thing has sold out his shoe store up to Sandwich and is comin' here to live. Comin' to live at our house, mind you, with her and with me! ''Twill be so nice for you, 'Bishy dear,' she says, 'to have a man in the house to keep you comp'ny and look out for you when I ain't round.' Godfreys mighty!"

This portion of Kyan's disclosure was surprising, if the announcement of his sister's engagement was not.

"Mr. Pratt is coming to Trumet?" the minister repeated. "What for? What is he going to do here?"

"Keep shoe store, I s'pose likely. Laviny says there's a good openin' for one in this town. I told her the best openin' I could think of for him was the well and I hoped to the nation he'd fall into it. Then she went for me like a dogfish after a herrin' and I never had a taste of vittles till I'd took it all back and said I was glad he was goin' to live with us. Free! Don't talk to me about freedom! Godfreys mighty!"

Ellery smothered his desire to laugh and expressed sympathy. Abishai listened in sullen silence.

"Well," he said, turning to go, "I ain't goin' to stand it, if I can help it. I've been doin' some thinkin' on my own account and there's two ways of getetin' even. That Caleb critter is marryin' into our family 'cause he knows I'm well off. I'll cheat him, by godfreys! I'll will every cent of my fifteen hundred dollars to the poor or the heathen or somethin'. I will, sure's taxes."

The minister was obliged to laugh then.

"I wouldn't do that," he said. "From what I hear, Mr. Pratt is worth several times fifteen hundred."

"I know it; but he's so dum mean that 'twould break his heart to see even ten cents getting away from him. However, that ain't my only plan. He and Laviny ain't got any mortgage on the marryin' business. Other folks can do it as well as them. What do you think of Hannah Poundberry?"

"What do I think of her? What do you mean?"

"Never mind what I mean. Just you keep that in your head, Mr. Ellery. You remember that I asked as man to man, 'What do you think of Hannah Poundberry?'—Yes, yes, Laviny, I'm a-comin'. They want me to ask you to marry 'em," he added. "I s'pose you'll have to. But say, Mr. Ellery, when you do, just tell Pratt that your usual price for the job is ten dollars. That'll spile his honeymoon for him, or I miss my guess."

He turned away and moved sulkily toward his beckoning sister and her escort; but wheeled once more to add, in a mysterious whisper, "Don't you forget now, Mr. Ellery. Remember that question I put to you: 'What do you think of'—Yes, yes, Laviny, I hear you!—of you know who?'"

That evening, at the parsonage, Keziah was clearing the table and Captain Nat was helping her. A happy party of four had enjoyed the meal, John and Mrs. Coffin acting as hosts and Grace and the captain being the invited guests. Now the younger couple had gone over to the church, the bell of which was ringing for evening service.

"Hurry up, Keziah," urged Nat. "If you and me don't get decks cleared pretty soon we'll be late for meetin', and I'd hate to do that, considerin' I'm such a brand-new disciple, as you might say. What do we do next, shorten sail? Like this, hey?"

He pulled the cloth from the table, sending the crumbs flying in all directions, and proceeded to fold it, after a fashion.

"There!" he exclaimed with satisfaction; "there she is, canvas furled and under bare poles. Now we can clear out, can't we? What's the matter?"

Keziah took the cloth from his hands and refolded it.

"Nat Hammond," she said, laughing, "you may be a good sailor, but you're an awful poor housekeeper. Look at the mess you've made of that floor."

Nat looked at the scattered crumbs and shook his head.

"By the everlastin'!" be observed, "I did make dirty weather on that tack, didn't I? Cal'late I ain't much of a housekeeper, same as you say. Maybe that's why I was so dreadful anxious to get a good one to cruise along with me. Well, I've got her. I'm satisfied."

He walked to the back door of the kitchen, threw it open, and stood looking out.

"Keziah," he said, "come here a minute."

She came from the dining room and stood at his side. He put an arm about her.

"Look off there," he said, pointing with his free hand. See that?"

The sun was just setting and all the west was gorgeous with crimson and purple and yellow. The bay was spangled with fire, the high sand bluffs along the shore looked like broken golden ingots. The fields and swamps and salt meadows rich in their spring glory of bud and new leaf, were tinged with the ruddy glow. The Trumet roofs were bathed in it, the old packet, asleep at her moorings by the breakwater, was silhouetted against the radiance. The church bell had ceased to ring and there was not a sound, except the low music of the distant surf.

"Look at it, Keziah," urged Captain Nat.

"I'm lookin', Nat," she answered. "It's beautiful."

"Ain't? I love it, you know that, and I never thought I should be anxious for the time to come when I must leave it. But I am. I want to go."

They were to be married in another month. It would be a double wedding for Grace and the minister were to be married at the same time. Then Nat and his wife were to go to New York, where a new ship, just out of the builders' hands, was to be ready for him. She was a fine one, this successor to the Sea Mist. She had been building for more than a year and when Captain Hammond returned, safe and sound, and with their money in his possession, the owners decided at once that he should command the addition to their fleet. She was to sail for Liverpool and Keziah was to be a passenger.

"I can't hardly wait to get to sea," went on Nat. "Think of it! No more lonesome meals in the cabin, thinkin' about you and about home. No, sir! you and home'll be right aboard with me. Think of the fun we'll have in the foreign ports. London, and you and me goin' sightseein' thru it! And Havre and Gibraltar and Marseilles and Genoa and—and—by and by, Calcutta and Hong Kong and Singapore. I've seen 'em all, of course, but you haven't. I tell you, Keziah, that time when I first saw a real hope of gettin' you, that time after I'd learned from John that that big trouble of yours was out of the way forever, on my way up to Boston in the cars I made myself a promise—I awore that if you did say yes to me I'd do my best to make the rest of your life as smooth and pleasant as the past so far had been rough. I ain't rich enough to give you what you deserve, nowhere near; but I'll work hard and do my best, my girl—you see."

Keziah was looking out over the bay, her eyes brighter than the sunset. Now she turned to look up into his face.

"Rich!" she repeated, with a little catch in her voice. "Rich! there never was a woman in this world so rich as I am this minute. Or so happy, either."

The End.

OPPOSE DAYLIGHT SAVING

The Farm Bureaus of Lancaster and Westmoreland Counties, Pa., have adopted resolutions opposed to Daylight Saving in the following terms:

Whereas, the farmers as a class were willing and have made the common sacrifice in production costs under war conditions as engendered by daylight saving, and

Whereas, this system while in force worked more hardships on the farmer and his family, than any other things that could be devised, and

Whereas, this system disrupts and disorganizes the labor equipment of our farms, already much depleted by city competition and attraction, and

Whereas, if the farmer is compelled to meet the effects of this system, it will curtail the producing capacity of the farmer, and thus increase the already high cost of living. Therefore be it resolved, that the Lancaster County Farm Bureau and the Westmoreland County Farm Bureau denounce and deplore any attempt to revive this system.

WOMEN AS FARM WORKERS

A young woman writing upon the apparent farm labor shortage comments as follows:

"I was greatly interested in the articles on labor shortage in a February issue of Pennsylvania Farmer and think a partial remedy would be the employment of intelligent capable women. Surely, a willing woman worker can perform many duties on the farm. The war record of the women farm workers proves this. If employed for such work as they can do it would help relieve the situation somewhat. I am a young woman graduate of a three months winter agricultural college course and have had a little practical experience. Such as I could be broken in on a large poultry plant or general farm and I feel sure our work would be satisfactory in most cases. I should like to here from your readers.—S. K.

REINSTATE YOUR LAPSED U. S. INSURANCE

Discharged service men may reinstate their lapsed yearly renewable term insurance at any time before July 1, 1920, without regard to the date the insurance lapsed or the date of discharge from the service. The discharged man in his application for reinstatement must state that he is in as good health as at the time of his discharge or at the expiration of the grace period, whichever is the later date, and must send with the application a payment covering two monthly premiums, one to cover the grace period, one for the month of reinstatement.

This ruling of the Director of the Bureau of War Risk Insurance abrogates all previous decisions. The American Red Cross urges all discharged service men to take advantage of this new opportunity to reinstate their insurance because of the liberal features which are now included under the authorization of the Sweet Bill.

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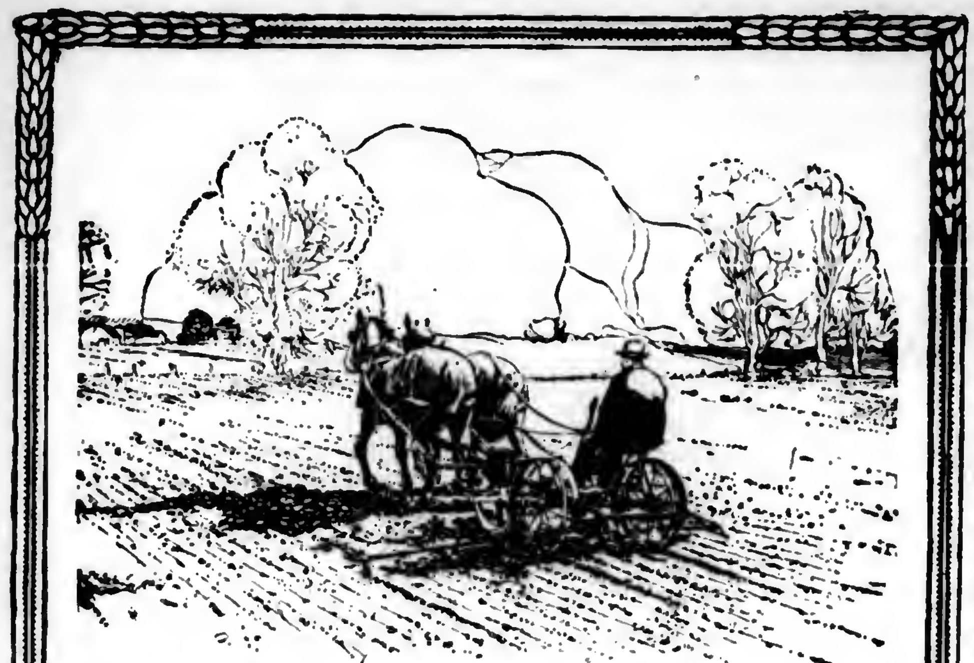

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POULTRY

THE WAY I MAKE FARM POULTRY PAY

I find that incubators are the most satisfactory way to hatch chicks. I have tried the old way with hens, but observed that when hens were laying they would not set, and when they were setting they would not lay. By the time the hens wanted to set, I found that they were my best breeding stock, but of course, could not use their eggs.

The small incubator (144 egg size) I find the most suitable for myself. They are easily handled, and not so heavy work as the large one. I have two and run both at the same time. I have been using them nine years and have had no record-breaking hatches, but what hatches I do get are strong, healthy, vigorous chicks—the weaklings are all culled in the hatch.

I use hens for the brooding stage, giving each hen about 25 chicks at the start—about a week or ten days, according to their development and the weather, then a hen can take care of more. I used artificial brooders four or five years but since trying this way, I find it more satisfactory. I do not know why, but I notice, the chicks become more natural by being with a nice, motherly, old hen, and they soon learn to get to shelter should a rain come up. On rainy days they come out only between showers. They never seemed to get this with artificial brooding, and I had to keep them confined to the house all day when it was wet. I use colony houses six by twelve for brooding and as they get larger move them into the regular house, which is sixteen by sixty.

As to feed, anyone may get the formulas for mixing the different rations from any of the State Experiment Stations. There are several ready mixed feeds for poultry on the market, but I prefer my own mixing. I have tried many different kinds of feeds and formulas and from them have evolved a formula of my own, which is very satisfactory. When the chicks are two months old, instead of keeping on with the growing ration, I change to the laying ration. I figured that if a ration is good for laying hens it must also be good for growing birds and also develop the egg producing organs. When they are put in the house for the winter for laying purposes about October 1, it is too late for me to start the laying ration. I want them in shape, then, to start work.

In former years I thought, also, that there must be at least a foot of litter in the house during the winter or the birds would get no exercise, and get fat and lazy. Now, I think if a hen must expend all her energy scratching all day long to get enough to satisfy her appetite, she has no resources from which to produce eggs. Therefore, I keep enough dry litter on the floor to protect them from the weather. But the main thing with poultry is to keep them satisfied and contented, and never crowded, thus eliminating danger from sickness and disease.

I know that expert poultrymen will say I am "mad" to follow the above method in caring for poultry, but if they will peruse, carefully, the following expense account they will at least, concede that "there is method in my madness."

On April 8, 1919, I had hatched 80 white wyandotte chicks; May 21, 1919, 142 white plymouth rock chicks. Of this bunch I raised to maturity 210 birds, the others being destroyed by varmints. I began marketing cockerels October 23 and by December 5th I had sold 101 for $242.60; used nine for table and have 100 pullets now. The wyandotte pullets started laying September 1. The rock pullets started November 1.

Expenses.—Cost of eggs, expenses of running incubators, actual cost of feed to December 1, $235. Cost of feed December, January, and February, $113.50. Total, $348.50.

Receipts

Marketing 101 cockerels	$242.06
46 doz. eggs Sept. and Oct.	24.75
32½ doz eggs Nov.	25.97
84½ doz. eggs December	74.87
112 doz eggs January, 1920	89.82
110 doz. eggs February	68.15
Total receipts	$526.16
Total expenses	348.50
Profit	$177.66

I have $177.66 over the actual cost of feed for my season's labor, and 100 laying pullets free of encumbrance. Until 2 or 3 years ago when prices began to soar, I allowed 10 per cent depreciation on the incubator, but then I raised it to 15 per cent, so, now, (theoretically) they have depreciated 100 per cent. But practically they have paid all charges, and I have two good incubators clear, thus lessening the cost of production.—Mrs. George D. Taylor, West Chester, Pa.

BRAN ECONOMICAL POULTRY FEED

We have found bran of great value in feeding poultry especially in combination with other feeds. By mixing our sour milk or buttermilk with bran the fowls will eat it more ready and every bird will obtain a share. At butchering time on the farm there are cracklings left after trying out lard. They are rich and we have found them likely to throw the hens off feed if they eat too many of them. But when mixed with bran the cracklings are greatly relished and there seems to be no danger from digestive disorders.

Table scraps and cut clover are liked better by hens if they are mixed with a bran mash. The use of bran in all dry mashes gives the mixture a bulky and flaky texture which makes it more appetizing for the hens. It is slightly laxative and helps to prevent digestive disorders which might occur if the mash consisted exclusively of heavier and more digestible materials.

We always supply small hoppers of bran for the young chicks in the colony houses and have never known the chicks to eat enough bran to injure them. It seems to help keep the chicks busy and prevent bowel trouble. A few handfuls of bran mixed with dry oatmeal or fine chick scratch grain seems to be beneficial to the health of the chicks.—R. G. Kirby, Michigan.

NINE INCUBATOR SUGGESTIONS

1. On the night of the 18th day of incubation, wet a woolen cloth with hot water, wring it out and place it on the eggs overnight. Take it out in the morning and then keep the machine closed until the end of the hatch. This moisture will soften the shells and help the chicks to emerge.

2. Fires are avoided by carefully cleaning and trimming the lamp and adjusting the heat so that a high flame is never necessary to keep the temperature around 103 degrees.

3. A tank of fine grade oil is an asset to the poultryman. The best grade produces little soot and odor and the most heat for the money. A reserve supply is necessary to make incubation safe.

4. A well ventilated cellar is the best place for an incubator. If the machine is operated in an empty room, much cooperation from the family is necessary. Draughts from open doors make heat regulation difficult. Jars from heavy walking near the machine will reduce the "hatchability" of the eggs.

5. The fresher the eggs the better are the chances of bringing out a large percent of fine plump chicks. Many machines are blamed for not hatching stale eggs laid by breeding stock lacking in vigor.

6. There is no mystery about an incubator. It is simply the common-sense application of some of nature's

aws. But the operator who lacks ommon-sense forgets to follow di-ections and then blames the losses n the incubator.

7. Test the thermometer each ear by comparison with a phyicians instrument. The best eggs ill be ruined by running the mahine at the wrong temperature. If he thermometer is not accurate it s safest to buy a new one rather han use the other even when makg an allowance for the error.

8. If the machine is of the hot ater type it must always be drained uring the winter to prevent freezg and bursting of the pipes. Alays test the water system for leaks efore placing the eggs in the mahine.

9. Wash the incubator thoroly fter each hatch. We have had fair ccess by washing the trays and the nside of the machine with a soluion of baking soda and hot water. he commercial coal-tar disinfecants are probably a little better.— . G. Kirby, East Lansing, Mich.

EGG EATING HABIT

A subscriber writes that his hens re laying eggs with very thin shells nd that they have contracted the g-eating habit.

No doubt the hens contracted the g eating habit by finding some roken eggs in the nest. It is a ifficult habit to break when once it established, but it is possible that ey will quit it when they can have ee range and if the shells become ormal so that they do not break easily. Hens that are too fat freently lay thin shelled eggs, or if ey are fed too many vegetables. ashes should contain plenty of heat bran and in addition to this ey should have crushed oyster ells before them all the time. Do t feed too much corn.

WHITE DIARRHEA IN CHICKS

The annual flood of queries on w to combat white diarrhea in lite chicks has already begun. We ould like nothing better than to able to recommend a sure cure r this disease but we cannot do In fact, so far as any one can ow now prevention is the only pe. First, breeders should be m flocks which did not have the sase when they were small. Sec-d. Brooders and runways should thoroly disinfected and made an. Use plenty of boiling water. ird, give as the first feed or two ick, sour milk, and keep it before em for a time after this. This, short, is the practice of many sucsful growers and is about all that known as to effective, preventive asures.

FEEDING BABY CHICKS

What should the chicks be fed er removing them from the incutor? This question confronts all ginners in poultry work. Most ltrymen agree that the best feed the first two or three days is the ertile egg (tested out of incuba- on the 5th to 7th day) boiled rd and ground, shell and all, in a t chopper and rubbed together th three times their bulk of rolled s. A good practice then is to reve the chicks from the incubator the brooder at night. The next rning, give them some fine chick t in a shallow pan. Supply them h luke warm buttermilk, or sour mmed milk. About half an hour r, give them a small feed of the led egg and rolled oats. Feed r or five times a day, little but en.

On the third day, the following h can gradually be substituted the egg and rolled oats: ten nds rolled oats, five pounds bread mbs, one pound meat scrap, one nd bone meal, mixed with butilk and fed in a shallow pan. rting with one feed the third day, e them a scratch of five pounds of cracked corn, four pounds pin d oats, and four pounds cracked eat. By the second week give m two feeds of scratch a day, and stitute the following dry mash the wet mash: 100 pounds bran, pounds corn meal, 100 pounds dlings, 30 pounds meat scrap, 15 nds bone meal.

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FAYETTE BREEDERS BUSY

The secretary's report, which was given at the annual meeting of the Fayette Co., Pa., Breeders Association, held recently, showed that some definite things had been accomplished by the Association. One community in which several members of the organization reside pooled their funds and together purchased a community sire. In this way they were able to buy a better sire than would have been possible had they bought individually. The sentiment which the organization created for better hogs was responsible for the development of twenty four new breeders. These new breeders as well as a number of old ones imported into the county, during the year, thirty-six pure bred Polands which were bought largely thru the Middle West and are the corn-belt kind. The Association was responsible for the organization of a pig club in which eighteen boys enrolled and are now Poland China Breeders, consequently one can look for improvement in this breed.

Farm Bred Horse. Indiana Co., Pa.

SHEEP AND LAMB HINTS

The principal objections to an enlargment of the sheep industry seem to be the expense involved in purchasing and housng, and the uncertainty of future prices of wool and mutton. We can feel assured that there will always be a demand for this kind of meat and altho the price of wool may fluctuate, the prices cannot fall to such an extent but what sheep raising will be profitable for some years to come and will doubtless never get back to the same level that prevailed before the war.

One thing the farmer can be certain of and that is the fact that his land is steadily enriched by keeping sheep. Many farmers are now ordering pure bred rams, and a few pure bred ewes where the finances will permit. Altho the first cost is considerable, it pays in the end. Every grade flock in the country needs building up as it has been found that the average weight of a fleece is 6.6 pounds while the one sheared from a well bred sheep weighs from 12 to 16 pounds. This alone proves it a wise plan to invest in a well bred flock.

Lambing season is already here and if the ewes were in good condition at the mating season, kept well housed during the cold winter and fed on good legume hay and roots, there is no reason why both ewes and lambs shouldn't do well. For a couple weeks prior to lambing, the writer feeds the ewes a few handfuls of a mixture of three parts oats and two parts wheat bran to induce a good milk flow. This is fed night and morning and is kept up after lambing time until they are turned into the pasture. The mother and lambs are taken away from the main flock for a few days.

In raising lambs that have lost their mothers, they should be fed frequently and but little at a time of cows milk. Two teaspoonfuls given at a time every hour is sufficient for a day or so, then gradually increase the time but feed regularly and in small quantities. Lambs may be taught to drink milk but the best plan is to use a bottle with a rubber nipple.

All lambs should be fed grain, a mixture of oats and bran but never corn meal, when they are two weeks old. In a short time they will relish cracked or whole corn. Oil meal can be added to the bran and oats with good results. It is advisable to dock the lambs when a week or so old as they are not likely to become weak from loss of blood at this time.

Never select ewe lambs with the object of breeding them the first fall. It is all right to breed yearling ewes to an old ram that is known to be a sure breeder and a good sire. It is considered a wise plan to keep a good breeding ewe as long as she will breed, perhaps until nine or ten years of age. In pure bred flocks, the extra value of the lambs from such ewes more than compensate the loss one may have when they are unable to sell them for very much on account of their age. Even two year old ewes with first lambs are not as reliable as when older.

A ram that is a yearling or older, when running in the field with ewes, should be sufficient for 40 or 50 sheep at the mating season. Ram lambs will do well as sires if used moderately. It is better to use a twin sire, if possible, as like begets like and one likes to obtain twins or triplets. About twenty is as large a number of ewes as can be relied upon for good results when bred to a lamb ram. The ram must not be allowed to get into a run down condition from any cause.—E. M. L. B., Cortland Co., N. Y.

HARNESS SORES FROM CARELESSNESS

Harness sores on work horses indicate carelessness on the part of the owner. Collars are the chief source of trouble. So called self adjustment of collars is impossible. They should not be too tight or too large as chafing is caused principally by a loose collar rubbing.

When first put to work after the long idleness horses shoulders are usually tender. Especially is this true of young or fat horses. These should be used carefully, especially if put to work in warm dusty weather, until their shoulders become hardened. Bathing the skin with cold water and salt tends to harden it and render it less susceptible to injury.

If already chafed cold water and a solution of carbolic acid may be used. When resting in the field, raising the collar and wiping the sweat and dust from the shoulders will prevent chafing and scalding.

When the galls are already formed it is almost impossible to cure them. A good fitting collar is sometimes ripped open over the gall and some of the padding removed leaving a depression wide and deep enough so that the collar will not come in contect with the gall. This is called "chambering" the collar. The same result can be obtained by using pads sewn on the collar on either side of the gall, or, as is often done, stuffed socks are inserted in either side to hold the collar from the gall.

Other parts of a harness seldom chafe a horse except when a horse's body swells outward considerably beyond the shoulders the traces will gall their sides. This can usually be prevented by placing thick leather pads beneath the hame hooks.—Kansas Industrialist.

NO COMPROMISE WITH SCRUBS

Whether bulls, boars, rams, or roosters—if they are in the scrub class—they must go! This is the declaration of West Virginia which, having joined the "Better sires—Better stock" campaign, is going at live-stock improvement with a will. Already hundreds of farmers have pledged themselves to use only purebred sires. Feeding demonstrations are to be numerous during the coming months and whole counties are planning to put on campaigns, the object of which is to secure more purebred stock. It is expected that within the next few months several hundred head of purebred sires, and also dams, will be brought into the State as part of the general program to raise the live-stock standard. Several counties undoubtedly will be able to show a list of purebred sires within a short time.

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Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., March 29, 1920

Supplies of potatoes after running extremely light for a period of several days are again more plentiful. Philadelphia has been experiencing unusually high prices in potatoes for several days past, and strictly fancy Pennsylvania grown potatoes reached $6.50 per cwt., with New York state stock about $6.25. Today, however, there were over 30 fresh cars of potatoes arrived and with some stock carried over there were in the neighborhood of 50 cars here. Today's market ranged mostly around $5.75@6 per cwt., on Pennsylvania stock, with New York state stock selling at about the same values, with Delaware and Maryland Hoosiers at about $5.50@5.70 per cwt. It may be said that the market is still unsettled and there is an easier tendency to the market.

Sweet potatoes are showing no material change over last week's prices, the Eastern Shore hamper stock selling at $2.25@2.40 for No. 1s, and $1.00@1.50 for No. 2 and medium sized sweet potatoes. The nearby New Jersey sweet potatoes are also unchanged at $1.65@2 per ⅝ basket for primes with No. 2s at 90c@$1.25.

Vegetables

The supplies of Asparagus is more plentiful but at the same time supplies are still far from being plentiful. Today a car of asparagus from California by express sold at prices ranging from $5.25@10 per dozen bunches, while some from South Carolina sold from $5@6.50 per dozen bunches. Artichokes continue in light supply and steady at $5@7 per box. There is no material change to note in the market on green or wax beans. Supplies continue extremely light and sales are being made generally from $6@10 per hamper as to quality and condition. Old beets from nearby New Jersey and Pennsylvania points are meeting practically no demand and the market is very slow and draggy at $1.50@3 per barrel. New beets from southern points on the other hand are firmer and active at 8@11c per bunch on good stock, but there are some poor ones that only bring 4@6c per bunch. The market on old carrots is also easier at $4.50@7 per barrel, the latter price being for the nearby Pennsylvania grown stock, while the lower price is for rough New York state stock. The season on old cabbage is drawing to a close, and most of the supplies now left are showing age and on this class of stock the market is very slow at $40@50 per ton. New Cabbage from the south is also lower best selling at $2.75@3 per hamper with poor at $2.25@2.50 per hamper. Barrel crates of New Cabbage sold here this morning at $5.50@6.25 per crate. Cauliflower is in light supply and the market is about 25c per crate higher than a week ago, as today's sales were made at $2.75@3 per crate. Celery is lower due to the generally poor quality and sales are now being made mostly at $3@4 per crate with poor stock much lower, but at the same time strictly fancy celery would sell above $4 per crate. Cucumbers are very scarce and hot house stock is steadily selling at $2@2.75 per dozen. Egg plants are also very scarce and firm at $5@6.50 per crate. Horseradish is getting much more plentiful from nearby points and the market is gradually seeking lower levels. Today good nearby horseradish sold at 20@25c per pound with No. 2 stock at 10@15c per pound. Western grown horse radish is selling at $15@20 per 100 pounds. Supplies of kale from Norfolk are increasing in supply almost daily, but as the quality is very variable prices are taking a very wide range. Today, Norfolk kale sold all the way from $1 up to $2.50 per barrel. Lettuce is advancing as supplies are not so plentiful. Today Florida lettuce sold at $1.50 to $3 per hamper and California Iceberg lettuce at $2.50@4 per crate, these prices being the highest so far this year. Lima beans continue very scarce and firm at $6@8 per hamper. The market on onions has taken a big slump today, and this market is still unsettled. Today's sales of onions were made at $5.50@6.25 per 100 pound sack this being 75c@$1 lower than a week ago. Onion sets however remain firm at $3.75@4 per bushel for the western with the nearby New Jersey sets active at $3.25@4 per hamper. Mushrooms are firmer and active at $1.50@2 per three pound basket. Parsley is in light supply and good demand at $1.50@2.50 per box. Peas are very scarce and some fancy stock from California sold here this morning at $12 per crate. Peppers are also very scarce and wanted at $5@8.50 per crate. Romaine is meeting a good active demand at $2@2.25 per hamper. Hot house radishes are in light supply and meeting an active demand at 5@6c per bunch. Hot house rhubarb continues in light supply and firm at prices practically unchanged from last week of $1.20@1.40 per bundle for fancy with choice at 65@90c. Spinach is much more plentiful from the Norfolk section, but as much of the stock is poor prices are showing the wide range of $2@4 per barrel, with demand active for fancy stock. Two cars of fancy spinach from Texas sold here this morning at $2.75 per bushel. Nearby grown parsnips are also showing a wide range in price due to the wide range in condition some of which are getting very poor. Best parsnips are selling around $6@6.25 per barrel, with poor stock at $3.25@4.50 per barrel. There is not much change to note in the market on tomatoes, as most stock is poor and selling at low prices, while fancy stock is in light supply and firm and wanted at good prices. Today, sales of tomatoes ranged all the way from 50c to $4.25 per crate. The market on nearby white turnips is lower at 50@90c per ⅝-basket, but the yellow turnips are firm at the former price of $1@1.35 per ⅝-basket. Watercress is firm when fancy at 4@4½c per bunch, but there is some arriving in heated condition which is selling at lower prices.

Fruits

Supplies of apples are not heavy, but it is getting well along in the season and many of the apples are beginning to show more or less poor condition. The market in generally is easier on all grades and all varieties of apples. Baldwins sold at $7@8.50 per barrel, Ben Davis, $4@7; Ganos, $5@7; Greenings, $5.50@8; Spys, $5@6.50; Winesaps, $6@8.50, and Russets at $5@6.50. Box apples sold about as follows: Newtowns, $2.50@3; Winesaps, $1.50@4.25; Rome Beauty, $2.50@3.35; Black Twigs, $2@2.50; Pearmains, $1.25@2.75. There were two cars of strawberries here today, but they showed very irregular and weak and wasty condition with some of them very mouldy, the best berries sold at 40@70c per quart, while the weak, wet, leaky, wasty and mouldy ones sold as low as 5@25c per quart. Cranberries remain nominally unchanged at $6@7 per parrel, but there is only a very limited demand for them.

Poultry

Supplies of live poultrp continue light and while prices are showing but very little change from last week's quotations the market is a little easier and the top prices are only secured for the very best stock. At this writing fancy heavy fowls are selling at 44@47c per pound, with smaller and inferior sizes at 38@43c. Average roasting chickens are about steady at 42@44c, with inferior at 38@41c. Broiling chickens are in good active demand at 55@60c per pound. Old roosters are practically unchanged at 30@32c, while ducks continue to show the wide range of 30@46c per pound, the highest price being paid for the White Pekins, while the colored Indian Runners sell at the lower range.

Eggs

Supplies of eggs are running light for this period of the year and as there is a strong active demand the supplies are being cleaned up nicely from day to day with the market showing but very little variation, and prices are only about ½c lower than they were a week ago. At this writing Pennsylvania and other nearby current receipts are selling at 47½c per dozen, with firsts at 48c, while the western firsts are selling at 47c and the extra firsts at 47½c. Southern eggs are now bringing 46c per dozen.

LANCASTER PRODUCE MARKET

Lancaster, Pa., March 29, 1920

Other than an exceptionally brisk Easter demand for eggs which absorbed the entire supply at fifty cents per dozen, market features were unimportant here today. An abundance of produce was offered and was moved easily at last week's prices. Asparagus made it's first appearance of the season and was offered at 80 cents per bunch.

Butter and Eggs.—Creamery butter, 80@85c per pound; country butter, 70@75c per pound; fresh eggs, 50 cents per dozen; duck eggs, 55c per dozen; goose eggs, 6@7c each.

Poultry.—Dressed old chickens, $2.25@2.50 each; dressed young chickens, $1.75@2.10 each; no live fowls offered.

Vegetables.—Spinach, 20c per half peck; turnips, 15 cents ½ peck; potatoes, 40c ½ pk.; do., $3@3.50 per bu.; sweet potatoes, 35c ½ pk.; cabbage, 15@25c head; cauliflower, 25@40c per head; lima beans, 20 cents quart; red beets, 5c bunch; lettuce, 15@25c head; oyster plant, 10 cents bunch.

Grain Market.—Wheat, $2.20 per bu.; corn, $1.85; oats, 85c. Timothy hay, $31 per ton; mixed hay, $30.

YORK PRODUCE MARKET

York, Pa., March 29, 1920

There was no changes in prices this week with the exception of butter. It is becoming more plentiful, and so the drop that usually comes in February is taking place now. Eggs are plentiful, but the coming of Easter holds the price until that event is past, then we may expect lower prices for a brief spell.

Eggs.—42@48c per dozen.

Butter.—Country, 60@65c lb.; separator, 70@80c lb. Milk, 12c quart.

Poultry.—Not plentiful. Hens, 28@30c lb.; dressed, $1@2.50 each.

Vegetables.—Potatoes, 25@40c ½ peck; $2.35@2.75 per bu.; cabbage, 5@20c head; lettuce, 10@20c head; onions, 5c bpnch; 25@30c ½ peck; radishes, 5c bunch; lima beans, 35@40c quart; soup beans, 20@30c quart; celery, 5@15c stalk; turnips, 20c ½ peck; apple butter, 45@50c quart; sausage, 32@38c lb.; pudding, 30c poond; steak, 40@45c pound; bone meats, 30@34c lb.; lard, 30@32c pound; dressed hogs, 21c pound.

Fruit.—Apples, Yorks, 30@50c ½ peck; Stayman, 60@80c ½ peck; common stock, and un-colored, 40@50c ½ peck.

Retail Grain Market.—Wheat, $2.75; corn, $2; oats, $1.15; rye, $1.75; bran, $3 per cwt.

Wholesale Grain Market.—Wheat, $2.50; corn, $1.50; rye, $1.45; bran, $50 per ton; middlings, $55@65 per ton.

BALTIMORE PRODUCE

Baltimore, Md., March 29, 1920

Butter.—Creamery. — Western separator, extras, 70@71c; firsts, 68@69c; do., prints, ½ pound, extras, 71@72c; firsts, 69@70c; do., 1 pound, extra, 71@72c; firsts, 69@70c; nearby creamery, extras 67@68c; firsts, 65@66c; dairy prints, Maryland, Pennsylvania and Virginia, extras, 44@45c; firsts, 42@43c; store-packed, firsts, 40c; rolls, West Virginia, extras 42@4cc; do., Ohio, extras, 42@44c; do. Maryland and Pennsylvania, extras, 42@44c.

Eggs.—Western Maryland and Pennsylvania, nearby, firsts, 44@45c; Eastern Shore, Maryland and Virginia, firsts, 44@45c; Western (Ohio), firsts, 44@45c; West Virginia, firsts, 44c; Southern (North Carolina), firste, 43c. Duck Eggs, nearby, per dozen, 66c. Goose eggs, per dozen $1.10@1.20.

NEW YORK PRODUCE

New York City, March 29, 1920

Butter.—Irregular; receipts, 7,685; creamery, higher than extras 66½@67c; creamery, extras (92 score), 66c; creamery, firsts (88 to 91 score), 62@65c; packing stock, current make, No. 2 38½@39c.

Eggs.—Firm; receipts 30,112; fresh-gathered extra firsts 51@51½c; firsts, 48@50c; state, Pennsylvania and nearby western hennery whites, firsts to extras, 56@62c; state, Pennsylvania and nearby, hennery browns extras 55@57c, do gathered browns and mixed colors, firsts to extras 50@53c.

Cheese.—Irregular; receipts, 2,352; state, whole-milk flats, held, specials, 30@31c; do., average run, 28@29c; state, whole-milk twins, held, specials, 29@30c; do., average run, 27½@28½c.

Live Poultry.—No prices quoted. Dressed steady; western broilers, frozen, 39@51c; stags, fresh, 26@30c; frozen, 34@38c; fowls, fresh, 29@38c; frozen, 28@38c; old roosters, fresh, 27@28c; frozen, 28c; turkeys, frozen, 51@55c.

Vegetables. — Potatoes, old, $5@5.75 per cwt.; Long Island, $10@11 per 165-lb. Beets, $3@4.50 per barrel. Carrots, $3@4; onions, $2@5 per 100-pound bag.

Fruit. — Apples.—Ben Davis, $4@5.75; Winesaps, $5@9; Greenings, $4@8.50.

PITTSBURGH PRODUCE

Pittsburgh, Pa., March 26, 1920

Butter.—Prints, 70@70½c; Tubs, 69@69½c; cooking, 54½@55½c; Ohio, 64@64½c.

Cheese.—New York full cream, 36½@37c. Ohio, 35@35½c; Wisconsin Swiss, 60@61c; Philadelphia cream, $1.00 per dozen.

Eggs.—Fresh, select, 49@50c; at mark, 44@45c.

Potatoes.—Round, $8.50@8.75 per 150-lb. stacks. Onions, $7.50@7.75 sack. Cabbage, 6@6½c head. Sweet potatoes, $3@3.25 hamper. Turnips, $2.25@2.50 bushel.

Fruit.—Apples, $3@5 box.

PHILADELPHIA LIVE STOCK

Philadelphia, Pa., March 29, 1920

Receipts of live stock for week ending March 27, were as follows:

	Beef Cattle	Sheep and Lambs	Hogs
Total for Week	2,791	3,159	10,002
Previous Week	2,137	3,245	9,350

Calves.—Receipts of calves last week were 1,936 head against 1,680 head week previous.

Beef Cattle.—Offerings of desirable stock were light and values were well maintained, with prices of veal slightly higher. We quote: Steers, fair to good, $12.50@14; common to fair, $10.75@12.50; cows, per lb., good to choice, corn fed, 8@9½c; fair to good, 6@8c; common to fair, 4@6c; calves, extra to choice, $22.50@23; do. heavy to good, $16.50@19.50; do. common, $13.50@15.50; do., heavy and rough, $8.50@11.50. Tennessee, $16.50@18.50; other southern, $9.50@14.50.

Sheep and Lambs.—The market for sheep and lambs of desirable quality ruled firm, with demand absorbing the offerings of this description. We quote: Sheared sheep, wethers, extra, $15@15.50; do good to choice, $11@12; do., medium, $8.50@9.50; do., common, $5@6.50; ewes, heavy, fat, $12@13; lambs, spring, choice, $20.75@21; do., medium grades, $18.50@20; do., culls and common, $14@16.

Hogs.—The market ruled steady under moderate supplies and a fair demand for fine stock. We quote: Best western, $17.50@18 per 100 lbs.; hogs, nearby, good, $16.50@16.75.

City Dressed Stock.—Firm under light offerings and a good demand. We quote: Steers, 16@24c; heifers, 15@22c; cows, 13@18c; calves, city dressed, choice, 29@31c; do., country, 24@26c; sheep, choice, 14@25c; lambs, choice, 34@36; hogs, 24c.

PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., March 29, 1920

Baled Hay.—Receipts, 216 tons of hay, and three cars of straw. We quote:

Timothy hay, No. 2, $40@42; No. 3, $37@39; sample, $32@34. No grades, $29@31. Clover, mixed hay, light mixed, $40@42; No. 1, mixed, $39@40.

Straw.—No. 1 straight rye, $20@21; No. 2, do., $18@19; No. 1 tangled rye, $18@18.50; No. 2 do., $17@17.50; No. 1 wheat straw, $17@17.50; No. 2, do., $15@15.50; No. 1 oat straw, $17@17.50; No. 2, do., $15@15.50.

Bran.—Firmly held. We quote car-lots, to arrive including sacks. Soft winter bran, Western, in 160-lb. sacks, per ton, $57@57.50; spring bran, in 100-lb. sacks, per ton, $56@56.50.

Corn—No. 2 Yellow, $1.63@1.60.

Oats.—No. 2 white, $1.05½@1.06; No. 3, white, $1.04½@1.05; No. 4, white, $1.03½@1.04.

NEW YORK HAY AND GRAIN

New York City, March 29, 1920

Feed.—The market for mill feed was again firm and the volume of business was fair. A feature in the market recently has been increased operations in linseed oil meal. Prices for this character of feed were reduced sharply recently, and the result was that buyers took large quantities and the market has again firmed up.

Quotations: City feed bran, $58; middlings, $62, in 100-pound sacks; red dog, $72, nominal, in 100-pound sacks. Western spring bran, $55; standard middlings, $60@61; flour middlings, $63@64; red dog, $70@71, all in 100-pound sacks, 30-day shipment. Oat feed, $32; rye middlings, $58; white hominy feed, $67, all in 100-pound sacks. Cottonseed oil meal, $74; linseed oil meal, $63, in 100-pound sacks.

Hay and Straw.—Invoices continue light as practically all Manhattan points are embargoed, but there are liberal offerings at harbor points, trade quiet and the situation is rather in buyers' favor, especially on medium and low grade, small baled hay. There is a scarcity of top quality, large baled timothy hay and this hods steady. Rye and oat straw more plenty and barely steady. Wheat straw offering at $27.

Hay.—No. 1 large bales, $47@50 ton; No. 2, $44@47 ton; No. 3, $39@41; shipping, $37@39 ton. Fancy light clover mixed, $44@47 ton. Clover, No. 1, mixed, $39@42; No. 2 mixed, $37@39.

Straw.—No. 1 rye, $30; No. 1, oat, $28@30.

Wheat.—No. 2, red, $2.85.

Oats.—No. 1 white, $1.08¼; No. 2 white, $1.07@1.08½.

Rye.—F. O. B., $2.02½; Barley, feeding $1.80.

PITTSBURGH HAY AND GRAIN

Pittsburgh, Pa., March 26, 1920

Hay.—Receipts are extremely light. Not sufficient hay of good quality arriving to supply the demand. Market strong and looking higher. While the dairy hay season is about past, nevertheless No. 1 Clover Mixed hay finds ready sale at top quotations. Would advise shipments of nothing but the better grades.

No. 1 Timothy, $38.50@39; Standard Timothy, $37.50@38; No. 2 Timothy, $36@37; No. 3 Timothy, $33.50@34.50; No. 1 Light Clover Mixed, $37.50@38; No. 1 Clover Mixed, $37.50@38; No. 2 Clover Mixed, $33@34; No. 1 Clover, $37.50@38; No. 2 Clover, $30@32; No. 3 Prairie, $20.50@21.50.

Straw.—A fair demand takes care of the receipts, which are light, at top figures. Market strong and steady.

No. 1 Oat, $15.50@16; No. 2 Oat, $15@15.50; No. 1 Wheat, $15@15.50; No. 2 Wheat, $14.50@15; No. 1 Rye, $15.50@16; No. 2 Rye, $15@15.50.

Ear Corn.—Receipts and demand light. Market quiet but firm.

Yellow No. 2, $1.66@1.68; Yellow No. 3, $1.61@1.63; Mixed No. 2, $1.64@1.67.

Oats.—While the demand is not urgent, all arrivals are readily placed at quotations. Market steady.

No. 2 White, $1.01¼@1.01½; No. 3 White, $1.00¼@1.00¾; No. 4 White, 96½@98½c.

PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., March 29, 1920

Butter.—Receipts, 2,431 tubs. There was very little wholesale trading and the market was weak and unsettled under lower outside advices. Prices declined 2 cents on both solid-packed creamery and prints. We quote the following prices: Fresh, solid-packed creamery, fancy, high-scoring goods, 68@70c, the latter for jobbing sales; extra, 67c; extra, firsts, 65@66c; firsts, 55@58c; second, 55@58c; sweet creamery, choice and fancy, 69@71c; fair to good, 57@66c; ladle-packed, as to quality, 39@42c; packing stock 5@37c; fancy brands of nearby prints jobbing at 75@77c; good to choice, 67@74c; fair, 64@66c.

Cheese.—Firmly held. We quote: New York, whole milk, flats, held, fancy, 30½@31c; specials higher; ordinary to good, 25@29c; current make nominal; Wisconsin, held, fancy, 30½@31c; specials higher, ordinary to good, 25@29c; jobbing sales of fancy held goods, 32@33c.

NEW YORK MILK MARKET

New York City, March 29, 1920

Supply liberal and altho the demand is better than last week, surplus continues to increase. After several meetings between the Dairymen's League representing the producers, and the New York Milk Conference Board which looks after the interests of the distributers, the April rate in 200 mile zone for 3 percent milk was fixed at $2.55 per 100 lbs. This is a reduction of 81 cents per 100 pounds from the March rate. Add 4 cents per 100 for each additional one-tenth of one percent butterfat.

Receipts of milk and cream in 40-quart cans for the week ending March 27, 1920 were as follows:

Railroad	Milk	Cream
Erie	43,406	3,181
Susquehanna	9,035	140
West Shore	16,450	1,072
Lackawanna	60,740	1,262
N. Y. Central (long haul)	158,656	2,611
Lehigh Valley	64,520	1,382
Ontario	45,940	2,530
New Haven	7,300	60
Pennsylvania	11,100	395
Other Sources	6,300	200
Totals	423,447	12,835
Same week last year	369,438	12,258

INTERSTATE MILK PRICES

The basic price for 3 percent milk within 10 miles of Philadelphia is $3.28 per 100 pounds, and one cent per hundred less for each 10-miles distant. Four cents per 100 pounds is paid for each one-tenth of one percent fat above 3 percent. These are prices for the basic quantity or less. Amounts exceeding the basic quantity are paid for at a less price.

CLOVERSEED

Toledo, O., March 29, 1920

Cloverseed.—Prime cash and March, $35.20; April, $34; October, $24.

Alsike.—Prime cash, March and April, $36.50.

Timothy.—Prime cash, 1917 and 1918, $5.90; 1919, $6.10; March, $6.10; April, $6.05; May, $6; September, $6.15; October and November, $6.10.

Note.—It is well to remember that these are wholesale prices per bushel paid by jobbers.

TOBACCO MARKET

Now that roads are better and weather has been such as to permit the handling of tobacco, deliveries have increased in practically all localities. Stripping is well near completed and it is predicted that by the middle of April, most of the product will be out of growers hands. The situation is quite different from last season when sales and deliveries were so long deferred as to overlap greatly the duties incident to a new crop. Attention already has been turned to clearing land, plowing and especially to the making of plant beds which is the all important early operation in the growth of tobacco. Thousands of beds prepared with the greatest of care including sterilization, drainage, etc., and then covered with white canvas used for the purpose may now be seen in tobacco growing localities. It is noted with satisfaction that growers have shown a marked preference for the slaughter strain of broadleaf, and also a general tendency to give the crop of the present year an increased amount of attention. While cigar tobacco growers are thus tranquilly following their vocation in the belief of a just reward it is not thus everywhere as shown by the action of the growers in the "black patch" of Kentucky. Eighty percent of those have agreed to plant strawberries or some other crop this year instead of tobacco. This section has been devoted to the production of a rather low grade of tobacco intended mainly for export which outlet has been practically closed since the recent unpleasant feeling between the nations of Europe.

SULPHUR FOR POTATO SCAB

Results from experiments made by the New Jersey Agricultural Station:

Experiments and actual practise show definitely that the proper use of sulphur will reduce potato scab from 50 to 80%. Commercial Flour Sulphur should be used broadcast just before planting and just after harrowing. The proper use of the right amount of commercial flour sulphur will unquestionably safeguard your coming crop. The following table will show actual results secured.

SULPHUR EXPERIMENTS FOR CONTROL OF SCAB

Conducted by the N. J. Agricultural Experiment Station

Average of Two Experiments

Variety: Irish Cobblers

Treatment	Bus. per acre (total)	Primes (bus.)	Unsalable Scabby (bus.)	Seconds (bus.)	Culls (bus.)
Check	262.0	117.2	116.4	24.3	9.0
300 lbs. Sulphur	267.2	205.3	28.0	28.8	10.0
600 lbs. Sulphur	265.4	207.5	24.4	31.0	5.0

Sulphur broadcasted with a grain drill just before planting.

Any of the following firms will give you an experimental sample and quote prices on request. Get in touch with one of them today.

J. A. STILL
83 9th Street Brooklyn, N. Y.

BATTELLE & RENNICK
80 Maiden Lane New York City
(Brooklyn Sulphur Works)

BEGGS BROS., Inc.
95 William Street New York City
(Nassau Sulphur Works)

T. & S. C. WHITE CO.
100 William Street New York City
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Barred Rocks White Wyandottes
White Rocks Rhode Island Reds
Buff Rocks Black Minorcas
Brown Leghorns Anconas
White Leghorns Buff Orpingtons
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ENGLISH WHITE WYANDOTTE & MAMMOTH PEKIN DUCK EGGS or hatching, from the very best stock. Wyandotte s, 15 for $2.50. Ducks eggs, 11 for $2.50. All refully packed and delivered. A. R. LOGUE, OODBURY, BEDFORD CO., PA.

BABY CHIX EGGS KENDEL'S SUPERIOR STRAINS Famous for High Standard, Utility Quality, 35 varieties. Leghorns, Rocks, Reds, Wyandottes, Anconas, Minorcas, Brahmas, Langshans, Orpingtons and Ducks. Circular free. A. C. Kendel,224 Prospect Ave.,Cleveland,O.

Chicks Better Produced Day-Old Chicks are the kind you want—17 leading breeds at reas. prices. Send for free catalog today. Springfield Hatcheries & Poultry Farm, Box H, Springfield, Ohio.

BABY CHICKS of the leading varieties of Pure-Bred Poultry. Eggs for hatching, Incubators, Brooders, Poultry Supplies. Illustrated circular free. Prices low. Satisfaction guaranteed. Write today. NICHOL'S POULTRY FARM, Box 130 Monmouth, Illinois.

gs $1 Setting Parcel Post paid. Purebred. Barred, White and Buff s; White and Brown Leghorns; Reds, White yandottes, Buff Minorcas; Black Langshans; Buff rpingtons. Philip Condon, Box 119, West Chester, O.

hing Eggs.—Thorobred S. C. Rhode Island Reds, 50 for 15, $8.00 hundred. Bourbon Red Turkey $1.50 for 9. White Pekin Duck Eggs, $1.65 for Prepaid. Mrs. L. J. Killian, Lebanon, Pa. R. 6.

AMMOTH White Pekin Duck Eggs. Splendid stock. High fertility. per hundred, cash with order. Beech Dale Duck BIRD-IN-HAND, LANC. CO., PA.

IREY'S S. C. White Leghorn Baby Chicks 14c up according to season. They make the greatest producers on earth. C. P. Shirey, Stewartstown,Pa.

C. BUFF ORPINGTON EGGS for hatching, for 15, $10.00 per 100. MER Z. STOLTZFUS. Ronks, Pa., R. 1.

nglet— BARRED ROCK COCKERELS—PULLET bred, $4 to $8. T. DOWNING, WEST CHESTER, PA.

WHEN IT PAYS All through the blustry winter months, our WHITE WYANDOTTES lay eggs, and lots of them. We offer a limited number of carefully selected eggs from this flock at $15 per 100, $8 per 50, $2.50 per sitting of 15. Also chicks at 40c each. We advise the purchase of this stock for those who want the best from our high production, trapnested birds. Terms—cash with order. Eggs and chicks forwarded parcel post prepaid. We know you will be pleased with our stock. Book your order early. J. V. RITNER, GORDONVILLE, Lancaster Co., Pa.

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Baby Chicks and hatching eggs from our high-egg-laying strain. White Leghorn baby chicks $20.00 hundred. Hatching eggs $10.00 hundred. Safe delivery guaranteed. We invite your inspection of our birds, if possible. TENACRE POULTRY FARM, Princeton, N. J.

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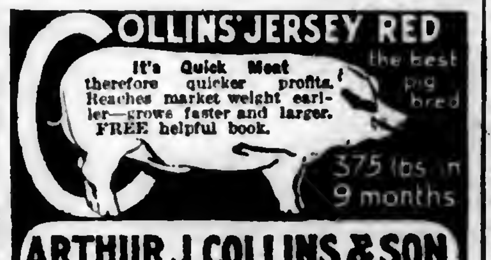

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To provide for additional young stock we offer part of our foundation herd as follows:

"King Louis 50th," tried service boar and active breeder of excellent type and proven quality. Eight (8) young sows bred for late spring farrow. These animals are all large typical Berkshires, and prolific breeders, bred for their second or third litters.

This offer makes a splendid opportunity to found a herd and we will make a special price covering the entire lot. They also will be priced separately. It will pay you to get our prices now and take advantage of this splendid offer.

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Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Ticklish Mare, Nervousness—We have a 5 year old mare that is inclined to kick when any person passes behind her, or goes near her. We have great difficulty in feeding her, but when once in stall beside her she is very quiet. She also stands quiet to be groomed or harnessed. However, when any one attempts to enter stall, up goes both hind feet. Can you tell me how to break her of this nasty habit. She shows no signs of sickness. We have another horse that dances around and apparently tries to jump into manger when being fed, but at all other times is quiet as a lamb. W. G. R., Dover, N. J. Arrange to keep her in wide single or box stall, or plan your stable so that you reach her fore quarters first. Kindness to such animals has the effect of overcoming many nervous ailments; furthermore, it is not done quickly.

Partial Paralysis.—I have a brood sow two years old that is stiff in hind quarters. She had a litter in November, the pigs were weaned at six weeks, and I have bred her again. She is gradually growing stiffer in hind legs, now she is unable to get up without help and when we do assist her on foot she squeels as if in pain. Have cement stables. Can she be cured? We have other pigs nine months old all doing well except two, and they don't seem to grow fast. These two are great eaters, always hungry. E. L., Cressona, Pa. Apply equal parts turpentine, aqua ammonia, and raw linseed oil to back and hind quarters once a day. Give her 15 grains potassium iodide at dose two or three times a day for 10 days, then give 15 grains sodium salicylate three times a day. Discontinue feeding so much corn, give her oats, oil meal, tankage, roots and alfalfa. Hand rub back and legs three times a day. Recovery in such cases is always doubtful, but if you expect to save her get busy and follow above directions, or she will never walk. Give each of the stunted pigs a teaspoonful ground gentian at dose in ground feed twice a day.

Abdominal Abscess.—About four months ago I wrote to you concerning a Jersey heifer that we thought was ruptured at the naval. We got the veterinarian here to operate on her, but instead of a rupture, it was an abscess and had opened on the inside. It was an opening that you could stick a lead pencil up thru. He said it had eaten the naval cord off. I suppose at least one gallon of pus came out when it was opened. It took about three weeks to heal. We saw it wasn't satisfactory and he opened it again but this time the opening on the inside healed first and later the wound healed. Some two weeks later it had to be opened and he made large wound, blood came first then pus. Now it will soon be healed again, but what had I better do to keep it from forming pus. Altho she is a good heifer it is rather expensive to have much surgical work done on her, especially if she don't stay cured. This all came from a bruise cause by jumping over a pen that we kept her in. H. F. B., Felton, Pa. Paint affected parts with tincture of iodin once a day and it will have good effect. Had I been operating on her I would have made considerable of an opening in the first place and curetted wall of abscess and painted same with tincture of iodin, then stitched the wound. Perhaps she will now be all right.

Barrenness.—My Jersey cow nine years old has been in heat and served each time since last fall, but fails to get with calf. Had I better beef her? E. P. R. You have given her fair chance to get with calf, she will prove unprofitable if kept for dairy purposes; therefore, she had better be sold for beef.

Chronic Nasal Catarrh.—I have a five year old horse that has been troubled with catarrh for the past 12 months. This discharge lasts for 10 days then ceases for a few days. I have steamed him, also given condition powder, but this gives no relief. A. L., Upper Black Eddy, Pa. Give him a teaspoonful powdered sulphate of iron and a tablespoonful powdered gentian at dose in feed three times a day.

Cracked Heels.—Have horse that is troubled with scratches on one hind leg. Home remedies fail to do much good. Our veterinary prescribed a remedy, but cautioned me agains taking the horse out, if road was muddy. A. W. Perkasie, Pa. Clip off hair, wash heels with soap and water. Dissolve one ounce acetate of lead and six drams sulphate of zinc in one quart of water and wet sore heels 3 times a day. Give him three drams Fowler's Solution at dose in feed or in drinking water three times a day. Working in mud will not do the heels much harm, but too much wet will prevent a rapid recovery; all things considered if you need his work, use him.

Pericarditis.—One of my cows took sick and remained so for two or three weeks then died. I opened her throat, gullet down to her stomach, then opened chest, found the sack which contains the heart full of a brown colored fluid. Her heart was three times too large and covered with streaks of fat. This is the second cow that has died in this neighborhood that had this disease and several more are seemingly affected the same way. S. P. S., Lloyd, Pa. This dropsical heart ailment is very unsatisfactory to treat and I advise you to call a competent veterinarian.

NEW YORK LIVESTOCK NOTES

Cows have been relatively cheap but they are now rising steadily in price. Four years ago the average value of cows in this state was $57. By January, a year ago, the price had increased to $89, and the average value on the first of this year was $107. Cows have increased in value more slowly than sheep and hogs. The increase in price is hardly equal to the increased cost of production.

It seems as if everything produced on farms has increased in price since 1914 with the exception of horses. They are actually cheaper now than they were before the war. The present value of horses on New York farms averages only $141 a head. Both colts and older horses can be bought today for about half what it costs to produce them. The displacement of horses in the cities of the state by automobiles and trucks is too rapid to continue long at the present rate. When it begins to slacken, the price of horses is almost certain to rise. Horses will continue to be needed on the farms long after they have become scarce in the cities, yet with prices as they are now no one can afford to raise colts. The number of tractors on farms in this state is still too small to cause any material reduction in farm teams.

There appears to have been an increase of 15 percent during 1919 in the number of hogs in this state, due chiefly to the high price of pork that prevailed until last September. The number of sheep in this state is three percent greater than a year ago. The increase was due chiefly to the high price of wool and mutton. Sheep yield a smaller return in proportion to the feed eaten than do cows but they require less labor and have of late been popular on the larger farms in localities where farm help has been difficult to secure.

The number of live stock on each farm in this state averages about 7 cows, four head of other cattle, three sheep, three hogs and between two and three horses.—U. S. Dept. of Agr.

Many persons do not seem to realize the harm that comes to children thru coffee-drinking. Authorities agree that it interferes with sleep and with growth, and begets nervousness.

Time savers: Bread mixers, food choppers, washing machines, dish drainers, carpet sweepers, paper towels, measuring cups, egg beaters, double boilers, colanders, graters.

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Use it on your lousy hens and chicks—your lousy colts, horses and cattle. You'll get better chicks—bigger, better fowls—more eggs—better contented stock.

Chicks are apt to be lousy now. Give them a chance. Sprinkle Louse Killer into the feathers, about the coops, on roosts, in nests of laying and setting hens. Always keep Louse Killer in the dust bath. For lousy horses and cattle, colts and calves, stroke the hair the wrong way and sift in Louse Killer.

We authorize dealers to return your money if it does not do as claimed.

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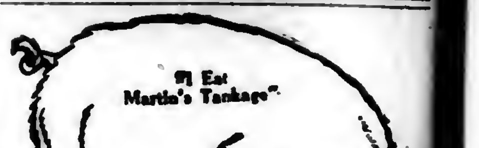

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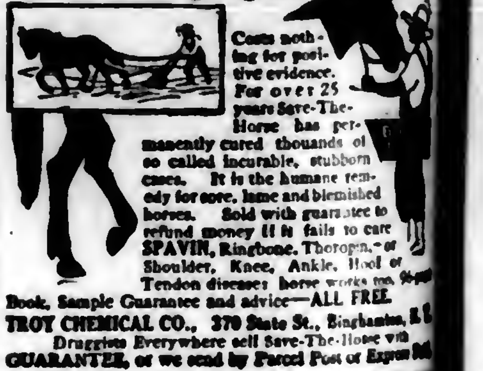

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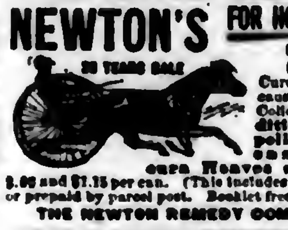

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Price $250.00

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For Sale Registered May Rose

Guernsey Bull Calf, price $150. Sired by Brookmeads Royal Master of Riverview, who is brother to the Great Bull, Langwater Stars and Stripes 2nd and grandson of the famous Imp King of the Mar, who has 26 A. R. daughters who exceed an average of 600 lbs. fat and is also sire of Dolly Dimples May King of Langwater. RIVERVIEW FARMS, SWARTHMORE, Del. Co., Pa. (Suburb of Phila.)

Buy a Farm Tractor

Farm Tractors for sale—All makes—some new, exhibited at Fairs; others little used at demonstrations—guaranteed. Lowest cash prices, or on installments. Write for tractor and engine bulletin. FARMERS' EQUIPMENT CO. Jersey Shore, Pa.

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Penns Valley Stock Farm Percherons, Holsteins, Berkshires. Special offering in fresh cows and heifers; bull calves, grandsons of King of the Pontiacs; herd boars, with size, breeding and quality; pigs, either sex. W. F. RISHEL, Centre Hall, Pa.

HATCHING EGGS from free farm range Poultry. Rocks, Reds, Wyandottes, Leghorns, Minorcas, Brahmas, Hamburgs, Anconas, Ducks, etc., also Hares, Cavies and Holstein cattle. Cat. free. H. A. Souder, Sellersville, Pa.

For Sale— 5-10 Avery Tractor, used only one day; too light for our heavy clay ground, right for light soils. Bargain. G. ROUTZAHN, ASPERS, PA.

REG. P. CHINAS, BERKSHIRES, C. WHITES, large strains, all ages, mated, not akin; 8-wk. pigs, br. sows, service boars, Beagles and Collies. Write for circ. P. F. HAMILTON, COCHRANVILLE, PA.

Highland Stock Farm Belgian Horses, Jersey Cattle, Large Berkshires, and Indian Runner Ducks. Stock for sale at reas. prices. Anselm B. Kirsch, Nicktown, Pa.

CHAMPION LAYERS S. C. White Leghorn Eggs $1.50 per setting. Winners of all prizes at the Jefferson Co. Fair. EDWIN BOVAIRD, Brockwayville, Pa. R. 1.

100 Shetland and larger Ponies. Colts $50 to $75; broken ponies $75 to $150. List for stamp. F. R. STEWART, ESPYVILLE, PA.

BARRED ROCK COCKERELS; Moscovy Ducks; Eggs for hatching, 15 varieties; Duroc Jersey Hogs, all ages. Free list. Kahler & Son, Hughesville, Pa.

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Let him know he's wanted on the old farm, too,
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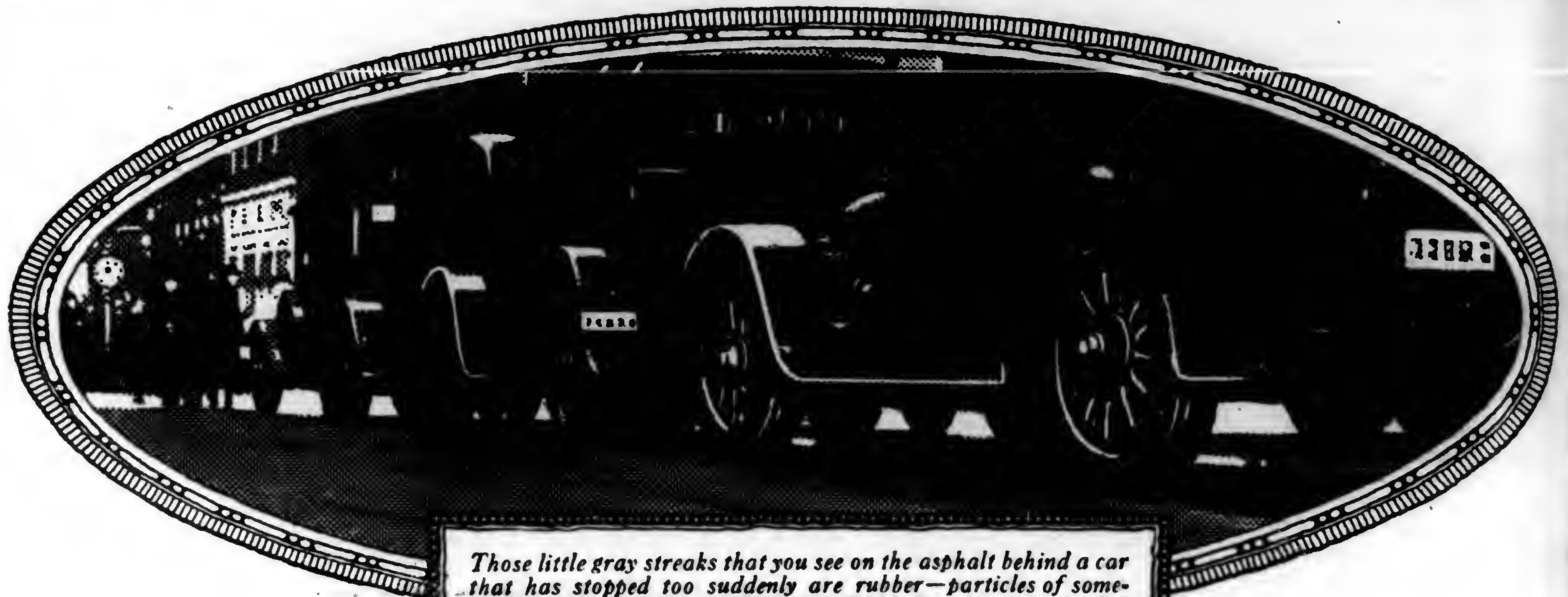

Those little gray streaks that you see on the asphalt behind a car that has stopped too suddenly are rubber—particles of somebody's tires. You would be surprised how many more miles you would get out of your tires if you always make it a point to get away to an easy start and to slow down gradually when stopping.

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• • •

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PENNSYLVANIA FARMER

AGRICULTURE THE KEYSTONE OF NATIONAL PROSPERITY

ESTABLISHED 1880

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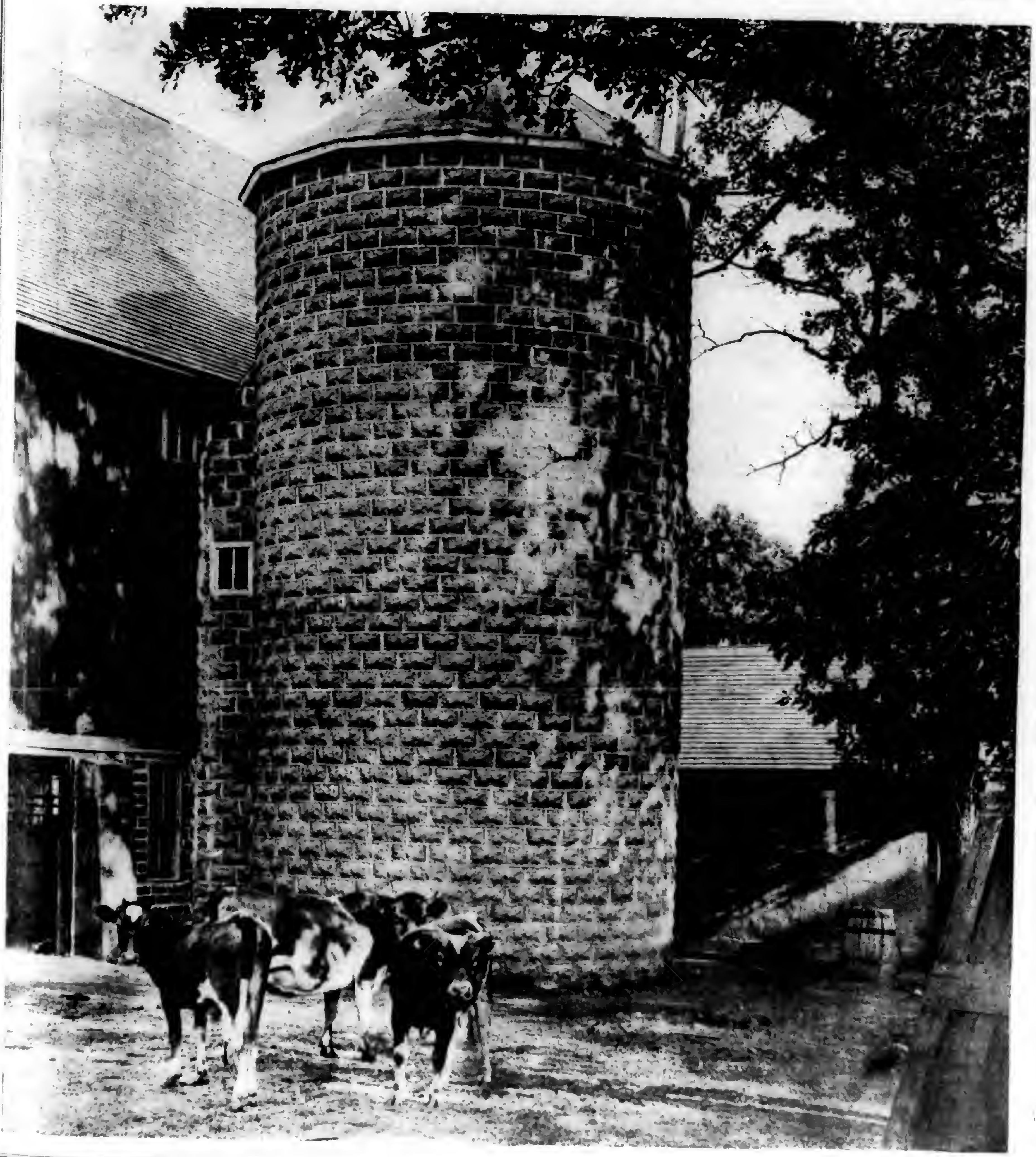

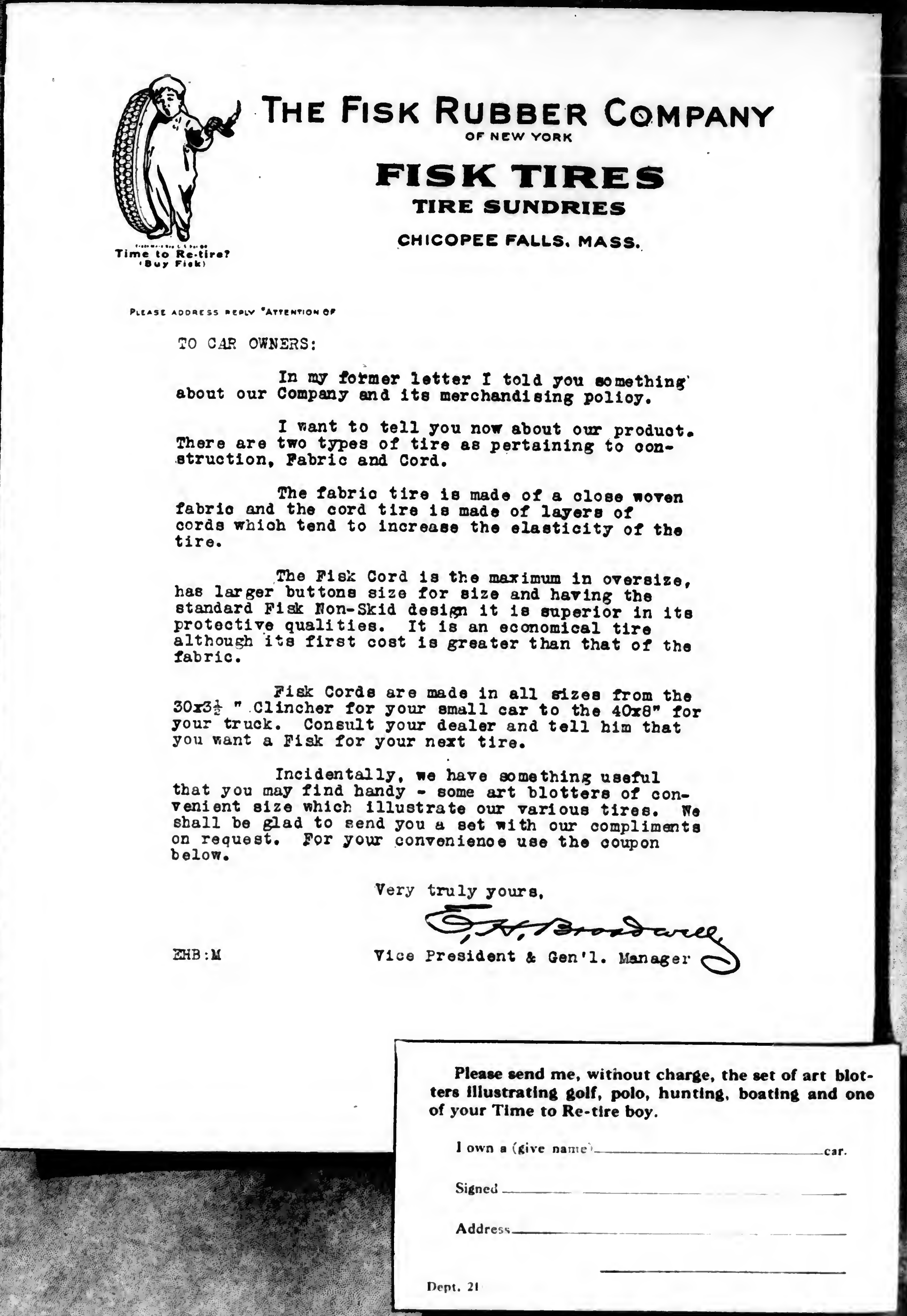

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PENNSYLVANIA FARMER
AGRICULTURE THE KEYSTONE OF NATIONAL PROSPERITY
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Seed Corn and Seed Corn Varieties

A Discussion of the Requirements and Limitations of the King of Grains

The farmer's problem with corn is to produce the largest possible wages from his season's work with the crop. Usually this means getting the most food in the shape of dry matter to the acre, bearing in mind always that the food value of dry matter in the grain is higher than of that in the stalk. Where the ears are husked and shelled for grain to sell or for use as feed on the farm the cash value of the grain makes perfect ripening of the ears and the yield of shelled corn much more important than the size or feeding value of the stalks.

Silage

Dairymen's ideas as to the best type of corn to grow for the silo are rapidly changing. Thirty years ago, when silos were first introduced, they found each eastern community with its own varieties or strains of seed corn, perhaps directly descended from those used by the Indians in the same locality. Such corn was sure to ripen in most years for the very good reason that it had always been grown for that purpose. The stalks were usually small.

Then came the silo. Dairymen recognized at once the value of succulence in the winter feed of the dairy cow, and it is not at all strange that at first they thought succulence was everything in silage. They demanded and seed dealers furnished those long season southern and western varieties of corn which produced the very largest weight of stalks, or, as it was often expressed "filled the silo." The fact that the silo was being filled with what was very largely water was not noticed then.

Two different things have led to the use of varieties of corn which mature earlier than those which came into use with the early silos. Observant dairymen found that the use of corn for silage which had advanced well towards maturity before cutting was the cheapest means of furnishing part of the expensive grain ration for the dairy cow. With every advance in the price of purchased feed the need of maturity in silage corn becomes greater. The scientists in their laboratories approached the problem in a different way. With their drying ovens they tested samples of corn cut at different degrees of ripening and found that the proportion of dry matter increased very rapidly in the corn plant from the tasseling and silking stages until the grain was ripe and hard. It was a great surprise to many of us to find that twenty tons of half ripe silage corn contained but little more dry matter than ten tons of ripened corn. Not only that, but the dry matter in the corn plant in its early life is largely in the form of the crude fiber which makes up the framwork of the plant, not nearly so valuable for food purposes as the starches and fats which form later as the grain ripens.

By DANIEL DEAN

TIOGA COUNTY, N. Y.

Season of 1917

The experience of dairymen and the experiments of the scientists have led to a great increase in the use of earlier varieties of corn for silage, particularly in the eastern states. The very poor corn growing season of 1917 helped many dairymen to make the change. Thruout our whole country the growing season was wet and cool. A large part of the corn crop failed to ripen, producing soft ears which had to be fed up before warm weather the next spring, and showing the danger of growing varieties too long for the growing season.

Season of 1918

The effect of the poor growing season upon the seed ears for use in 1918 was even worse. The fall of 1917 was so cool that corn failing to ripen was struck by hard frosts long before the kernels had become dry enough to stand freezing without the germs bursting. Whole states had very little seed corn fit to plant. When seed testing towards spring showed how great had been the loss of seed farmers everywhere were calling for a supply of seed which would grow. Dairymen in New York State were peculiarly fortunate at this time. Long Island, between the Atlantic Ocean and the Sound had escaped the frost damage. One variety grown there, for grain the Luce's Favorite, would nearly ripen in the cooler climate of up-state New York in most seasons. Thru the College of Agriculture at Cornell University and the County Farm Bureaus this stock of sound Luce's Favorite seed was distributed thru the dairy regions of New York State. The success of this corn in the field in 1918 and in the silo the following winter convinced many thousands of New York dairymen of the value both of seed sure to grow and of silos filled with nearly ripened corn.

Providing Against the Time of Cold Weather and No Pasture

Value of Best Seed

How can we corn growers get the most profitable yield from our soil and under our local climatic conditions? It costs just as much to plow, harrow, plant and cultivate for a yield of eighty bushels of ears to the acre as for one of one hundred. The extra cost of better seed, of the extra husking and shelling is very small compared with the increased value of the crop, leaving most of the increase as clear profit. The dairyman wants more tons of silage to the acre with more tons of starch and sugar from each field to save buying high priced grain.

I have grown corn all my life and appreciate fully how every farmer is already doing his level best. The value of the farm paper, like that of the farm bureau is that it brings to every farmer the experience of thousands of others, and studies made by scientists to either increase his receipts or cut down his expenses. There are several things in corn growing which I have found to be vital to the greatest profit and which cost very little, and good seed of the right variety for my own local conditions is the greatest factor of all in the profit and loss account with corn.

The Right Variety

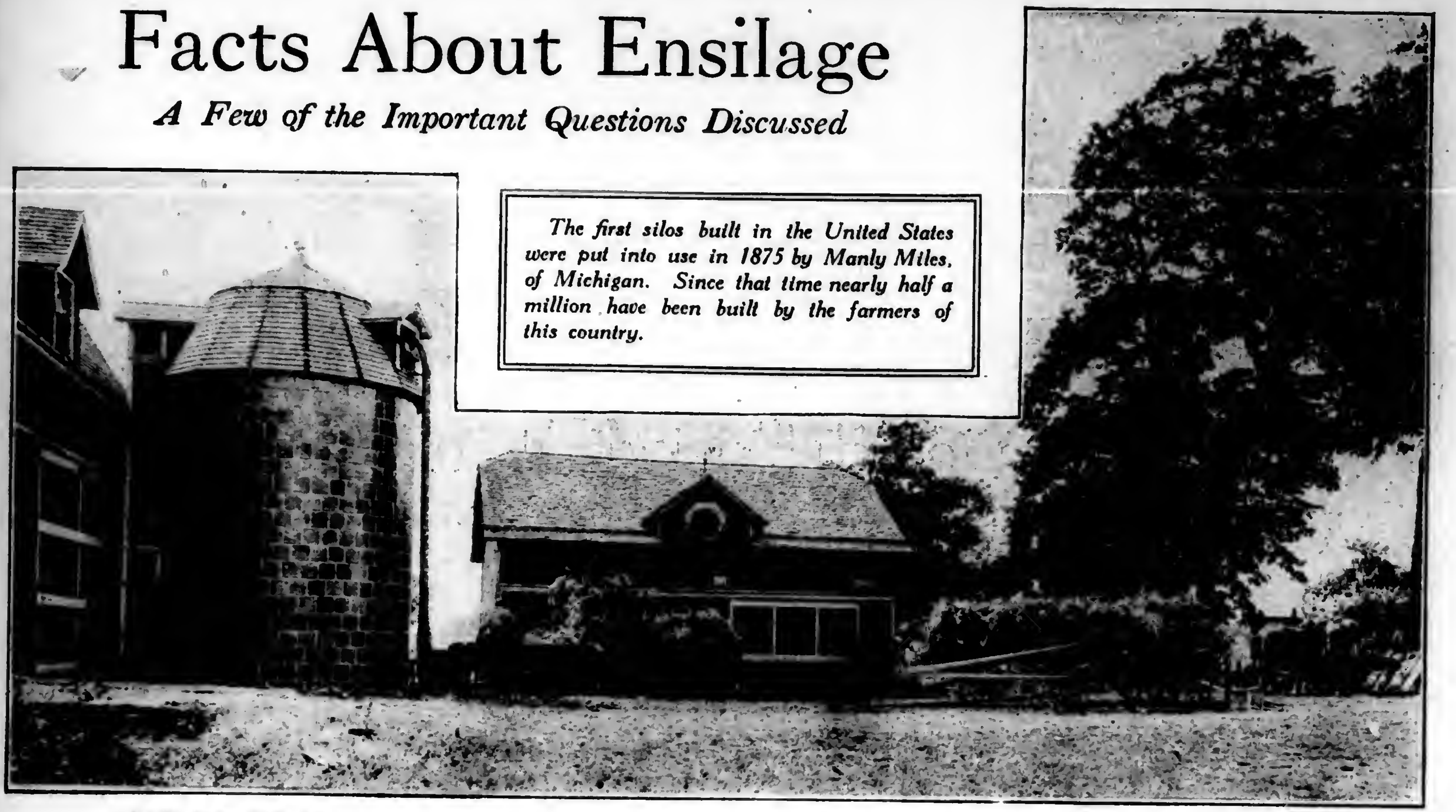
The best corn variety for any local condition is the one which will produce the most grain or the most high grade silage thru a series of years. Contrast the season of 1919 with that of 1917. In 1919 New York state produced its largest yield of corn on record, 43 bushels of shelled corn to the acre. A wet spring to fill the soil with moisture and give nearly perfect germination was followed by two months of great heat to force the crop along, and the remaining months were so evenly warm that in the fall the killing frosts held off nearly a month later than usual.

Many growers were able in 1919 to ripen large and late varieties which might not ripen again in the next ten years. The year 1917 is an example of the opposite kind, the poor growing season when short season varieties were the only ones to ripen fully. We can make the most profit in a series of years by selecting varieties for every farm which will be sure to ripen grain or reach the best stage for silage in the average season. There may be in the next ten years another as favorable for corn as 1919, but it is a poor gamble to plant a late variety and so spoil nine crops for the sake of getting one record breaking yield in the only season it will ripen. Likewise, to plant an extra early variety to make certain of a crop in such a poor season as 1917 means a lessened yield in each of the many aver-

(Continued on Page 29.)

Facts About Ensilage

A Few of the Important Questions Discussed



The first silos built in the United States were put into use in 1875 by Manly Miles, of Michigan. Since that time nearly half a million have been built by the farmers of this country.

CROPS FOR THE SILO

The silo is a means of extending summer conditions thruout the year. All classes of live-stock feed better under summer conditions when feed is plentiful, succulent and palatable, and surroundings are comfortable. By the use of a silo these conditions can more nearly be maintained during the winter months.

In other words the silo

1.—Will keep more stock.
2.—Insures succulent feed all year.
4.—Saves the whole crop.
4.—Prevents wastes in feeding.
5.—Helps utilize other feeds.
6.—Saves storage space.

There are a great many crops which may be successfully ensiled than is ordinarily supposed. Corn, wheat, rye, oats, peas, alfalfa, and even weeds have served this purpose. Of these corn is far superior to the others. It produces larger yields, keeps well, and produces a rich, succulent winter roughage. In this connection it is important that a variety be grown which will dent and glaze by silo filling time.

The practice of ensiling a mixture of corn and soy beans is becoming common in many localities. It is the popular belief that such a mixture has greater feeding value because of the increased protein resulting from the presence of the soy beans. Farmers have generally reported a larger milk yield where corn soy bean silage has been fed.

This is undoubtedly a good practice from the point of view of soil fertility because the soy bean is a legume and has the ability with the aid of bacteria to take nitrogen from the air, but, whether the extra protein in the corn-soybean silage will enable one to feed less grain, or an appreciably wider and cheaper grain ration, has apparently, up to this time, been a subject of little investigation.

According to the results of an experiment conducted by the Pennsylvania Experiment Station corn-soybean silage maintained the production of butter-fat slightly better than straight corn silage, and was of practically equal value in maintaining milk flow. The feeding test, however, should be supported by parallel results of similiar feeding trials before sweeping conclusions are drawn.

Contrary to popular opinion rye makes fairly good silage but care must attend putting it into the silo. It should be cut just as the kernels pass the milk stage, cut into very fine pieces, and tramped down thoroly into the silo to exclude the air which prevails in the stalks as well as between the pieces. It is contended by some that rye silage is injurious to the flavor of the milk but this may be overcome by properly adjusting the time of feeding.

Alfalfa and the clovers make good silage tho difficulty is encountered at times probably due to the high protein content compared with small amounts of sugar, from which the acids necessary to preserve the silage are formed. Owing to the palatability of good alfalfa hay, whenever the crop can be ccured in a satisfactory manner there is little reason for ensiling the crop, especially in view of the fact that that corn or sorghum are reliable silage crops which may be grown well in almost any section of the country.

Mixtures of any of the cereal crops with the clovers make good silage. Alfalfa silage is greatly improved, especially in its keeping quality when it is ensiled with rye or wheat. These, of course, are generally grown separately. Soybean or cow peas mixed with kafir corn or millet, as well as mixtures of the vetches with cereals, may be used in this manner.

On high elevations or in localities having a short growing season sunflowers have been found to be very good for this purpose. All along the Canadian border farmers are growing this plant with good results. In such localities it yields more heavily than corn and when mixed with corn has proved by practical experience to be an excellent silage crop. There are a number of varieties, but little has been done to commercialize them so that the farmer is compelled to plant whatever may be had, and that is very likely to show plants of different characteristics. The Russian sunflower with the large heads is the one most used. Sometimes these large heads caused some difficulty when run thru the cutter but that is largely a matter of manipulation.

THE SIZE OF THE SILO AND ITS CAPACITY

The size of the silo will depend on the number of stock to be fed out of it and the length of the feeding period. This will range from 150 days to 200 days. It is customary to feed 30 to 40 pounds of silage daily. On this basis three or four tons will be required for each animal. Because silage is likely to spoil when exposed to the air at least two inches should be fed daily. If the feeding period is 150 days, 300 inches of silage will be required. To this should be added two or three feet for spoilage on the top and bottom. The diameter, therefore, should be sufficiently large so that two inches of silage from the entire surface will provide 30 to 40 pounds for each animal. The following table gives the height and inside diameter of silos in feet with the capacity in tons:

Height of Silo, Feet	Inside Diameter of Silo—Feet 10	12	14	15	16	18	20
	Tons						
20	26	38	51	59	67	85	105
21	28	40	55	63	72	91	112
22	30	43	59	67	77	97	120
23	32	46	62	72	82	103	128
24	34	49	66	76	87	110	135
25	36	52	70	81	90	116	143
26	38	55	74	85	97	123	152
27	40	58	78	90	103	130	160
28	42	61	83	95	108	137	169
29	45	64	88	100	114	144	178
30	47	68	93	105	119	151	187
31	49	70	96	110	125	158	195
32	51	73	101	115	131	166	205

Silage at a depth of five feet weighs 33.4 pounds per cubic foot; at ten feet it weighs 35 pounds per cubic foot; at 15 feet, 36.4 pounds; 20 feet, 37.5 pounds; 25 feet, 38.3 pounds; 30 feet, 39 pounds; and at 40 and 50 feet the silage averages 40.3 and 41.4 pounds respectively.

To find the capacity of the silo: Multiply one-half of the inside diameter by itself, then by 3.1416, and then by the depth of the settled silage. This gives the volume. Multiply this by the weight of silage at that depth. This will give the capacity in pounds. Divide by 2,000 to get the weight in tons.

CROWS WILL NOT PULL TARRED SEED CORN

Crows will not pull seed corn that has been treated with tar as soon as they learn the tar is there. The crow is a more or less useful bird, depending upon conditions. Sometimes they become so numerous that they are a detriment to the community because of their thieving habits. On the other hand it is a heavy feeder on insect life such as the white grub living in the ground. This office does not, as a rule, recommend the poisoning of the crow, altho there are times when we believe that it is justifiable.

We believe that it is better to try to prevent damage to the corn crop by placing a deterrent upon the seed corn. Coal tar is excellent for this purpose.

A tablespoonful is enough to treat one-half bushel of seed corn. The corn is placed in a tight receptacle and covered with warm water. The water must not be so hot that it will injure the corn for seed. A temperature of 100 degrees Fahrenheit, is hot enough. As soon as the corn is warm drain off the water, put a tablespoonful

(Continued on Page 13.)

Farm Buildings of E. W. Mosher, Cayuga Co., N. Y.

A Story of Seven Ears of Corn

By E. C. Weatherby, Cayuga County, New York

"Thirteen years ago I came to the conclusion that I wasn't getting the yields of shelled corn per acre that I should altho I had the best variety of flint corn in the neighborhood," said Mr. E. W. Mosher, Cayuga County, N. Y., when I asked him how he started growing Cornell No. 11 husking corn—the corn that is fast becoming popular in Cayuga County. Having made this decision, he went to the State Agricultural College at Cornell University. There he met Dr. H. J. Webber, then head of the Plant Breeding Department of the College, and the subject of better corn was opened.

"I told Dr. Webber I wanted a high-producing variety that must mature on my farm and asked for his suggestion. During the conversation Dr. Webber showed me 100 ears of fine looking yellow dent corn which he said he had just received from Iowa—a Pride of the North type of corn. He said if I would furnish the ground and help in the proposition he would give me this corn and we would find out if this variety was of value in the East, and if so, he would take charge of developing it."

If readers of Pennsylvania Farmer could have seen the fields of Cornell No. 11 growing in Cayuga County last fall and could now see the many bulging cribs of this beautiful golden corn, perfect in maturity and capable of winning at every corn show that has been held in the county, they could comprehend what that visit by Mr. Mosher to Cornell has meant to Cayuga County. Thru painstaking and careful selection, Mr. Mosher has developed this corn to the place of leader in the county.

This development is very interesting. Continuing with the history of the development of Cornell No. 11, Mr. Mosher said: "The one hundred ears were planted in the field east of the house, each ear to a row, and when the corn became large enough, it was thinned to an even stand of three stalks per hill. The corn grew well and at harvest time Mr. Webber came out and we selected for next year's planting. This was in the fall of 1908."

Mr. Mosher is not only a breeder of corn but expert with purebred livestock and appreciates the value of individuality and the principles of heredity. This has helped him to develop such a strong variety of corn.

"In making our selection," said Mr. Mosher, "we picked only mature corn, keeping the corn of each row separate. This was racked for winter. In the spring we shelled each ear and selected only the ears giving the largest amount of shelled corn. This plan was followed each year for four years. At that time we had eliminated ninety-three of the original one hundred ears, leaving only seven ears which are the parent ears of Cornell No. 11 as it is growing today."

In describing the method of planting, Mr. Mosher explained each year the position of planting was changed, as for instance: corn from ear No. 1 and No. 2 were not planted side by side each year. Then in order to insure cross fertilization the rows were detasseled. The system of detasseling was the east half of row No. 1 and the west half of No. 2, the east half of No. 3 and so across the piece.

The corn for the next year's planting is picked while standing in the field and then taken to the drying racks. These racks are four feet wide and six and a half feet high. They will hold 400 ears each and are made by nailing lath on each side of two boards five inches wide with a steadying base. They set up well and are very convenient. When selecting for planting, the corn is taken from the racks, laid on the floor and given a careful going-over. It is fascinating to watch the keen eye of Mr. Mosher selecting the seed for the coming year's planting from the drying racks where it is stored for winter.

When I was at his place, he was working on types, shelling and weighing and studying the different shaped and sized ears. An ear six and one-half inches long weighed the same as one eight inches long. We shelled these two ears and the weight of the shelled corn was identical. In commenting on this result, Mr. Mosher said: "I am coming to believe that maybe we have been discarding the shorter ears to our detriment."

"The sixteen rowed type seems to give the most shelled corn and we are selecting toward this type. However, what we are after is shelled corn per acre; the ear that gives this can stay, the others must go. Type isn't going to hinder the highest producing ears from going to the seed plot," says Mr. Mosher.

"Another point I have observed," continued Mr. Mosher, "is that the rough surface kerneled ear is the corn that is later in maturing, just the way Dr. Webber said I would find it."

Naturally the neighbors of Mr.

(Continued on Page 24.)

Sample of Cornell No. 11, and Cup Won by E. W. Mosher at Seed Show in 1919

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Member Standard Farm Paper Ass'n and Audit Bureau of Circulations

PHILADELPHIA, PA., APRIL 10, 1920

VOLUME 47 NUMBER 15

Our job is to serve our readers. Whenever and wherever we can help you, write us.—The Editors.

Rural Sanitation

AS TIME elapses and population increases in rural districts the sanitary conditions tend to become poorer unless persistent efforts are made to improve them. There are certain diseases which are particularly prevalent in country neighborhoods, such as typhoid fever, dysentery and hook-worm. These diseases are contracted from using poluted drink or food and the two chief sources of polution are the unsanitary toilet closets and flies. An extended survey of 60,000 rural homes showed the water supply of 65 percent of them to be poluted, and in most cases the out-closets were responsible. Frequent, intelligent care in this regard and the proper screening of homes would greatly reduce the suffering and death which annually bring care and sorrow in many rural communities.

Give it Air

INDICATIONS are that the Capper-Hersman bill is being smothered in committee. This bill giving farmers the right to form cooperative business associations has been backed by all the leading farmers organizations and has been recognized as necessary and just by all unprejudiced classes. The arrest and imprisonment of several dairy organization officials last year proves conclusively the need of such a law. In spite of its justice to the biggest class of producers in the country the pressure of certain selfish, predatory interests is sufficient to cause the Judiciary committee to hold it instead of reporting it out for action.

The claim that this bill is class legislation is completely met by the reply that what the farmers ask is to accord to their cooperative associations the same rights now granted the joint stock companies under corporation law, so that farmers can elect managers to do for them what managers of great corporations do for their stockholders. The Washington representatives of the National Board of Farm Organizations, the National Farm Bureau Federation and the National Grange are working hard to have it brought out for passage before Congress adjourns. Every farmer should write his senators and representative demanding favoable action on the Capper-Hersman bill. Don't let them smother it by neglect.

Inconsistent Farmers

NEXT to honesty loyalty is a human characteristic about which no one likes to be called in question. Indeed in war time it is considered the supreme virtue by most people. Unfortunately, loyalty is too often limited to the attachment one has for his country and its causes, forgetting that there are other places where it must be exhibited if it is the genuine thing. One of these places is in our own business or profession.

What calls forth this little preachment is the fact that many dairy farmers are and have been for years committing acts of disloyalty against their own business by buying oleomargarine for their own use and selling their own products. Investigations recently made in different sections of the country show the practice to be wide-spread and the farmer trade so large in the aggregate that it has a pronounced effect upon the economics of the dairy business. The fact that farmers are large consumers of butter substitutes is one of the hardest arguments the dairymen have to meet in their fight for oleo regulation.

At the present time, when the foreign trade is very small and the possibility of so-called overproduction is great, every farmer should feel doubly bound to be loyal to his own industry by patronizing it rather than buying competing articles of inferior value.

Personal Rural Credits

A CREDIT system suited to the needs of farmers has long been recognized as a necessity. The Farm Land Banks are furnishing a fairly satisfactory means of securing large loans for the purchase of farms and the payment of mortgages on farms, but so far there has been no system established in this country to provide credit for obtaining working capital. Personal credit systems for the farmers of European countries have been proving their value and utility for years, but either because of the lack of intelligent demand, or because of the antagonism of other interests, none has been established here.

House bill No. 12678, introduced by Congressman McFadden, proposes to establish a cooperative rural credit system based upon personal security. It is claimed by those who have studied the bill that it would place American farmers upon the same footing the European farmers have enjoyed for years. The bill creates two corporations, a rural credit society and a general insurance league. Credit would be extended only for productive enterprises, such as the purchase of good livestock, farm equipment, fertilizers, draining land, silos, cooperative creameries, etc. Chattel mortgages would be taken but the real credit would be the backing and association of a group of neighbors, and this group would act as check and balance for each other. Ownership of real estate is not required in a personal credits system. The rate of interest would be 6 percent and the cost of operation is reduced to a minimum. Payment is made by the amortization plan; that is, if $240 were borrowed the borrower would be required to draw a number of bills—say 24 of $10 each, one payable each month. Naturally the cooperating neighbors would be interested in the wise expenditure of the sum borrowed. It is proposed to finance this system by using the immense reserve funds of the big life insurance companies.

There is no doubt in the minds of those who understand farm finances that there is need for some system that will enable farmers to borrow upon terms corresponding to the nature of their business, and this the present banking laws and practices does not permit. But in order to succeed there must be a real cooperative, community spirit.

Our Washington Letter

Hearings on the Truth in Fabric bill, introduced by Congressman Burton L. French, have been in progress before the House Interstate and Foreign Commerce committee for several days. This bill, which from the standpoint of the farmer and consumer, is one of the most important now pending in Congress, is being ably supported by its friends and meeting the most bitter opposition from its enemies. The opponents of the measure are manufacturers of woolen goods, with a few New York merchants who insist on retaining the right they have long abused, of selling shoddy as all wool.

Many retail merchants favor the measure as do farm organizations all over the country, housekeepers' associations, truth-in-advertising groups, and some manufacturers of wool fabrics who believe that all manufacturers should be required to let the people know what is in the garments that they offer for sale. Thirty organizations, including the Grange, American Federation of Farm Bureaus, Society of Equity, National Board of Farm Organizations, National Farmers' Council, Retail Merchants Association of New Jersey and the Consumers' League, have endorsed the French Truth in Fabric bill. The Republican State convention of Minnesota also adopted a plank recommending the legislation.

Among those who have spoken in favor of the bill before the committee, are Prof. C. S. Plumb, George M. Wilber, N. F. Walker and W. N. Conden, represenative wool growers of Ohio; President E. L. Moody and Secretary E. S. Hill of the New York State Federation of Sheep Raisers, T. C. Atkeson of the National Grange, Gray Silver of the American Farm Bureau Federation, C. A. Lyman of the National Board of Farm Organizations, E. A. Calvin of the Cotton States Marketing Association, C. A. Goss of Successful Farming, and E. E. Reynolds of the Lawrence publications.

* * *

Whether the corn borer is the destructive pest that it is claimed to be or not, it is liable to give the farmers of this country a good deal of trouble and cause much loss in infested areas. On March 29th the Federal Department of Agriculture's quarantine on sections of Pennsylvania, New York, Massachusetts and New Hampshire infested with the corn borer, went into effect.

The infested sections are limited to small areas in these states, and the articles covered by the quarantine are cornstalks, celery, green beans beets with tops, spinach, rhubarb, oat and rye straw, and cut flowers. Shelled corn is not included. These articles may be moved in interstate commerce to points outside the infested area only after they have been inspected by agents of the department and certified as free of the corn borer. Violations of the Quarantine will be punished with fines up to $500 and imprisonment for one year.

* * *

The American Federation of Labor has become a vast industrial and political machine. In 1916 the Labor Federation had a membership of 1,450,000, while the membership now is 4,079,770. Some idea of its widespread organization is shown in the fact that the other day a communication was sent out from headquarters to 40,000 local unions asking for the appointment of 120,000 members of a special committee to act in its nonpartisan political campaign These committees are in addition to those appointed by city central bodies, all working unitedly under the direction of a single official head in Washington.

This paragraph from the letter shows the spirit of the trade unions; "The American Federation of Labor has reared its structure upon the fundamental principle that organized labor owes alleginnce to no political party; but is partisan to the principles of justice, freedom and democracy."

I have referred to this labor movement because I am convinced that farmers should know what trade unions are doing, and as a demonstration of the power that organized farmers might exert if their various organizations were all united in one central overhead representative organization such as the Federation of Labor.

* * *

The Government has been conducting a campaign to induce the consumers to buy the cheaper cuts of meats as a means of reducing the high cost of living. According to the testimony of Prof. L. D. Weld, economist of Swift and Company, before the House Committee on Agriculture, the "cheaper cuts of meat" movement is aiding the packers to keep these cuts of meat on the move and secure higher prices for them, but will be of no benefit to the poor.

* * *

A bill has been introduced in the House providing for an investigation of the gasoline situation and the reasons for the prevailing high prices. This measure promises to be of considerable interest to farmers. If there is profiteering in this product, it should be known.—Elmer E Reynolds.

HARRISBURG LETTER

Market Service Started. — The market report service which has been in preparation at the State Department of Agriculture for months has been put into operation with headquarters in the Capitol and direct wires to the chief centers of price and supply activities and Lancaster as the first office for reporting State conditions. The object of the service is to furnish first hand information on supply, prices, car situations and other information so that before making sales or shipments for sales the growers of the State will be in possession of first hand, authentic data, something that has been called for many years and which it is the belief of the officials in charge will overcome the complaints arising from sending of products to already crowded markets which has occurred only too frequently of late years. The service is under the personal direction of Guy C. Smith, chief of the bureau of markets and information will be furnished free, the recipient being asked only to cover cost of transmission by telegram, telephone or other means. The state pays the overhead and the expense of gathering the data. The daily information will include figures and estimates on supply and arrivals of vegetables, grain, cattle, poultry, dairy products, etc., as well as weekly information on feeds, etc. The bureau has a wire in the Capitol for the figures at New York, Boston, Philadelphia, Washington, Chicago, St. Louis and Kansas City with direct connection with Lancaster and Pittsburgh. In addition to the Lancaster office it is planned to have offices at Allentown for potatoes, Erie for small fruits, Wilkes-Barre, Scranton, Johnstown, Altoona, Williamsport and other places, including the South Mountain apple and peach region and the northern tier dairy counties. Field service will be maintained in addition with men traveling.

Less Hog Cholera.—From all accounts Pennsylvania has been pretty fortunate in regard to hog cholera this winter. There have been fewer cases and a greater measure of cooperation has been shown. In some of the districts owners of hogs have called in State experts for examinations and the restriction of movements without inspection has been a great factor. Secretary Rasmussen says the farmers of Pennsylvania can save hundreds of thousands of dollars annually by paying strict attention to quarantine regulations.

Highways Badly Cut.—Highway department reports are to the effect that some of the main highways have been so badly cut by traffic following ruts during the winter that thousands of dollars will have to be spent on repairs and some detours forced. The Highway Department is putting on big forces of men on the repairs in many sections and fortunatey the revenue from the automobile licenses has gone over the $5,000,000 mark for this year and it can be devoted to maintenance.

Pinchot's Forest Fire Plans.—Thanks to the energy of Chief Forester Gifford Pinchot, the State gets $5,000 from the Federal Government for aid in the forest fire fighting service and sixty men will be put into the field at once to assist the regular force and the local fire wardens. Mr. Pinchot intends to have a fire warden in every borough and township with full power to summon people to check fires. He is being given the active support of the governor, who has issued proclamations calling upon people to help prevent fires. The Federal Government will assist in other ways and it is the hope to cut down the fire loss materially this year.

Extensive Tree Planting.—In this connection, the State is planning to make a couple of million seedling trees available for planting thruout the State and mine, water and other companies have awakened to the importance of reforestation to such an extent that they have asked for more trees than the state can supply. It is estimated by Mr. Pinchot that something like 3,000,000 trees will be planted this year on private and corporate property in Pennsylvania and that the state will plant possibly 300,000 trees on its properties alone. The movement for a State bond issue to buy up tracts of land which are desolate and can in time become invaluable sources of water and water power is gaining favor generally. There are some, however, who believe that by an appropriation program extending over half a dozen years the same results could be obtained and that the place to get the money is out of general state revenues and by clipping off aid to institutions not under state control.

Motor Cycle Men in Country.—Plans of Major Lynn Adams, superintendent of the state police, call for establishment of seventy men as motorcycle policemen, which will add materially to the mobility of the State Police force and break up automobile thieving. The new sub stations will have men in touch with the motor cops.

State officials are urging that owners of stallions secure their licenses now and not wait until the breeding season, while mare owners are being asked to exercise great care in selections. The State is taking a greater interest in horse breeding this year than ever before.—Hamilton, Harrisburg, April 5.

NEW YORK LETTER

Socialists Guilty.—At last the Judiciary Committee of the New York State Assembly has pronounced the five suspended Socialist members guilty of disloyalty to America, has recommended their expulsion from the Assembly, and branded the Socialist party as "an organization composed exclusively of perpetual traitors." The committee also farther recommended that hereafter this party or any other in which aliens are members and control the policies shall not be privileged to occupy on the official ballot of this state the position of a political party.

Gardeners and Collective Selling.—Ithaca market gardeners are to try a plan very popular in other parts of the state. They expect to save much time in selling, thru the vegetables season, by taking their produce direct to the cold storage plant of J. W. Hook who will act as agent for the gardeners' association, selling the produce on a commission basis. It is said the cost to consumers is decreased under the plan rather than increased.

Field Worker For American Federation.—The American Federation of Farm Bureaus will be asked to assign a special field manager to the eastern states to correlate the marketing activities of farmers in milk, wool and canning crops. The request was made in a strong resolution adopted by directors of the New York State Federation of Farm Bureaus at a meeting this week in Syracuse. The meeting also considered the development of the program adopted for 1920.

Farm and Home Bureaus at the Fair.—There is a movement to have one day of state fair week designated as Farm and Home Bureau Day. The commission has been asked by the State Farm Bureau Federation to set aside Tuesday for such recognition.

Wayne County Indignant.—Indignation meetings were held all over Wayne County on Saturday where fruit and vegetable growing are leaders in the state. Telegrams, letters and personal representations were sent to Albany by wholesale, asking repeal of daylight saving. The farm and Home Bureaus, the Granges, the Dairymen's League, the Canning Crops Associations and the Williamson Vegetable Growers' Associations expressed vehement protest over the forcing of new time on the growers of the country, saying it will not only work hardship on them, but on consumers also as it must result in less food produced. Twelve hundred farmers from Tompkins County sent similar appeals to Albany as did practically all counties of the State. National Grange Master Lowell in an address to Cayuga County farmers urged them to "stick to the finish" of the opprobrious measure, and the crowds yelled approval.

Milk Shows.—Syracuse will give demonstrations in 12 schools of the city the week of May 3, showing the results of using milk in children's food. There will be a milk bar weighing contests essays and posters on the use of milk and the clown "Cho-Cho" will depict the results of the use of tea and coffee, and the lack of milk as well as of the good effects of the latter. Malone will also put on a milk show the last of April. A livestock survey of the county of Franklin is being taken and the results will be shown their. It is expected that there is a great decrease in the number of dairy animals of the county due to the poor milk markets.

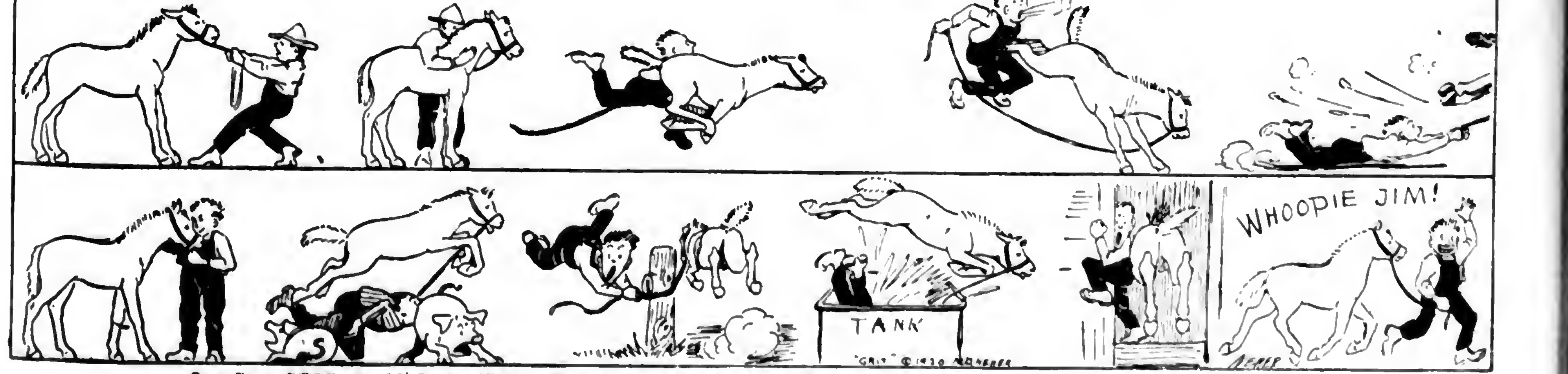
Retail Milk Prices.—Altho it was announced that the April drop of 1.7 cents a quart to farmers would not make any change in retail prices charged on milk dealers they have recognized the signs of mutiny on the part of consumers, and will drop the retail price a cent. Dr. Copeland the city's health commissioner, says that until consumers and farmers make common cause the retail price of milk will remain high and the demand low. The drop is not in proportion to the wholesale price drop, as is usual. Syracuse and other city milk dealers who also refused to drop may find themselves obliged to by federal intervention or by overwhelming demand of the people.—F.

NEW JERSEY NEWS

Legislature to Adjourn.—With the 1920 session of the New Jersey Legislature to adjourn apparently, on Thursday or Friday of next week, bills of interest to residents of the rural sections of the state are being given more attention and quite a number are being passed. Among those that have received favorable action within the past few days in the House are: Permits freeholders to appropriate moneys for erection of memorials; a repealer to the law governing the testing of milk; providing method for taking composite sample of milk for testing; making an extension of the State Highway to provide a direct route from Cape May City to Lewes, Del.; requiring ten years residence in any county to establish a legal settlement; allows the judge of a court to fix the pay of county detectives; changes date of annual meeting in school districts from the fourth Tuesday to the second Tuesday in the same month; provides method for taxing outdoor advertising signs; compels marking and stampin of berry crates; provides for a bond issue of $1,000,000 for the purchase of right of way over many miles of farm lands for the proposed New Jersey Ship Canal from Bordentown to Morgan; providing a minimum salary of $100 as permanent pay for school teachers; provides for a uniform system of vital statistics in every county; increases salary of county school superintendents; increases the fee for filing conditional sales bill; permits chosen freehoders to appropriate moneys for the care and training of destitute children; permits judge of juvenile court in first-class counties to name a stenographer; in the Senate—Extending terms of members of State Highway Commission to March 31, 1921. Among the bills of interest to farmers signed by the Governor was one providing for a fine of $25 for anybody allowing a bull to run at large.

Produce in Markets.—A fine quality of fruits and vegetables are being offered in the markets in the state at the present time. The warm water of about two weeks had the effect of developing the products of the farms in the South with resultant benefit to the people of the North. Asparagus is now in stock at rather high prices. Red cabbage, celery, lettuce, beets, carrots, onions, spinach and tomatoes are of a very good quality and are selling at reasonable prices.

Farmers Assail Bill.—Farmers in New Jersey who distribute milk appeared at the State House in large numbers and assailed a bill given a hearing before the House Agricultural Committee, compelling inspectors of the State Department of Health to obtain accurate and distinguishable milk samples. The measure was also fought by officials from the State Board of Health on the ground, that to make the bill effective after it had become a law, it would necessitate a separate container in each of the creameries for each farmer. Many farmers were also at a hearing on a bill, permitting farmers to kill wild animals when it had been found that they have injured crops. The proponents of the measure declared that, during such Winters as the last one, great loss occurred to farmers because of wild animals not being able to get any food but that of the crops. The only opposition to the bill came from representatives of the New Jersey Fish and Game Commission. They wanted to have inserted in the measure a clause, providing that farmers could kill such animals only on cultivated grounds, while it would be necessary for them to have a license to do the killing so that the commission could prevent illegal and wholesale slaughter.—Kelly.



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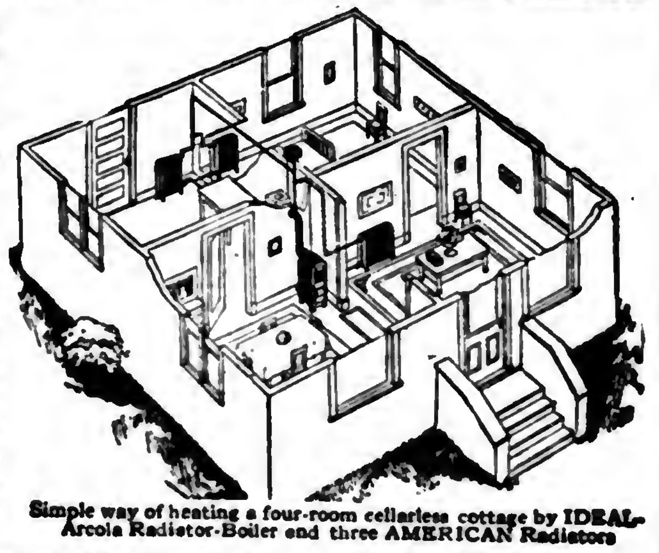

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Just creamery buttermilk with the water removed and nothing added. The same as home churned. Contains high percentage of protein and natural lactic acid. Contains no sulphuric acid or other injurious preservatives. Natural lactic acid keeps it fresh indefinitely. Semi-Solid Buttermilk is pure enough to drink or use in batter cakes. Don't use a substitute or so-called modified buttermilk. Get the Genuine Semi-Solid Buttermilk, absolutely pure and unadulterated, for quick results.

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MONMOUTH AND LANCASTER AGAIN

By C. C. HULSART

I do not mind a man's taking exceptions to what I have said when he confines himself to trying to prove me in error by just and honorable means. If that man wins out, I acquies. In McSparran's article on Lancaster County he puts more stress on personalities than he does in proving anything. I cheerfully admit that it is hard on any man who has ridden a hobby for over three-score years and ten to upset that hobby without any warning; but facts are stubborn things they will not down. It has been a motto of my life to hew close to the line no matter where the chips fall. Mr. McSparran says the gist of my article of January 3rd claims that Monmouth had advanced in agriculture greatly since 1910 and warns me not to press that point to far or I will be submerged. Why does not the gentleman discuss the advance made in farm values from 1900 to 1910 between the two counties as I did, where in that decade Lancaster values increased 20 percent and a fraction, while Monmouth increased 66 percent, and from 1910 to the present time farm values have doubled. What makes the rise but earning power? Please Mr. McSparran answer my questions instead of trying to belittle a man before his fellow men.

If James G. McSpararn had been in company with the editor of Pennsylvania Farmer last summer when he toured Monmouth County for two days as guests of the New Jersey Horticultural Society I do not believe he would ever have written that article. I hold in my possession a letter received from R. P. Kester after that trip, in which he admits to me that Monmouth has it on anything that Pennsylvania can show. (In the crops inspected.—Ed.) Mr. McSparran refers to the year book for 1918 to prove—nothing. I refer him to the same book. If he or any one else will look up the figures for the two States, Pennsylvania and New Jersey, he will find that for every crop produced by the two states that New Jersey leads in all except corn and in that she equals Pennsylvania; but aside from that greater volume acre for acre, New Jersey's selling price is in all instances higher than in Pennsylvania for the same crops at the same time.

He may say that this is a county discussion, not a state. Very well. If we come down to counties, then I am too low because Monmouth County being the most productive county in New Jersey would entitle it to a higher rating. It is not only the most productive county in New Jersey but in the whole United States, figured on an acre basis and is so stated in the 1918 year book. What is set forth in that book is, in my opinion, less than 75 percent of Monmouth's total crop production because every one who has any knowledge of federal crop reporting knows that market garden crops are not taken and tabulated. The writer has been requested repeatedly to become a federal crop reporter. I always refused because blanks sent me asked for nothing but the staple farm crops. The only crop I grew that had a place on the reporting sheet was corn.

Now, as to my work at farmers' institutes in Pennsylvania, allow me to say the first work done in that state was a trial trip of two weeks performed under the leadership of the present editor of Pennsylvania Farmer, R. P. Kester. For four years following I was recalled for greater lengths of time. Is that endorsement enough as to my work? Furthermore, it was thru a conversation by J. Aldes Herr, with the late Mr. Anderson, then Editor of Pennsylvania Farmer, that I have done some contributing to this paper. I also venture the guess that when I left Lancaster County after that 14 days institute work, I had as many friends in that county as does the man who has tried publicly to ridicule me thru the Pennsylvania Farmer.

Just before the late E. B. Voorhees went to his last sick bed I had a conversation with him on the College Farm. Dr. Voorhees told me that Monmouth County, N. J., was the leading county. He also said that the banner township in the whole U. S. was in Burlington County, N. J. I have, however, forgotton the name of the township.

In the census enumeration Lancaster is credited with a large acreage of hay. It also has a heavy corn acreage, both of which run into large figures. The county is also credited with thousands of beeves fattened and a profit claimed of $35 per head. This also runs into large figures but no one comes forward and tells the innocent reader that those beeves consumed most of the hay and corn. If we Monmouth County farmers could also tabulate our crops three times, or in other words get credit for 3 heavy crops when in reality it took two of them in order to produce the third, where would Lancaster be? To return to that potato yield let me say that Monmouth's crop is harvested and shipped in 50 days or less and it is never loaded 800 bushels to the car. What would happen if we did in such weather as prevails in late August and September. Two hundred barrels, sometimes less, constitute a car.

The figures I gave in car loads was obtained from the books of the Monmouth County Farmers' Exchange.

The only trouble with Mr. McSparran is that he thinks he has been living in the "Garden spot of the U. S." When in reality that honor was moved from Lancaster to Monmouth a dozen years ago.

CANADIAN BUTTER COMPETITION

Increasing quantities of Canadian butter have been brought into the United States markets during the past year. This butter possesses very good keeping quality because of the methods employed in its manufacture. In fact, large quantities grade above the average quality of our own storage goods. Inasmuch as fancy storage butter has been conspicuous by its absence this past winter, Canadian butter has found a ready market in the United States and on account of exchange rates has yielded a reasonable profit to the importer.

It seems probable that Canadian butter will be a factor in our markets as long as exchange rates more than offset the duty and transportation charges. In the meantime the trade is becoming familiar with the Canadian brands, and a basis for future competition is being established.

A livestock farmer found that the reduced shrinkage on his hogs when he hauled them to market by motor truck more than paid for the entire cost of the trip. Jumbo Motor trucks bring your markets closer.

A Stronger, Better Truck for Farm Haulage

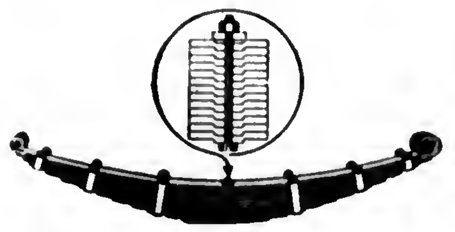
TIME was when motor trucks were sold largely on price. Users, still skeptical of the service value, economy and utility of motor haulage, were willing to experiment—but only upon as modest an investment as possible.

Today the cheap truck has had its fling. Its function has been fulfilled. It has convinced hundreds of thousands that the motor truck has unlimited possibilities for more economical transportation.

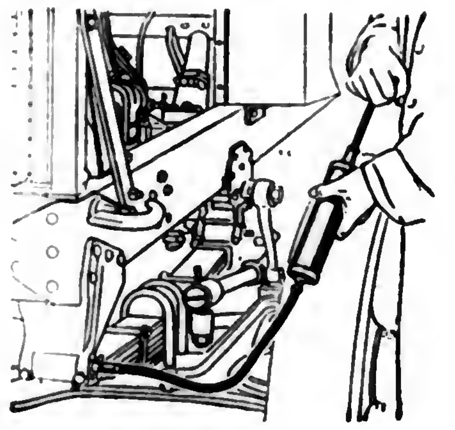
Now the demand is for a *better* truck—a truck of greater endurance, longer life and a resultant lower upkeep cost.

Reliable service, low maintenance cost, long truck life—all the elements of satisfactory and economical truck operation—depend largely upon the builder's knowledge of the strains put upon a truck under severe working conditions; depend upon his ability and desire to provide enough strength to guard against break-downs.

Strength without excessive weight is the most important factor and it can only be secured by quality, balance, and careful workmanship. A stronger truck is a better truck. *And such is the new Jumbo.*



Chrome vanadium steel springs, extra long, heavy stock, cupped at center to prevent slippage.



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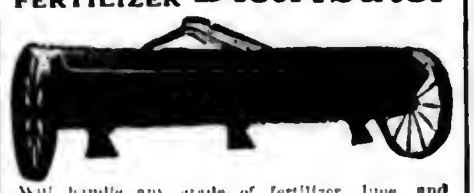

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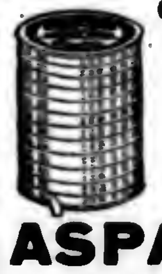

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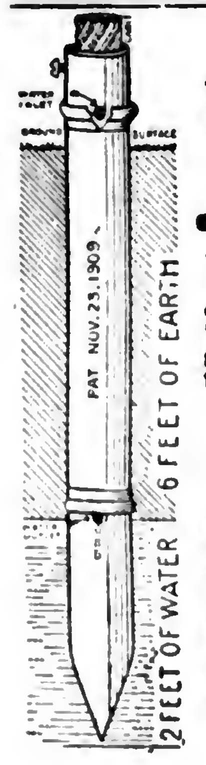

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HORTICULTURE

OBSERVATIONS ON FRUIT-TREE PLANTING.

By J. P. STEWART

Agricultural operations seem to go by contraries. In them as in the average stock market, it is very difficult to predict even the immediate future. From the general tightness of the fruit-tree market and the consequent unusual prices being asked for trees, ever since last fall, one would have expected that the amount of tree planting would be relatively small this spring. From present individual observations, however, it seems that there is more planting on the program in Pennsylvania, at least, than has been the case for several years. One man that we know of is expecting to plant 26,000 trees. With the labor conditions as they are, this is likely to be a big order.

In view of the unusual planting activity of the coming spring, therefore, a little general advice may not be amiss. The necessity for much more extensive advice along fruit-growing lines has been forcibly impressed upon me during the past week. Within two days, I saw two large and widely separated orchards now twenty years of age, that had never given the owners a profit. The trouble in these cases, moreover, was not the common one of neglect, but in our opinion, in at least one of these orchards, the difficulty was too much attention of the wrong kind.

In that particular case the chief evident trouble had been excessive and misdirected pruning. This was still going on, but there had also been other mistakes which were nearly as effective in preventing the trees from making any satisfactory returns. And within a few miles of this orchard was still another much larger but fortunately younger orchard, which was undoubtedly being headed in the same direction. Proper advice in the latter case will undoubtedly make a difference of thousands of dollars annually in the net income, if the advice is really followed. But who knows whether the advice really sank in, and whether it will be adhered to in spite of present looks of the trees, and especially in spite of future different advice from well-intentioned but relatively inexperienced parties. This is another case in which if a man can escape his friends, he need not fear his enemies.

Suitable Land

But to get back to the tree-planting subject, let us first consider some of the things that we should not do. With all costs running at high speed, it does not pay to do things that we are not at least reasonably sure are right. In other words, one should try to weed out the mistakes, before they are made.

In this connection then, we would not advise the use of land that is too steep or rough, either from the presence of stumps or stones. Such land may look cheap, but before it can be made really fit for fruit production, it is likely to cost much more than much cleaner and less sloping land. Some slope and some local elevation are of course highly desirable, but too much of either will impose a constant tax on production which may become very objectionable.

We would also advise against the use of land that is either very far from a satisfactory market or shipping point, or is inconvenient in the matter of water. An abundant supply of the latter is likely to be needed for some time yet, in spite of the increasing claims of the dusters. The fruit business also involves a heavy tonnage when it is going right, and the fruit requires special promptness in reaching its destination. Both of these considerations make long preliminary hauls very expensive. We heard of one case recently where the haul to shipping point was costing the owner a dollar a barrel. Such a handicap can only be borne in specially favorable seasons.

Avoid Crowding

Our next admonition would be not to plant too many trees on each acre of ground. Ultimately a distance of forty feet each way is none too much for most varieties of apples; and the smaller growing trees, such as Oldenburg, Wealthy, Wagener, and Yellow Transparent, can readily be planted on the same general lines but with an additional tree in each square, which will naturally double the number of trees to the acre of these varieties. They can also be used as fillers among the other varieties, in the same position if desired, altho this is open to some objections.

Don't mix the varieties too much in the orchard. This mixing has sometimes been advised for better pollination, but we doubt its special efficiency in this connection, and it introduces complications in the spraying and picking which makes it very objectionable. If some mixing is desired, it can be accomplished to a sufficient extent by planting an even number of rows of each variety. Two, four or even six rows of a kind are preferable to any uneven arrangement.

Planting Directions

In the actual planting, do not leave the roots of the trees exposed to the sunlight any longer than is absolutely necessary. Wherever a large number of trees is involved, and the owner is not too particular about the exact alignment, it is best to plant with a plow if possible. This is accomplished with a good, deep back-furrowing in the direction the rows are to run, and the position of the trees in these furrows can then be determined either with a tightly stretched wire with the proper tree distances indicated on it, or it can be roughly determined simply by draggin a chain or its equivalent across the furrows, in line with properly spaced stakes. Trees which are shrivelled on receipt or before planting, can often be revived either by soaking the roots in wafer for eight or ten hours or by burying the whole tree in moist soil for a few days. The former practice is frequently beneficial in the case of unshrivelled trees, as it often enable them to start more promptly and vigorously.

It is also frequently helpful to haul the trees along the rows in a tub partially filled with water, and take them out only as needed. This reduces the root-exposure to a minimum, and aids in getting the desirable quick start. All damaged or broken roots may well be cut off, preferably to a length of not over eight or ten inches, in any tree of normal planting age. The latter may be said in passing to be not over one year in the case of a peach tree, and not over two or at the most three years in the case of other fruits. If dynamite is needed for blasting the holes for the trees, the orchard site has not been well selected.

Don't fail to tramp the soil in solidly around the roots, and use nothing but soil in direct contact with the roots—top soil preferred. If manure or other fertilizer is used it should be kept away from the roots, and in general such materials will probably do more good when placed either near the top of the hole or as a mulch around the tree after the hole is filled with soil. A good mulch of strawy stable manure kept around the tree as a mulch will probably come as near insuring the growth as any fertilizer that can be used, but it is hardly available for large operations. A little available nitrogen and phosphorus is probably the best substitute, where fertilization is needed. Also get the trees into the soil as soon as possible after it is fit to be worked.

Trimming

Don't trim the young trees too closely. The old-time, Stringfellow method of trimming everything off, both root and branch, and cutting the trunk to a stub about ten or twelve inches above the ground may do under exceptional conditions, but for the desirable quick start this is not good practice even with the peach. When the tree is already branched, it is usually best to save several stubs of branches, with a few buds so far as such branches are available and properly spaced. The time of this trimming should be near the planting, or at least before the buds get started into growth to any considerable extent. Later pruning of the young tree usually causes an objectionable check in growth, as indicated by the extensive experiments at the Woburn Experimental Fruit Farm in England.

Protect from Pests.

After the trees are set, don't fail to give them ample protection from pests—chief among which are mice. The damage from these persistent enemies has been especially severe this year, in both cultivated and uncultivated orchards, tho of course, it has been worse in the latter. As to how long such protection is needed, I may say that I have recently seen hundreds of twenty-year old apple trees completely girdled and probably ruined by these pests. Poison, cultivation, frequent coatings of dense lime-sulphur, clearing all rubbish away from the roots for at least fifteen or twenty inches and mounding up with fresh soil, and doing at least part of the trimming in the fall and leaving the branches on the ground to deflect the attention of the mice, are some of the principal defensive measures available.

If none of these measures prove sufficient, the damage may often be repaired by bridge-grafting when the trees are fairly good-sized, and by cutting the tree off, preferably with a slanting cut, in the smaller trees when enough good bark re-

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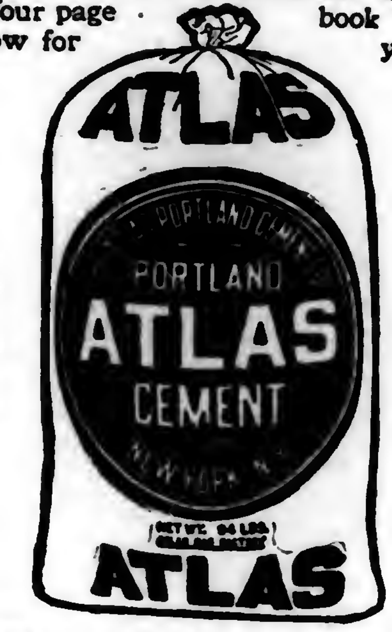

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The Pennsylvania is built in sizes 8 to 12 tubes with choice of Pin Hoe, Spring Hoe or Single Disc openers. Special Drill Catalogue fully explaining efficient seeding mailed on request.

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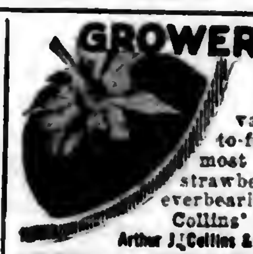

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Therefore it saves time and trouble either in bothering with home mixtures or using old fashioned, inconvenient pastes that require preliminary crushing or rubbing into thinner paste.

HEXPO is highly concentrated. It goes three times as far as pastes. You pay no freight on water. It is not necessary to add more poison. **HEXPO** is always ready to use, effective without harm to foliage.

Being fine powder it can be blown on dry or used with water. When placed in water it mixes easily, stays suspended in water in the sprayer, and goes on evenly all over the crop.

HEXPO will not harden or deteriorate. No danger of buying too much or wasting. There's no sediment. **HEXPO** goes through the sprayer nozzle to do its work.

Ask your dealer for **HEXPO** in 1, 5, and 10 lb. cartons or in 25, 50, 100 or 200 lb. drums, according to your needs.

If your dealer is out of **HEXPO** write us for literature and prices.

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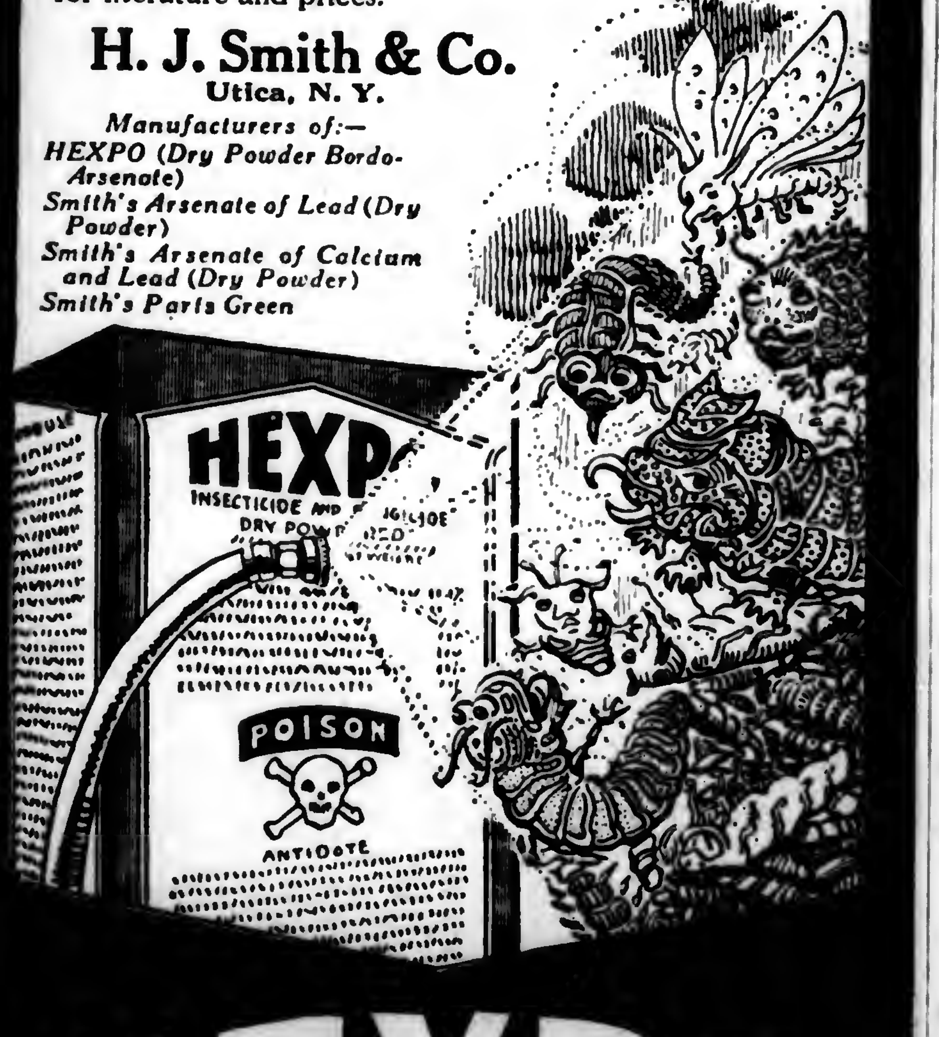

HEXPO
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INSECTICIDE & FUNGICIDE

mains above the point of budding or grafting. This stub can then be either whip or cleft grafted, or may be left for possible direct sprouting if so desired. Whatever sprouts are formed should be left on thruout the first season at least, as the roots will need all the top foliage they can get, and too much growth in one sprout is likely to be disastrous. The sprout chosen for the new tree can be kept in the lead by occasional heading back of those to be kept only temporarily. The top of the stub should be protected from too much drying by a coating of melted grafting wax or its equivalent, but no tars or other materials of uncertain safety should be used.

WHAT IT COST TO GROW FIVE ACRES PEAS.

The following figures with reference to the cost of growing peas were presented by the Directors of the County Cooperative Association, Inc., at the meeting between the Canners and the Directors held in the County Bureau office, Batavia, New York, March 6th, and are based on a five acre field with land costing $150.00 per acre. Horse hours (H. H.) are charged at 20c and man hours (M. H.) at 50c.

PLOWING	
105 H. H.	$ 21.00
38 M. H.	19.00
ROLLING	
30 H. H.	6.00
16 M. H.	7.50
HARROWING	
60 H. H.	12.00
20 M. H.	10.00
DRILLING	
10 H. H.	2.00
5 M. H.	2.50
CUTTING	
20 H. H.	4.00
30 M. H.	15.00
HAULING	
100 H. H.	20.00
50 M. H.	25.00
SEED	
20 bu. @ $4.00 per bu.	88.00
FERTILIZER	
1000 lbs.	20.00
MANURE	
50 loads @ $2.00—30 per cent. of value charged to crop	30.00
Labor for hauling	16.50
USE OF LAND	
Interest on $750.00 @ 6 per cent	45.00
USE OF TOOLS	
10 percent depreciation on $500 worth—30 per cent charged to crop	15.00
TAXES and FENCE REPAIRS	11.25
MISCELLANEOUS	
Time consumed by grower in making sales thru Association and costs of Association	11.25
TOTAL COST of 5 ACRES	$373.00
Average Yield per Acre—1 ton.	
COST OF GROWING 1 TON	$ 74.75

CONTROL OF ONION SMUT BY FORMALDEHYDE-DRIP METHOD

The spread of onion smut into the large northern onion sections and its increasing prevalence each year have emphasized the importance of a practical means of control for this disease. It is caused by a fungous parasite which lives in the soil, and when once introduced spreads slowly to adjoining areas. In the spring at the time when the onion seeds are germinating, the smut spores, or seed bodies, also germinate and infect the young seedlings, causing brown to black elongated blisters within the scales or leaves, which often split open, exposing the powdery black masses of spores. Affected leaves usually are slightly thickened and often curve downward. Many of the young seedlings are so heavily attacked that they die within three to five weeks after germination. Others may survive until harvest time and reach the warehouse or market. Such specimens are characterized by the slightly raised brown to black pustules near the base of the bulbs, usually occurring as deeply as the third or fourth scale. Such bulbs shrink more rapidly in storage and are more subject to the attacks of other organisms than healthy ones.

Controlled by Formaldehyde.

A peculiar and important fact about onion smut is that the onion plant can be attacked by a fungus only while in the young seedling stage. After the plants are about three inches high, they become immune to infection by the smut fungus, and onion sets or seedlings three to four inches high transplanted to smut-infested soil will not contract the disease. In the large commercial onion districts of the northern states where the use of sets or seedlings is impracticable, advantage is taken of the fact that onion smut can be controlled by the application of a solution of formaldehyde in the furrow with the seed. Since the young onion seedling is susceptible to the disease for only a short time, it is necessary to use only enough of the disinfectant to keep the fungus in check in the soil close to the seed. The apparatus for applying the formaldehyde solution consists of a galvanized iron tank, which is attached to the onion seeder. Such an attachment is illustrated and described in detail in United States Department of Agriculture Farmers' Bulletin 1060, which will be sent to any applicant upon request.

Care Necessary in Applying.

Great care should be used in applying this treatment, since too strong a solution will prevent the onion seed from germinating, while too weak a solution will not hold the fungus in check. About 200 gallons to the acre will give the most satisfactory results. There is no advantage in this case in using a stronger solution than 1:128 (1 pint of formaldehyde to 16 gallons of water). Where there is serious objection to using this amount of liquid, because of difficulty of application, the quantity may be reduced to 120 to 150 gallons, but in this case a stronger solution should be used (2 pints of formaldehyde to 16 gallons of water). Raising the strength of the solution beyond this point entails danger of reduction of the stand, due to seeding injury.

QUALITY NOT QUANTITY

"What profiteth it a man tho' he spends his whole time feeding scrub stock quack hay? Isn't the important thing how intelligently we work, not how hard?"

New York is first in the number of trucks used on farms, according to a survey made by the Federal Department of Agriculture. Pennsylvania, Nebraska and Iowa are closely matched for second place honors.

SPRING WHEAT

A number of farmers who failed to get all of their wheat ground prepared last fall have written the Pennsylvania Farmer requesting information about spring wheat to use on the ground which was not planted last fall.

In general spring wheat may be planted and comparatively good results obtained in places where winter wheat does not do well. Where winter wheat ordinarily does well spring wheat is likely to be a disappointment. It is fairly good to use to fill in with.

It should be planted at the earliest possible date in spring, and the usual precautions in the preparations of the seed bed should not be overlooked. If the ground has not been manured 300 or 400 pounds of fertilizer mixed at the rate of three parts of acid phosphate and one part of nitrate of soda should be used to the acre. If manure has been used the nitrate of soda may be omitted entirely from the fertilizer or at least decreased one-half.

There are a number of varieties all of which mature at about the same time as fall wheat but tests have proved conclusively that Marquis is the most satisfactory. The yield in New Jersey, Pennsylvania, and New York is seldom more than 15 bushels to the acre, tho a few farmers have secured as much as 20 bushels to the acre. During the war considerable spring wheat was raised in these states but it is not likely that it will continue to be raised because it is naturally adapted to the Northwest.

REQUISITES OF A GOOD SILO

Air Tight Walls—The silo walls must be air tight, for if oxygen gains entrance the fermentstion will continue and molds will grow, spoiling the silage.

Cylindrical Shape.—The round silo provides the largest cubic capacity for a given amount of building material, and the sides are strong. Packing is accomplished easily.

Smooth, perpendicular, strong walls—The walls must be smooth and perpendicular to prevent the formation of cavities or pockets which collect air and cause the silage to spoil. Strength is essential to withstand the pressure caused by settling.

Depth.—The pressure from settling in a deep silo is sufficiently great to force out the air and reduce the losses from fermentation to a minimum.

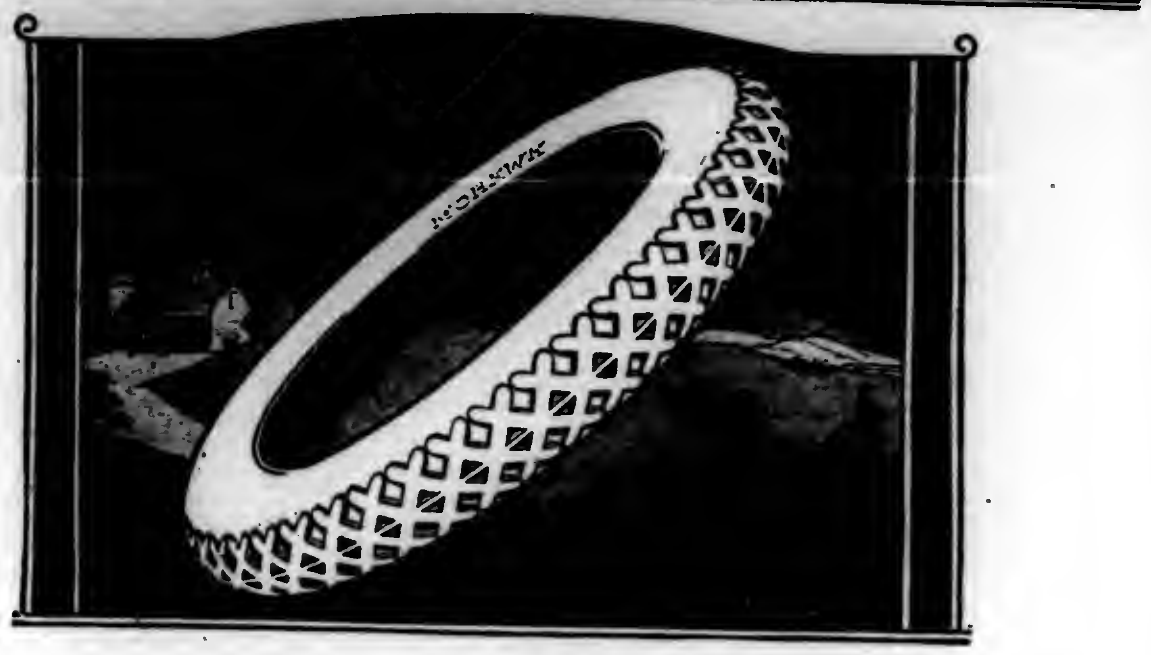
CROWS WILL NOT PULL TARRED SEED CORN

(Continued from page 4).

of coal tar on it and stir the corn thoroly until the tar is evenly distributed over all the corn, then spread the corn out to dry. If it must be used in a corn planter before it is thoroughly dry mix an absorbant with it—ashes, land plaster or powdered earth.

It is unlawful to place poisoned bait where crows and other birds can have access to it. This can be done only by agents or employes of the State Game Commission.

Nature furnishes us with pure air, but unless we breathe it freely it profiteth us nothing.



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That is the way a Mohawk user recently characterized the Mohawk tire.

It is just a sample of the way Mohawk owners, the country over, feel about Mohawk tires. What this saying means is, of course, that the owner of Mohawk tires is getting more than he expected.

For seven years, Mohawk tires have been giving mileage consistently greater than the average tire user is used to.

The reason Mohawks really *do* surprise automobile owners with greater mileage is because they are honestly and sincerely built.

The purest rubber is only used in them. No shoddy, reclaimed rubber—no glue, rosin or any other "filler."

They contain the strongest fabric made from the toughest cotton produced—and in most sizes an extra ply of fabric

They are hand-made by expert builders—no machine proceeses, because *every* Mohawk must be *right*.

If you like people "who go out of their way for you"—if you believe they are worth knowing and worth keeping as friends—you will, in the same way, like Mohawks. Of those who have used them, records prove that 85% will use no other tire.

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It's made of strong, smooth staves that fit closely to form an air-tight, frost resisting and storm defying structure. Base and top anchors of steel cable, hold the silo erect, steady and secure on its foundation.

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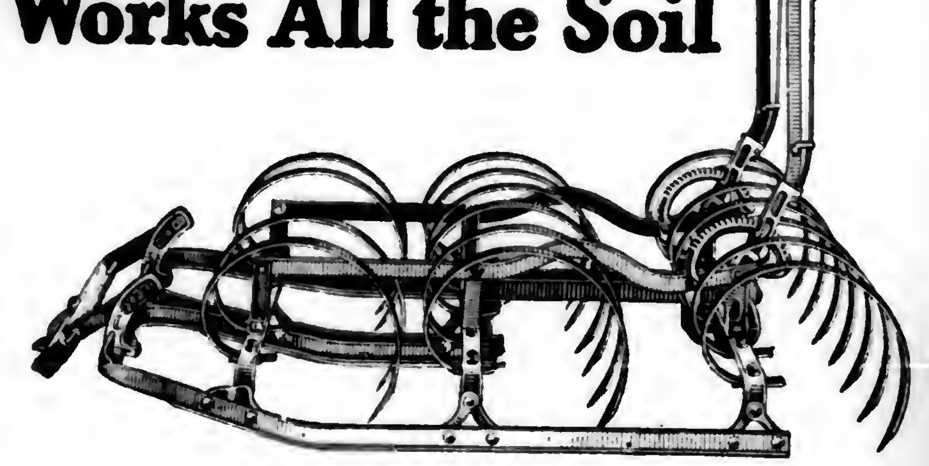

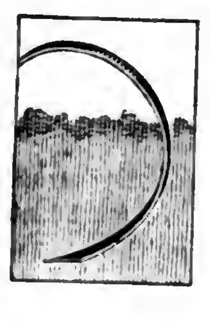

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are built extra strong. Frames, tooth bars and teeth are made of high carbon steel.

Teeth are clipped strongly to the bar—no bolt holes to weaken them—teeth can be separately adjusted to take up wear or vary the penetration.

Non-Clogging—the frame has small opening at front, growing wider toward rear—no loading or choking at this point. Trash works toward center and out through opening.

Teeth can be instantly adjusted by means of convenient lever to meet different soil conditions.

Any number of sections can be combined. Can be furnished equipped with tractor hitch.

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CREAM SEPARATOR

Farmers in need of a new De Laval Cream Separator this year may wisely place their orders immediately if they have not already done so.

For three years past, notwithstanding the constantly increased production, it has not been possible to make nearly enough De Laval machines to meet the demand. We shall make 25,000 more machines in 1920 than in any prior year, but are already behind deliveries in some sizes. Hence the importance of getting in your order early.

Superior as De Laval Cream Separators have always been to other separators, they are better still in 1920.

If you have milk to separate you can't afford to waste quantity or quality of product, time and convenience, through the use of any other means of separating than a De Laval machine.

An improved De Laval Separator will surely save its cost in a few months, and will go on doing so every few months for many years.

De Laval Separators speak for themselves. Their appearance and performance best demonstrate their superiority. Be sure you see and try one before buying any other or deciding to go on using an inferior or half-worn-out separator another year.

Your De Laval local agent will be glad to afford you the opportunity to do this. If you don't know him simply address the nearest De Laval main office, as below.

The De Laval Separator Co.
165 Broadway
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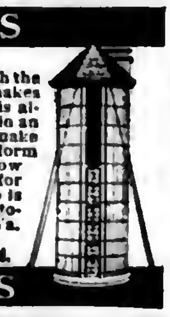
SAN FRANCISCO
50,000 Branches and Local Agencies the World Over

$19.95 Upward **American CREAM SEPARATOR** On Trial. Easy running, easily cleaned. Skims warm or cold milk. Whether dairy is large or small, get handsome catalogue and easy monthly payment offer. Address
AMERICAN SEPARATOR CO., Box 5062 Bainbridge, N.Y.

MOLASSES Richest Feed Lowest Cost Write For Special Price
Philadelphia Molasses Company, 1055 Beach St., Philadelphia, Pa.

ECONOMY SILOS
A PERMANENT SILO
Every Economy Silo is equipped with the Storm Proof anchoring system that makes it absolutely permanent. Ensilage is always fresh and sweet—it can't spoil in an Economy Silo. Perfect fitting doors make the Silo perfectly air-tight. Hoops form easy ladder. Built of long leaf Yellow Pine or Oregon Fir. Headquarters for all sizes of water tanks. Our motto is quality through and through. Factories at Frederick, Md., and Roanoke, Va. Write for catalog.
ECONOMY SILO & MFG. CO., Dept. P, Frederick, Md.



and WATER TANKS

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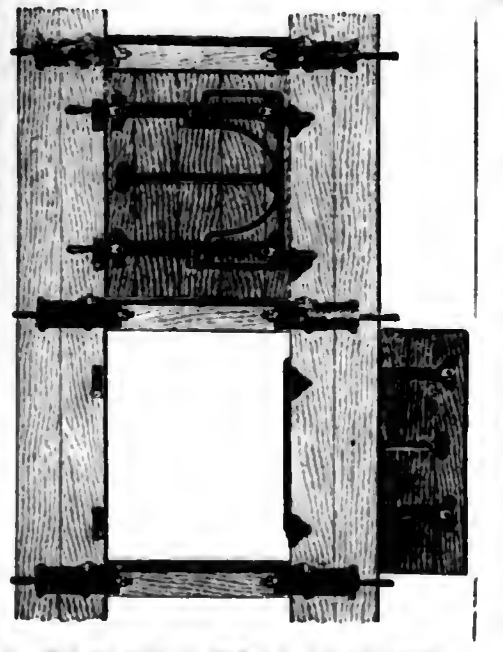


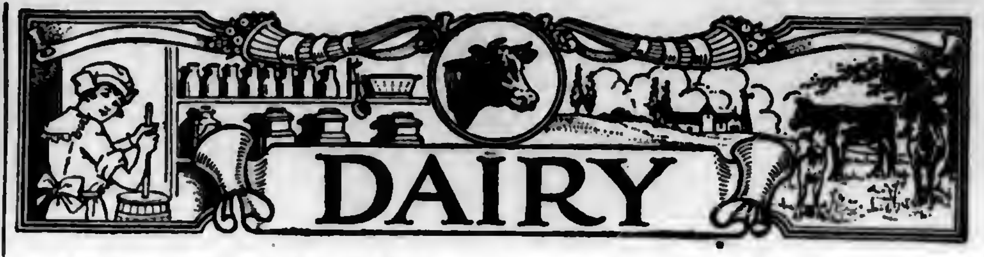
The Silo

With the Perfectly Adjusted Hinged Doors, Spring Equipped Hoop and Doorway Fasteners, Triple Anchorage System, Built of One Piece Douglas Fir Staves in all even lengths from 20 to 40 feet.

The Silo all Farmers are talking about. The Silo Hundreds of them already have.

Write today for Free Illustrated Booklet—"Beacon Towers of Prosperity." It tells the Story of the TECKTONIUS and DARBY Silos.

G. WOOLFORD WOOD TANK MFG. CO., 710 Lincoln Bldg., Phila., Pa.



NEW YORK DAIRY FIELD

The April Milk Price

We have finally sold our milk for April, but it is far past the date when sale was expected. Farmers have been anxious for several days for they do not like milk wars. They would stand for one had not the dealers come around to something that could be accepted. During this period of anxiety it has been evident that the city officials have been trying to help the dealers. They denounce the dealers but they work with them if we can read the signs up here in the country. The health commissioner says that the farmers would not starve the city babies if it were not for the officers of the League. He would break up the League if he could, apparently. Doubtless he is dealing in politics but he does what he can to carry conviction to the city people that the League should be destroyed.

The price that we learn today is $2.55 a hundred for three per cent milk at two hundred miles out. It is twenty-five cents less than a year ago, and is a drop of 81 cents from March. March, however, did not show the same cut as compared with last year that April does. Both months show losses this year because feeds are so much higher than last year. April certainly is a loser, but it is probably better than a war. I think that farmers will later conceed this altho with losses coming they feel hard hit.

Cow Prices

There have been few sales of cows yet but many are for sale. I had expected that enough sales would be made before this to justify a statement of prices. That such will be comparatively low is sure when made but I would hesitate to make a statement as to what they will be. Few calves are being started and this has been true for a year or two. It looks as tho we might see fewer cows in a year or two, yet doubtless there will be enough for all requirements.

The same old statement relating to help has to be made. A farmer went to the farm bureau and offered $75 a month for a good man and would board him, but the agent could not find one. I know of no farms being abandoned because of no help, yet there will be a lower production from many of these farms I am certain. This has been so often stated that it seems of little account, but the fact must finally have effect.

Are Changes Coming?

A dealer went to the city recently. It was found that city dealers are looking for a panic and drop in prices before long. Farm produce is already on the decline and there is a general expression that similar drops are to be looked for at any time. These evidences are pretty certain and are all the more likely to occur when people talk that way. It is still a good time for a dairyman to pay all he can on the debts. Or, it is still a good time to save up for an emergency later on. Wages are still very high in town, and many say they will not return to farming while this sort of getting is as good as at present. Evidently, many are expecting to go back to the farms after the present spasm of high wages shall have passed. Even then if farm prices continue to drop they may think they better stay in town as long as jobs are available. Changes are undoubtedly coming and some of them soon...H. H. L.

Residence and Dairy Herd of Webster Styer, Chester Co., Pa.

IN THE EASTERN MILK FIELD

The trial of the five socialist members of the Legislature has led to a general marking of time in all Legislation activities. So the milk bills have not come to a hearing yet. Republican majority leader, Senator Walters, has announced his determined opposition to the Thompson Block bill, the most aggressive one in its propositions of political control of the milk industry, Minority leader Walker has also championed the farmers disapproval of the measure, and accuses its maker of political motives in embodying the recommendation of Governor Smith in the make-up of the bill.

Following the example of several other bigger cities of the state Oneida has decided to provide a pint of milk a day for each of the pupils of a school that seems to need such service. Invariably such experiments product gains in weight and mental activity of the children.

M. J. Peck, a well-known herdsman and cattle dealer of Coveland, has engaged to manage the Lowell farms of Marathon, comprising 1500 acres and carrying 350 head of stock. Mr. Peck recently shipped a carload of big producing high grade holsteins to Louisiana. The day they were unloaded some of the cattle

produced 65 pounds of milk. each astonishing the southerners, who had not believed there were such cows in existence. The animals received careful attention on the long journey by personal attendants, and made the trip in good condition.

The highest priced animal at the Farmers' Week Sale at Cornell last week brought $775. It was a Holstein bull whose dam has a record of a full brother of the animal at the sale a year ago. Several other animals of this family were sold at very reasonable prices. J. J. Dillon of Venice Center, bought Glista Florence, who made a 14,636 pound record as a junior two years old, for $375. Another young cow, Glista Isadora with a yearly record of 325½ pounds of butter fat and 10,883 pounds of milk, sold for $150. Guernsey cows and calves went at even less prices.—M. G. F., Tompkins Co., N. Y.

COWS INCREASE IN VALUE

The expansion which has been taking place steadily in the dairy industry of this country during the last seven years has at last put milk cows at the head of the list of farm animals so far as value is concerned. The value of these animals now exceeds that of horses and cattle other than milk cows, the two classes formerly standing higher on the list. On January 1 of this year there were approximately 23,747,000 milk cows in this country, an increase of 272,000 head, or 1.2 percent, as compared with a year ago. Their aggregate value is placed at $2,021,681,000.

MIXTER FAITH 48711

Mixter Faith 48711, an eight year old Guernsey, bred and developed by Est. of George Mixter, Mass., has recently completed her third official record of 13911 pounds of milk and 720.85 pounds of butter fat. In addition to making this unusual record, she carried a calf 283 days of her testing period and thereby qualified for seventh place in Class AA. Her two previous records were made in Classes C and A and the average of her three records is 12546.2 lbs. of milk and 653.90 lbs. of butter fat.

DAIRY INTERESTS IN CAYUGA COUNTY

Dairy farmers of Cayuga County, N. Y., have been very active this winter in perfecting their organizations which have to do with the sale of milk and surplus breeding animals. The twenty-three branches of the Dairymen's League in recent annual session, elected R. D. White, of Locke, a prominent Holstein breeder in the county, president of the county branch of the League, associated with him will be O. B. Stevens, of Sterling, vice-president, F. H. Mixer, Red Creek, secretary and treasurer; W. W. Depew, of Auburn, delegate at large.

Mr. H. J. Kershaw, of Chenango County, who is a member of the executive committee of the Dairymen's League, addressed this county meeting of the League and outlined the many activities of the organization. During the afternoon, the resolution committee reported as opposed to the Thompson Milk Commission Bill and Daylight Saving, and were in favor of the Capper-Hershman Bill, which would make collective bargaining by farmers legal under federal statute. The committee also favored an increased appropriation to strengthen

HEADS ALL HERDS
In Iowa Cow Testing Associations

The Quaker Oats Company,
Chicago, Ill.

McGregor, Iowa,
Jan. 30, 1920

Gentlemen:—I am pleased to state that we have used SCHUMACHER FEED quite extensively in growing and developing our herd.

It is a great aid in promoting heavy production of milk and butter fat. We appreciate it much because of its perfect balance which makes it a safe feed to use in large quantities when feeding for heavy production.

We have fed SCHUMACHER FEED with excellent results to hogs and horses as well as to the Dairy Herd.

Yours very truly,
R. G. KINSLEY.

Note: **R. G. Kinsley's Herd has been making the best record in the McGregor Cow Testing Association, which for several months has been leading all Testing Associations in Iowa, having the best ten highest producing cows.**

The Schumacher Feeding Plan
Will Help Your Cows Increase Milk Production

The Schumacher Feeding Plan consists of feeding SCHUMACHER FEED as the carbohydrate part of the ration and BIG "Q" DAIRY FEED as the protein part. These two feeds have proven with dairymen everywhere to be the ideal combination for best health conditions and maximum milk production. They simplify your ration problem—insure greater accuracy and uniformity, and require much less labor.

SCHUMACHER FEED is a finely ground, kiln dried, carbohydrate ration composed of various grain by-products that best supply the necessary maintenance for long time milk production. It affords that much needed variety of grains so essential and necessary to keep your cows in tip-top physical condition—to provide stamina and endurance to withstand the strain of long milking periods.

BIG "Q" DAIRY RATION is first, last and all the time a *quality* protein ration and a wonderful milk producer. With SCHUMACHER FEED as the maintenance part of the ration and BIG "Q" as the milk producing part, you have a ration that assures maximum production from *any* cow of *any* breed.

SCHUMACHER FEED in addition to being the acknowledged *best* carbohydrate feed for dairy cows, is also splendid for feeding all your farm stock. It puts "pep" and vigor into your horses—makes calves and hogs grow fast and produces big frames. It restores strength and vitality so dry cows assuring maximum milk production during the next lactation period.

Get a supply of SCHUMACHER and BIG "Q" from your dealer—let these feeds do for *you* what they are doing for thousands of other successful dairymen and farmers.

The Quaker Oats Company
Address, CHICAGO, U. S. A.

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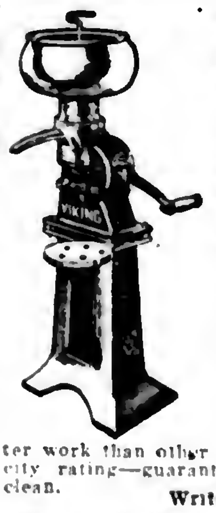
A Better Separator



THE VIKING
Because—

The construction of the vital separating parts is superior to higher priced separators.

No separator at any price possesses finer or more wear resisting steel.

The Viking contains nothing but the finest Swedish Steel and heavy durable castings.

It rests solidly, thus prevents vibration (the cause of its easy running qualities, a child can run it.)

It does more and better work than other machines of equal capacity rating—guaranteed to skim perfectly clean.

Write Dept. V.

Swedish Separator Company
261 Broadway, N. Y.

BARN PAINT $1.22 PER GALLON
Get factory prices on all paints. We guarantee quality. We pay the freight.
Franklin Color Works. Dept. 16 Franklin, Ind

SALE OF GALLOWAY'S 1920 SEPARATORS

Shipped from points near you

$52.90

All Sizes at Proportionately Low Prices

Direct from Galloway's Factories

That's the reason for this low price. This saves you the difference between my price and the price of the high-priced separators. I cut out all waste and sell you at this rock bottom wholesale figure. You get your new Galloway Sanitary right fresh from my factory floor. You buy in the most economical way—the modern way of doing business.

TRIAL TEST FOR 180 MILKINGS

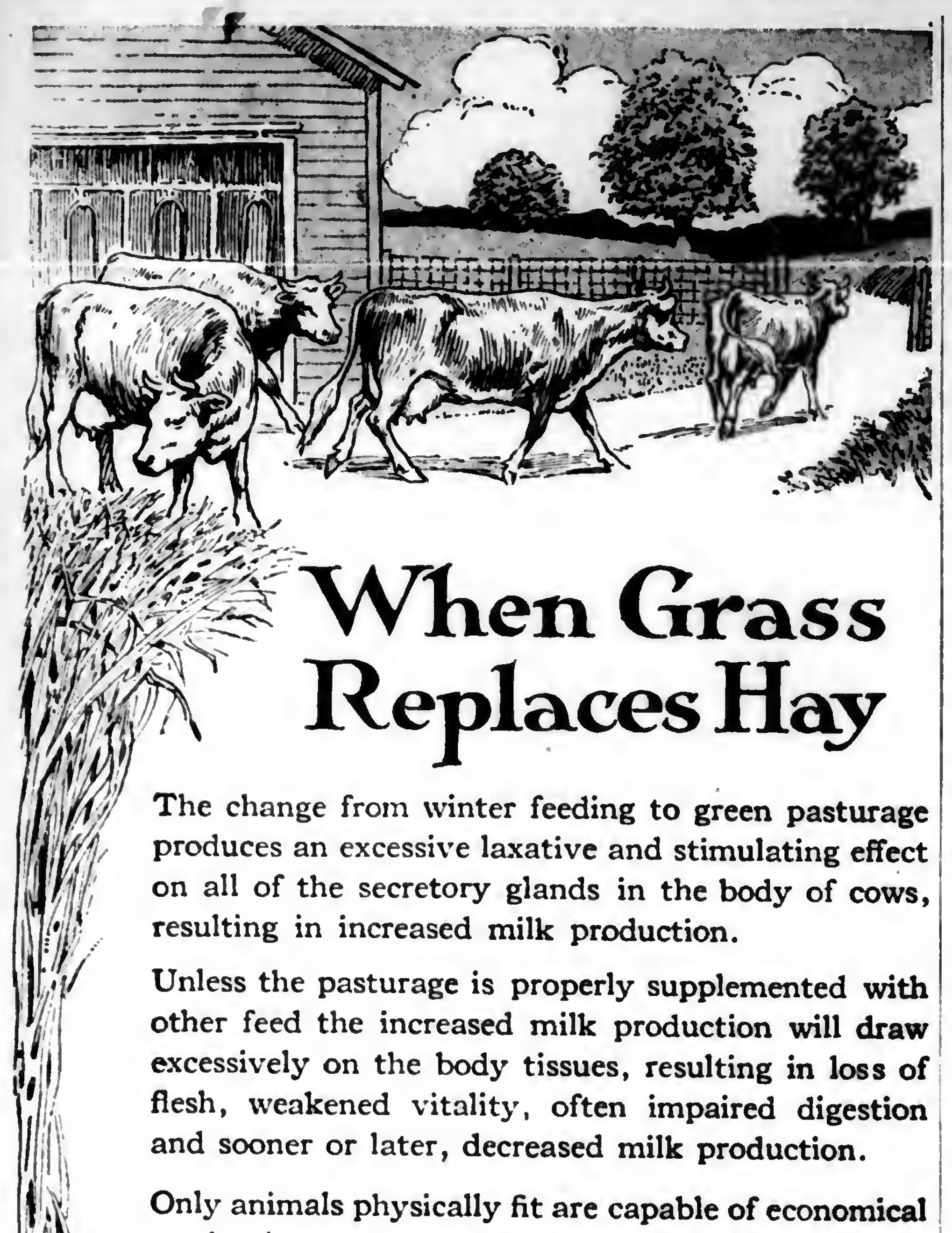
Sold on 90 days' trial. Has strong, sanitary base; Tank of pressed steel; Heavy tinware; Sanitary bowl; Discs separate from each other for washing. Takes only a few of them to skim a lot of milk. Cream pail shelf and bowl vise combined with hinge for lowering. High carbon crank shaft (just 50 revolutions per minute). Oil bath and sanitary drip pan.

Write for FREE BOOK

Send for Galloway's big new Separator Book with full particulars about this low price Separator Sale—***or order from this ad***—satisfaction guaranteed or money refunded.

Write TODAY

WM. GALLOWAY, Pres. **THE WM. GALLOWAY CO.**
193 Galloway Station WATERLOO, IOWA



When Grass Replaces Hay

The change from winter feeding to green pasturage produces an excessive laxative and stimulating effect on all of the secretory glands in the body of cows, resulting in increased milk production.

Unless the pasturage is properly supplemented with other feed the increased milk production will draw excessively on the body tissues, resulting in loss of flesh, weakened vitality, often impaired digestion and sooner or later, decreased milk production.

Only animals physically fit are capable of economical production. Cows in good condition are also worth more and will produce more valuable calves.

TI-O-GA Feed Service maintains economical milk production throughout the entire season by providing a feed properly compounded to neutralize the excessive succulence and keep the cows in good flesh:

Red Brand TI-O-GA Dairy Feed, to be fed with pasturage, green fodder, ensilage or low protein roughage.

White Brand TI-O-GA Dairy Feed, to be fed with medium protein dry roughage.

Blue Brand TI-O-GA Dairy Feed to be fed with high protein dry roughage.

Full feeding instructions and classification of roughage will be found with every bag of TI-O-GA Feed. Every bag is guaranteed satisfactory when fed as intended.

Ask your dealer to supply you and write for book on **TI-O-GA Feed** Service containing valuable information on feeding and conservation of home grown feeds.

TI-O-GA
MTE CO
DAIRY FEED

The same careful service is furnished in the preparation of:

- **TI-O-GA Brood Sow and Pig Feed.**
- **TI-O-GA Growing Shoat Feed.**
- **TI-O-GA Fattening Hog Feed.**
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- **TI-O-GA Horse Feed.**
- Colonel's Ration (Full Feed for Horses).

Tioga Mill & Elevator Co.
Waverly, N. Y.

TI-O-GA
FEED SERVICE

the work of the N. Y. State College of Agriculture at Cornell University. The committee's report was unanimously adopted.

Co-operative Milk Plant at Auburn, N. Y.

With the adjourning of the Dairymen's League meeting, members visited the Cayuga Dairymen's League Co-operative Association plant recently organized and capitalized at $100,000. This plant is of sufficient size to handle over one hundred and fifty thousand pounds of milk daily. Besides shipping whole milk, the plant is equipped with all modern appliances for processing; including powdered milk, butter and cheese. The brand of butter put out is known as "Dairymen's League Brand," butter. It is very popular in Cayuga County, and around the state where it has been used. Members of the Dairymen's League are calling upon their merchants and suggesting that they handle this product. There is now no excuse for the statement by merchants that they cannot get a good grade of butter nor for any farmer to use oleomargarine. Mr. R. L. Jenks, of Genoa, President of the Association is devoting his spare time in strengthening cooperatively owned milk plants in territories around Cayuga County.

Holstein Club Formed.

Along with the activities of the Dairymen's League and the local co-operative plant, breeders of pure-bred Holsteins in the county have been considering plans which will help them in their pure bred live stock business. After having a meeting with William M. Rider, director of extension service of the Holstein Friesian Association, the men formed the Cayuga Co. Holstein club. The objects of the club are to promote the breeding of better purebred Holsteins in the county, to advance the interest of the breed and in time to bring the good qualities of Cayuga Holsteins to the attention of breeders everywhere. J. R. Walt, of Auburn, is president of the club and there are over thirty members who pay an annual membership fee of $5.00.

The club meets every month for the discussion of some pertinent subject. Prof. E. S. Savage, of N. Y. State College of Agriculture was in attendance at the first meeting and talked on "Feeds and Feeding." Prof. Savage is the authority of N. Y. State on feeds for the dairy cow. Many of the breeders who were soon to start cows on official records took home some usable information. Mr. Herbert Gay, of Genoa, in his first season of official work made a record of better than 33 pounds.

At the last meeting of the club, Prof. H. H. Wing, head of the Animal Husbandry Department at the College of Agriculture, Ithaca, N. Y. discussed with the breeders the subject of improving a herd by the use of high quality sires. In illustrating his remarks that the proper use of good bulls would increase production, Prof. Wing referred to the development of the Glista family at the college. Glista was an ordinary cow and was the foundation of the herd back in 1887. He said that they had tested one hundred and twenty-five females that were her descendents with 10 percent of them 30 pounds cows or better. The improvement was the direct effect of the bulls used.

The slogan of the local club is, "Cayuga County, Where Healthy Holsteins Thrive."—E. C. W.

GLOBE SILOS

The Choice of Dairymen and Stockmen Who Investigate

Because the Globe Silo with its nearly straight side extension roof insures a silo full and packed to capacity.

Because it has a continuous opening adjustable door front, with handy doors that fit tight and open easily.

Because its door fasteners form a convenient ladder making use of the silo and tightening hoops safe and easy.

Because the double steel spline and cementing method of fastening stave sections to each other, makes an air tight silo, with strong, smooth joints that are supported in every direction, at every point.

SIX POINTS OF STAVE SUPPORT

Other real, desirable features described in illustrated Catalog. Write TODAY.

Globe Silo Company
3-13 Willow St.
Sidney, N. Y.

Watch the Udder

Keep the "business end" of the cow on the job of milk-giving. Injuries to teats or abnormal udder conditions reduce production, make the cow restless, and render milking difficult.

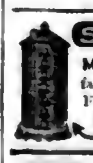
Bag Balm is a wonderful penetrating, healing ointment designed especially to restore the normal healthy texture to congested, caked or inflamed udders and to heal any external cut, chap, bruise, chafing or extreme soreness. A sure remedy for Caked Bag, Cow Pox and Bunches.

Keep the udder soft, silky and healthy and teats smooth and clear. The production will be increased and milking will be a pleasure.

Buy your package of Bag Balm from your feed dealer, druggist or general store—sold in liberal 60c packages. Send for free booklet, "Dairy Wrinkles."

DAIRY ASSOCIATION CO.,
LYNDONVILLE, VT.

BAG BALM
MADE BY THE KOW-KURE PEOPLE



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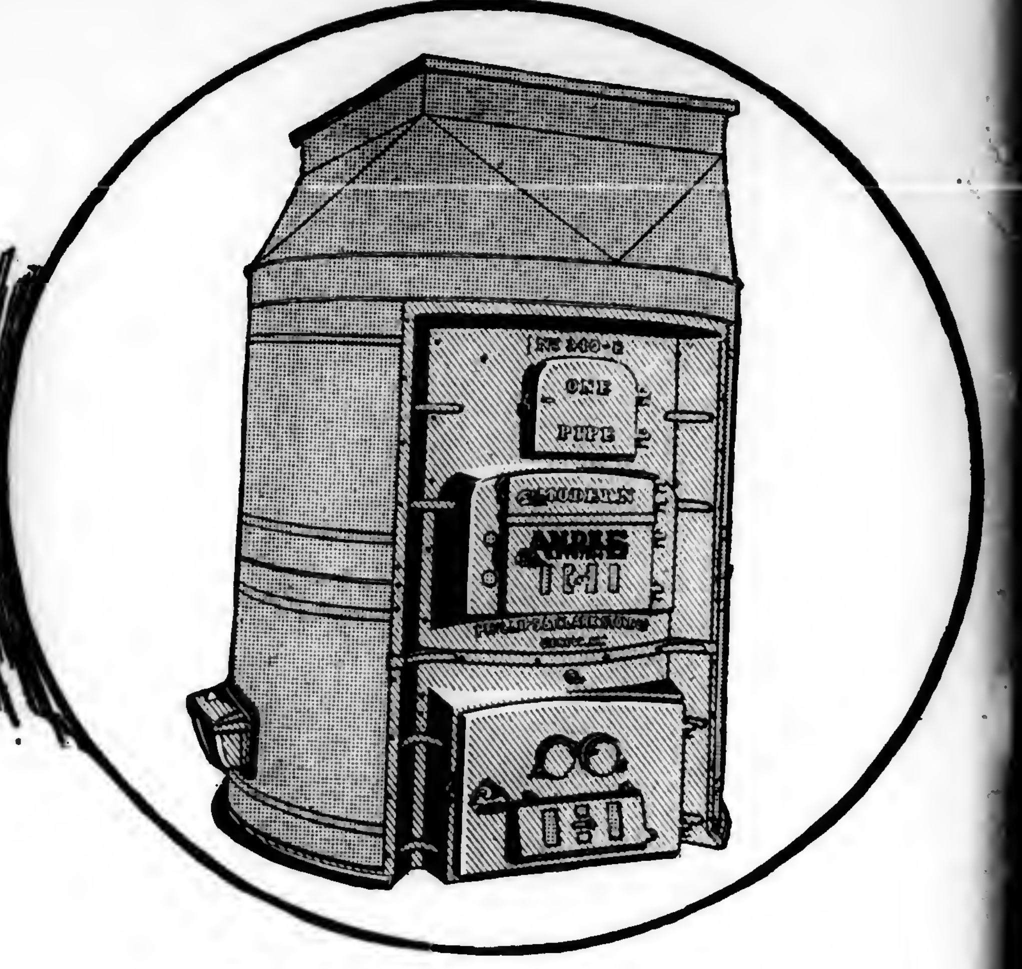
Men wanted in every locality to own, show and sell famous **Cincinnati Silos.** Liberal spare-time pro . Full details free with special introductory off . **Hauser-Stander Tank Co. Dept. F Cincinnati, Ohio**

The Genuine CHAMPION Cools Milk

Operates quickly, easily, cheaply. Saves its in one week. Halts bacterial growth. Remo odors. If your dealer cannot supply you, write for special offer. Folder free.

Champion Milk Cooler Co., Dept. 12 Cortland, N. Y.

"I figure we saved at least $100 in putting in our Andes One Pipe."



Costs next to nothing to install

THE first surprising fact about installing an Andes One Pipe is how little it costs to get it put in your house. The Andes uses the simplest and most modern system of heating which avoids absolutely the expense of putting in heat pipes. Not to mention the confusion of ripping open floors and walls to put the pipes in. It is so simple that it can be done in one day. Two men can do it in one day, instead of in two to four weeks as is required with the many-pipe furnace.

The design of the Andes, the quality of the metal from which it is made, our engineering service, the experience of thousands of users and our own guarantee, insures the fact that when you install the Andes, you bring the happy, comfortable warmth of summertime into your home.

The Andes burns wood, coal or gas, and every day saves fuel money for you. The simplicity of the system makes it a fuel saver.

Our book, "Better Heating for Less Money," will tell you all about the Andes. If you are interested in a heating system of high quality and durability at an exceptionally moderate cost to install and operate, fill out and send us the coupon today. It won't mean that you have to buy.

PHILLIPS & CLARK STOVE CO., Inc.
DEPT. P **GENEVA, NEW YORK**

Manufacturers of the famous Andes Stoves and Ranges

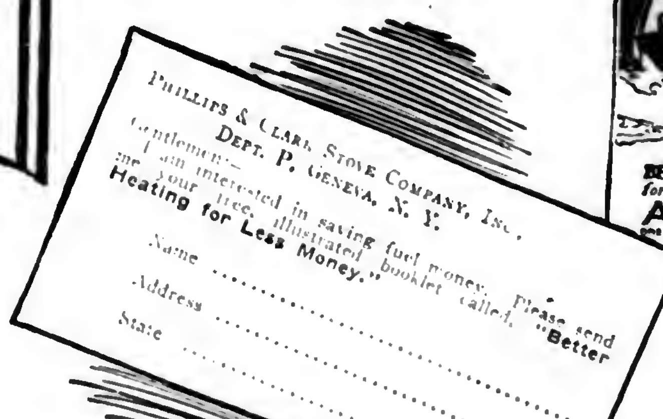
ANDES SYSTEM
ONE PIPE FURNACE
"Better Heating for Less Money"

4

Dear Sir:—My home is particularly hard to heat, the ceilings being 10', 9" high and many windows and doors. We heated 11 rooms very comfortably; well pleased with the economy of the Andes One Pipe.—J. Glen Espie, Caledonia, N. Y., March 27th, 1918.

Gentlemen:—We had considerable trouble heating our house with stoves, but the Andes No. 240 does the trick with no trouble. We use wood as well as coal with great success. Truly yours, Peter Bartz and Family, Alexander, N. Y.

BETTER HEATING for LESS MONEY
ANDES
ONE PIPE FURNACE



Phillips & Clark Stove Company, Inc.,
Dept. P, Geneva, N. Y.
Gentlemen:—
I am interested in saving fuel money. Please send me your free, illustrated booklet called, "Better Heating for Less Money."
Name ....
Address ....
State ....

SPRAY ALL
Fruits and Vegetables

There is scarcely any fruit or vegetable that insects and diseases do not attack. Worms and bugs, blight and rot are serious enemies of most garden crops and fruits. Tomatoes, eggplants, cucumbers, squashes, cabbages, beans and potatoes; apples, pears, quinces, grapes and berries all have their insect enemies and are attacked by fungous diseases. Disappointing results are almost certain unless they are properly sprayed. The "one best spray" for fruits and vegetables is

Pyrox
REG. U. S. PAT. OFF.
TRADE MARK REGISTERED

It kills all leaf-eating worms and bugs, prevents blight, rot and other fungous diseases, and keeps the plants green and growing until frost. It gives the leaves a rich, healthy green color and makes strong, sturdy, vigorous plants that will yield to the utmost.

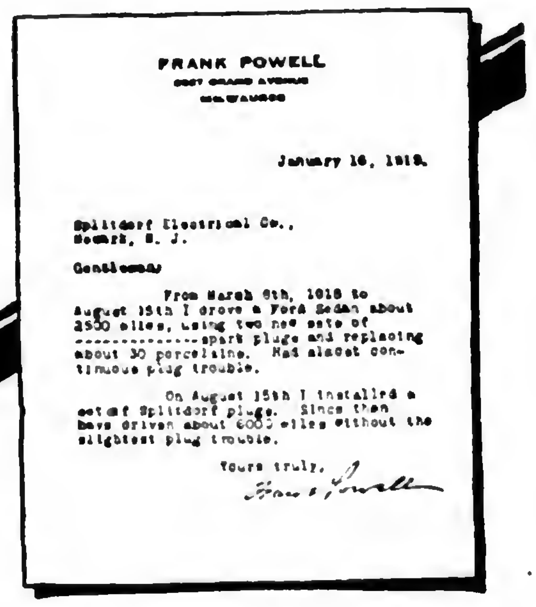
PYROX costs little for the good that it does. It is easy to use—simply mix with cold water and spray. It sticks through wet weather and dry. It gives lasting protection. Make your garden produce more. Keep it in a healthy, thriving condition right through the season. Protect your trees and vines and produce fruit that is clean and sound, free from insect and fungous damage.

Remember, Pyrox is a powerful fungicide. Twenty years of actual farm use have proved it the most effective remedy against serious fungous diseases. It contains the essential copper,—in proper quantity and in most active form for greatest fungicidal value. It often succeeds where other fungicides fail. The poison insecticide in Pyrox is chemically blended with its copper fungicide, and increases the effectiveness of both.

Get your supply of PYROX early. See your dealer and be sure that he has it in stock. Write today for the new PYROX book.

BOWKER INSECTICIDE COMPANY
43-D Chatham St., Boston, Mass.
1005 Fidelity Bldg., Baltimore, Md.
715 Conway Bldg., Chicago, Ill.

One set of Splitdorfs
replaces 30 porcelain plugs



FRANK POWELL

January 16, 1919.

Splitdorf Electrical Co.,
Newark, N. J.

Gentlemen:

From March 6th, 1918 to August 15th I drove a Ford Sedan about 2500 miles, using two new sets of --------------spark plugs and replacing about 30 porcelains. Had almost continuous plug trouble.

On August 15th I installed a set of Splitdorf plugs. Since then have driven about 6000 miles without the slightest plug trouble.

Yours truly,
Frank Powell

The plug with the Green Jacket

THERE is a type of Splitdorf Green Jacket Spark Plug best suited for every engine of car, truck, or tractor. Each one is absolutely guaranteed against breakage. Send for booklet which tells you the correct plug for *your* engine.

SPLITDORF ELECTRICAL COMPANY
96 Warren Street, Newark, N. J.

TRADE SPLITDORF MARK
Established 1858

POULTRY

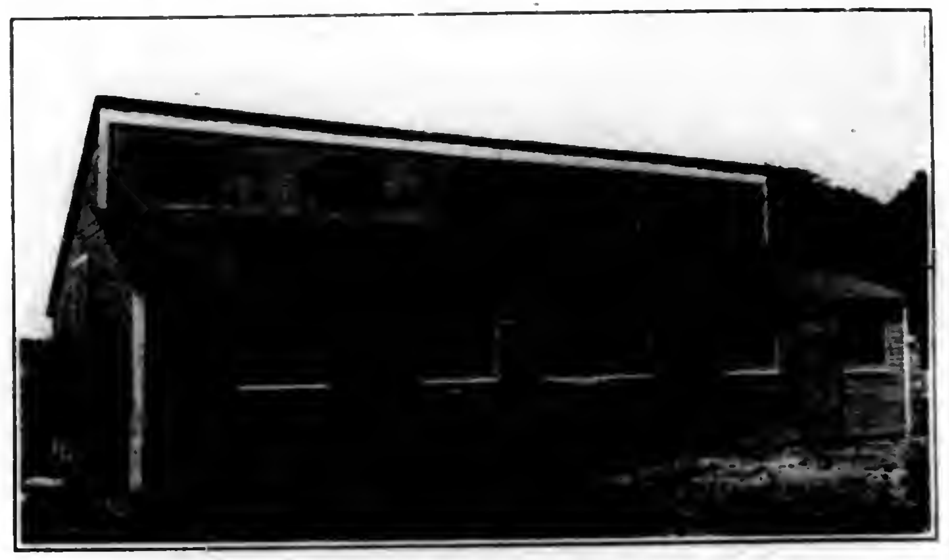
HATCHING AND RAISING TURKEYS

In selecting breeding stock it is best to use turkey hens over one year old, of a strong, vigorous type, and of medium size—never the smaller ones. The male may be a yearling or over. Then it is advisable to keep the turkey hen breeders for ten or twelve years, if they have proved to be good ones.

In order to have good fertile eggs, one male should be placed with from four to eight females, altho good results have been obtained where as many as twenty females were placed with one male, but as conditions alter cases sometimes, it is too uncertain to try.

Most Profitable Turkeys

I have been quite successful raising turkeys and found that a good deal of woodland and high and dry land in which to run is just the thing for them. I prefer the bronze turkeys as they are more hardy, larger and seem more profitable than other kinds, altho the white Holland is a close second. They (the Hollands) are considered the best layers among turkeys and are more adopted to small farms as they are more domesticated, stay near the buildings, and never wonder off as some of the other varieties do. The white Hollands grow rapidly and attain a heavy weight while quite young. The standard weight for white Hollands is 28 pounds for the male and 18 pounds for the hen.



One Type of Poultry House. Popular in Middle West

Nesting and Hatching.

One should provide nesting places for turkeys before they hunt nests for themselves. Find a secluded place and turn an empty barrel or box on its side with good nesting material inside, or make a good nest on the round in some out of the way place, and place a sort of roof or shelter over it. For some reason this kind of nest on the ground is more attractive to them than any other.

The eggs will hatch in twenty-eight days. Most turkey hens will lay more eggs than she can cover; therefore, some of the eggs should be removed each day and when seven or eight are on hand, they can be hatched under a chicken hen.

Cause of Losses

Many people meet with severe losses in raising turkeys, and it is generally due to two things: hatching too early, and wrong feeding. The cold, wet weather of early spring, is very disastrous to young turkeys. Turkey eggs can be kept well for two or three weeks without lessening their vitality, but should be placed in oats or bran by standing on the small end, and then kept in a cool, even temperature.

Another great mistake some make is to hatch eggs from immature birds. Their young will be weak and usually sicken and die at an early age.

Feeding Young Poultry

The first food should be hard boiled eggs, dry oatflake, stale bread that has been softened in milk until it will crumble, green chopped food, such as lettuce, radish tops, onion tops, dandelions, nettle, etc. I always keep a dish of grit and charcoal before them. One of the most important things to remember is to dip their bills into sour milk, so each one will swallow a tiny bit, before anything else is fed to them. Always keep a dish of sour milk before them as this is the best of food as well as drink. After a few days they can be fed bran or ground oats moistened with sour milk, but not made wet and sloppy. When they begin to feather out, cracked corn and other grains can be added to their rations. Later in the season, whole corn may be fed. After a time they will nearly get a living on waste grains, seeds and insects. Never feed young poults corn meal. As soon as their wings have grown, they can run in the open range all day in good weather.

Care of Young Poults

Newly hatched poults are very delicate and require more attention than chickens or ducklings. The most essential thing is to see that they are kept dry, as wet or damp quarters always cause trouble. They should never be let out in the early dew or damp weather. If they do get wet, they will surely die unless put in a warm room to dry. Or wrap them in warmed flannels until the chill is overcome. During the warm and dry parts of the day they will do well on the range where there is short grass. The first few days I restrict them to coops with small yards that can be frequently moved.

Turkeys will never do well in damp houses. I prefer a dirt

sprinkled often with lime, to one of cement or boards.

By using some lice paint twice during the season, I never have any lice to bother the poultry. I dilute it with kerosene oil according to directions on the cans, and spray the whole interior portions of the poultry houses and coops. I then paint the roosts with a brush which has been dipped in it. I always do this a short time before roosting time, and then the fumes kill all the lice on the fowls.—E. M. L. B.

HEALTH INSPECTION FOR HENS

During the evening it pays to give the hens an occasional inspection on the roosts to determine their physical condition. A hen is covered with a thick coat of feathers and she can become very thin without the fact being noticeable either on the range or on the poultry house floor.

This inspection also locates the birds that are poor feeders. They should be culled out and marketed as they cannot be profitable layers without the capacity to eat plenty of egg producing food.

Examine the dropping boards each morning. A glance will tell if any of the birds are afflicted with digestive disorders. This is apt to be due to errors in feeding and prompt measures can be taken to improve their condition before the ailment makes serious inroads on the vitality of the flock.

Note the hens at feeding time. Any birds that show a reluctance in going after the scratch feed are apt to be on the verge of sickness. Hens that hump up in the corner or refuse to leave the roost at feeding time need a prompt inspection to locate any disorders that may spread to other members of the flock.

Watch for colds. Birds with watery eyes need prompt attention. Birds that have a smeary spot on the feathers where they have rubbed their eyes should be isolated and the cold cured before they are permitted to eat and drink with the flock and spread the disease.

A colony house makes a suitable isolation hospital for sick birds. It pays to be prompt in finding sick birds as in this way they can be culled out until the whole flock consists of vigorous birds which are seldom if ever sick.—K.

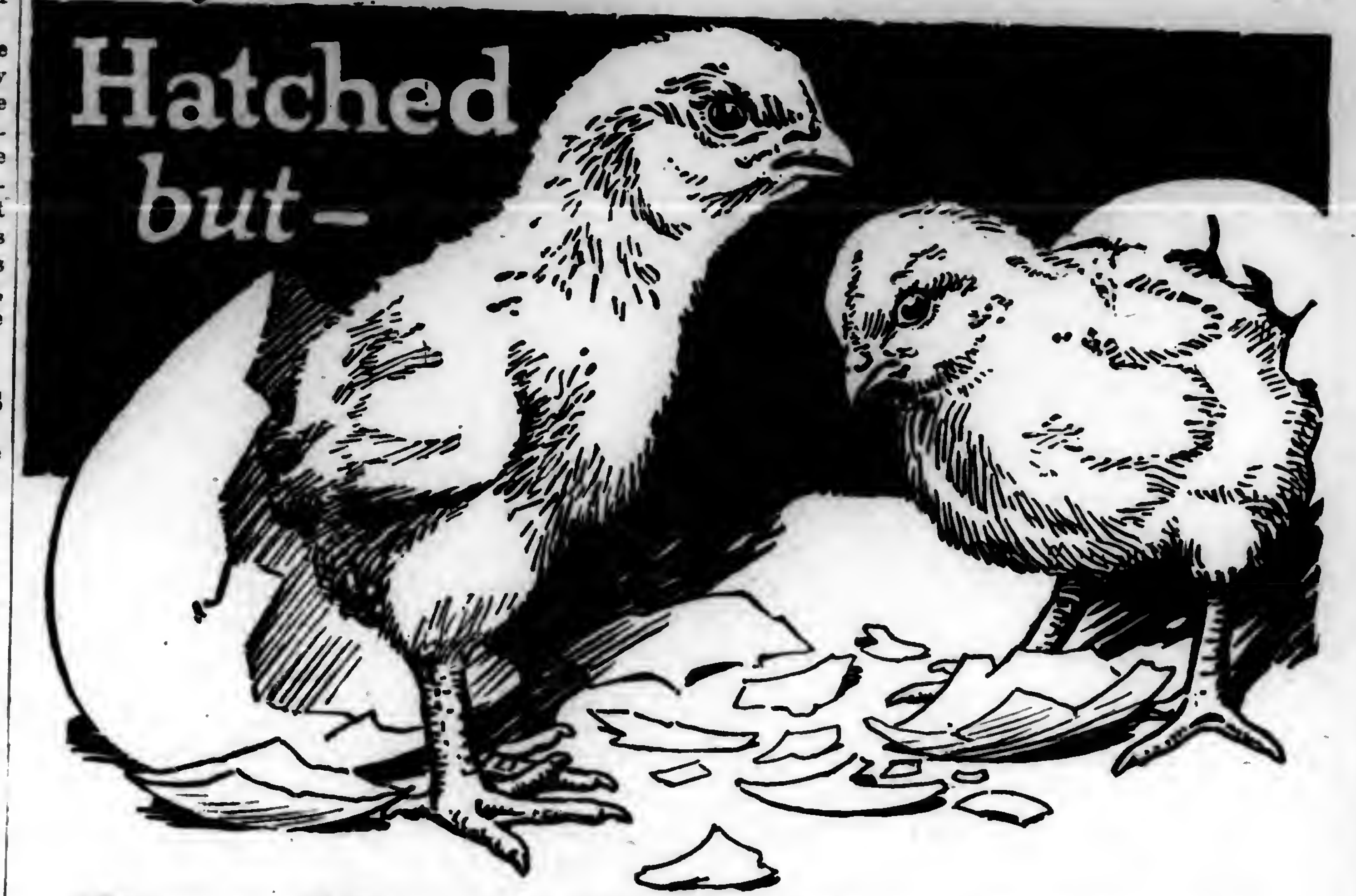
COLLEGE MEN RETURN TO FARMS

When the farmer's boy leaves home to enter the College of Agriculture, the chance that he will return to the farm after graduation is far greater than the one that he will not. To support this statement, Dean Mumford of Missouri says:

"More than 400 young men who received training in the College of Agriculture during 1919, will engage in farming in Missouri this year. These figures are in disagreement with the statement which is sometimes made that students who come to the College of Agriculture leave the farm. The percentage of alumni and former students who are actually on farms varies in different colleges of agriculture from 60 to 80 percent.

"It is interesting to note that in a recent survey made of the alumni of Yale University, only two percent of the graduates were in any way engaged in agricultural work."

It is apparent that students preparing themselves for the vocation of agriculture will find in the colleges of agriculture, the opportunity sought."



Hatched but—

How Many Will You Raise?

The loss in little chicks that die the first few weeks after hatching amounts to millions of dollars each year. Everybody must cut down the losses and increase production to the limit this season. How many chicks do you lose from *Gapes? Diarrhoea? Indigestion? Leg Weakness? Weakness from Rapid Growth of Feathers?* Prepare them to withstand little chick ailments by feeding

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Remember that disease takes the weaklings—not the strong and healthy. And remember that indigestion is at the bottom of many little chick ailments.

Pan-a-ce-a prevents and cures gapes.
Pan-a-ce-a prevents and cures leg weakness.
Pan-a-ce-a regulates the bowels.
Pan-a-ce-a produces appetite; it promotes digestion.

And remember good digestion is most essential during the rapid growth of feathers. A Pan-a-ce-a chick will outfeather a non-Pan-a-ce-a chick every time.

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The Voice of the People

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ECONOMICAL METHODS OF FIRE PREVENTION

Everyone knows that the fire losses in this country are very large. On farms much of this loss results from lightning. Perhaps the losses from other sources could be materially lessened by preventative methods. Someone has said that the annual farm fire losses would absorb nearly all of the average value of the potato crop of the country.

Regular fire fighting equipment is not accessible to most farms but much can be done to take care of small blazes without incurring much expense. The fire bucket should be a part of the equipment of every farm. Ordinary pails answer the purpose but the temptation is often too strong to use them for other purposes. It is more than probable that in an emergency they would be doing service at some point where they would not be immediately available. There is a special fire pail with a round bottom. This is the ideal bucket because it is practically of no use in the regular way and is more likely to be found in its place when needed hurriedly. They should be kept near entrances and close to stairways and ladders to be instantly available.

Each pail should be kept filled with water. To prevent freezing two pounds of common salt should be added to each pail. As there will be some evaporation from time to time some owners have a barrel filled with water. As one pail of water is withdrawn it automatically fills with water. This assures a water supply at all time.

Chemical extinguishers are expensive but when one considers all the risks incurred and the chances of obtaining help the required outlay seems more like an investment. The three gallon chemicals will freeze unless specially charged against low temperatures. The tetra chlorine solution guns of one quart capacity are proof against low temperatures and in addition may safely be turned against an electric blaze, because there is no moisture content in the fluid to act as a conductor for the return of the current to the operator. These extinguishers are excellent for automobile use. When the car is stored for the winter months they should be taken out and made available for any emergency.

Beside these small extinguishers it is well to have a pail of sawdust handy around the gas engine or in the garage to check an oil blaze. With the sawdust should be mixed two or three pounds of common baking soda or saleratus to give it extra extinguishing force. A small shovel may be used in spreading the mixture over the flames. Water should be avoided on all oil blazes as the burning fluid will ride on the water, carrying it to other parts of the building. Sand is an effective smothering agent but it almost always works damage to machinery.—Alvah H. Pulver, New York.

RURAL SCHOOLS

I have always opposed the centralization of schools when it means the elimination of the country school that is within fairly easy access of all country children because, granting that the consolidated school might have greater educational advantages, they would necessarily be for only a few in its immediate vicinity and for the other even an inferior school would surely be better than none. However, a rural high school would be a very different proposition. It would be infinitely preferable for country boys and girls to receive their entire education in the country if possible if we expect them to remain there after it is finished. Many a youth gets his aspiration for city life while completing his education in a city school, which necessitates rather a prolonged stay in the city. The rural high school might reasonably be a consolidated school if branch schools were maintained in all the consolidated districts but it would be necessary to provide a dormitory or other living and boarding accommodation for non-resident pupils. It can never be a reasonable or even a safe proposition to carry pupils to and from a centralized school every day over our snow-blocked hills. I believe the ultimate solution of the problem of satisfactory rural schools will be the rural high school with dormitory and teacherage; supplemented always by the little one-room school within reach of every pupil, its unnecessary defects eliminated and its present efficiency doubled.—E. M. A., New York.

MARYLAND FARMERS AND MARYLAND DAY

Engineer Applegarth thru one of Kent County's papers requested that farmers and others help on the county roads on Maryland Day. They responded splendidly and such numbers of them gave their services that there was hardly a section or road that was not worked. Mr. Applegarth states that it is his belief the work done gratuitously would have cost the county $5,000. The regular force was just as loyal and gave this day to patriotic Kent. Traction engines, plows, drags, etc., were used. On the road from the Almhouse to Broad Neck, 136 men were at work. Imagine any man, however, tired, who was not happy when he went to his rest that night.—Marylander.

FERTILIZER BINS AT RAILROAD

The Crawford County (Illinois) farm bureau, thru the efforts of the county agent, has secured space at railroad points on which to build bins for storage of limestone and rock phosphate. At Palestine an association was formed to construct a bin 60 feet long and 12 feet wide and to conduct the work of purchasing and distributing limestone. A total of 900 tons of this material has already been obtained. Other communities are rapidly following this plan, so that in time every farmer in Crawford County will have ready access to a supply of limestone and rock phosphate at reasonable prices.

Whatever else you do when putting the winter clothes away this spring don't neglect giving them a good long airing in the sun.

Neighborly Talks No. 12

THE MODEST NEIGHBOR

The modest neighbor is a delight and a joy forever. He is never disagreeably prominent. He is the opposite, the antithesis of the conceited neighbor. If you should strike a balance between them you would have a delightful character—but then, we are all more or less lopsided.

His modesty may even become a fault. He needs a little appreciation now and then—see that he gets it. Pat him on the back and say: "Of course you can do it." First thing you know he will be on the home stretch, seven lengths ahead of the field.

The modest neighbor is usually very sensitive to his faults. If he has faults do not see them; just look the other way. God gave us judgment as well as eyes; some people use their eyes but forget to use their judgment. No wonder judgment is lacking in some people, it shriveled up from lack of exercise.

Chances are that your modest neighbor is a most delightful character. He may even have powers, now dormant, that will bloom in wondrous beauty under the stimulus of kind words and even a small measure of appreciation. Among the most attractive studies in human nature are the very modest persons whose powers develop in a most wonderful way when the sunshine of encouragement falls upon their pathway, and the gentle showers of appreciation are about them.

Your modest neighbor will not boast—blow his trumpet for him once in a while. If he has the best field of corn in the county, see that he gets credit for it in the local papers. If he has many good qualities, mention them to the neighbors occasionally—plenty of time to say kind words in the long summer days, or when you are resting in the shade. Your modest neighbor believes in the admonition of the Good Book, "Let another praise thee, not thine own lips."

After all, excessive modesty seldom proves contagious, and contact with a man of this class will hardly impair our usefulness or limit our powers. There is still room in your vicinity for a few more neighbors as delightful as the modest man frequently proves himself.

WHAT'S THE MATTER WITH AMERICA?

"Too many diamonds—not enough alarm clocks.

"Too many silk shirts—not enough blue flannel ones.

"Too many serge suits—not enough over alls.

"Too much decolette—not enough aprons.

"Too many satin-upholstered limousines—not enough cows.

"Too many consumers — not enough producers.

"Too much oil stock—not enough savings accounts.

"Too much envy of the results of hard work and too little desire to emulate it."—The Fargo (S. D.) Forum.

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Men always have a good time at stag parties—after they get started and their minds get together. There is one thing they all understand—music. Try some of these songs on your Gulbransen the next time you have a crowd of men in:

Sweet Adeline	Come on Papa
Stein Song	I Want a Doll
There's a Meeting Here Tonight	
Does She?	I'll Say She Does

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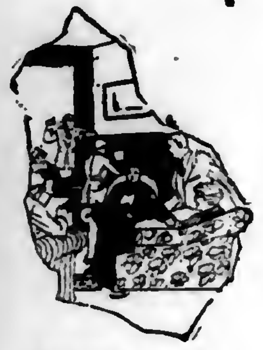

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EMPIRE MILKING MACHINES

WAYS WITH LAMB

Roasted Leg o' Lamb.—Take the bone out of the leg, wipe inside and out with a wet cloth, rub the inside with salt, then stuff with any good dressing, sewing it in with a few stitches. Put a little of the kidney suet in the pan with the meat, dredge the meat with salt, pepper and a sprinkling of flour. Baste as soon as the flour is brown, and continue to baste occasionally until done. Allow about 15 minutes per pound of weight for cooking time; a little less if a rather rare cook is wanted. Remember that the oven for all roasts should be very hot at first in order to sear over the outside so that the juices will not escape into the pan; then the heat should be allowed to die down considerably so that the rest of the cooking will be at a lower degree.

Stuffing.—Season 1 cup of dry bread crumbs with ½ teaspoon each of salt, pepper and some savory herb like thyme, marjoram, bayleaf or just sage, add ½ cup melted butter, and if a moist dressing is desired stir in a little (but not too much) hot water or meat stock.

Mint Sauce.—Every well-regulated lamb or mutton roast calls for a tasty associate in the shape of mint sauce. The following is the Kentucky method of making it: To 4 tablespoonfuls of chopped mint allow 2 tablespoonfuls sugar and ½ pint of vinegar. Mix up an hour or two before needed for the serving. Use only the tender leaves and tips of the young mint stalks.

Boiled Leg o' Lamb.—Wipe, remove the surplus fat, and drop into well-salted boiling water. Boil very slowly, almost no more than at a simmer, 12 minutes for each pound of the meat, skimming occasionally. Throw in ½ cup of rice and let cook with the meat. Serve with a thick caper sauce poured over the meat.

Caper Sauce. — Make a plain drawn-butter sauce thus: Melt ½ cup butter in a saucepan, dredge in 2 tablespoons flour and mix well, add 1 pint of hot water or meat stock, a little at a time, stirring rapidly as the mixture thickens. When smooth add ½ cup more butter in small pieces, stirring until absorbed, then add ½ teaspoonful salt and ½ teaspoon pepper or less according to taste. To this sauce add 6 tablespoonfuls capers, or, lacking these, some pickled nasturtium seeds will do just as well or even better.

A Tiny Shepherdess

Braised Mutton Breast.—Line the bottom of an earthenware baking dish with a few slices of bacon, lay on some lamb or mutton breast meat, sprinkle with salt, cover with slices of lemon (peeled), lay on a few more slices of bacon, slice in an onion, pour in ½ pint of meat stock, cover the dish and cook slowly in the oven until the meat is tender.

Lamb "Sarma."—This is an adaptation of the practice of cooking mutton with fruit and rice as current in the Syrian and Oriental countries. Line a baking dish with tart apple slices, then fill in with some pieces of boiled lamb or mutton mixed with partly cooked rice.

Lamb Curry.—Fry one large onion cut fine in one tablespoonful of butter, then stir in a mixture of one tablespoonful curry powder, one teaspoon salt, one tablespoon flour. Add gradually one pint of hot water or meat stock. Brown two pounds of pieces of lean mutton in hot fat, add them to the above sauce, and simmer in it until the meat is tender. Put the meat on a platter, and arrange around it a border of well-seasoned plain boiled rice.

Moonvines on Home of J. F. Rupp, Lebanon Co., Pa.

Ragout of Lamb or Mutton.—Take any left-over pieces of the meat, or trimmings, and cook in the broth which they will make with carrots, onions, and turnips cut small, seasoning it well. Cook down pretty well so that the stew is not very sloppy.

Lamb Fricassee.—Cut 2 pounds of breast of lamb (or mutton) into square pieces, dredge with salt and flour, and brown in butter or drippings or bacon fat. Put them in kettle with one sliced onion, cover with boiling water, and simmer until the bones will slip out easily. Then strain the liquid, take off as much of the fat as possible, bring to a boil again, and add the pieces of meat, salt and pepper to taste, stew until nearly tender, then add one quart of fresh peas, or if you use canned peas, add them when the meat is done, leaving the dish on the fire just long enough to heat the peas. A pint of fresh asparagus tips instead of the peas is very good; cook about 15 minutes after the asparagus or the fresh peas are added.

Lamb Cutlets.—Trim the bones of the chops pretty well, dip them in bread crumbs and then in beaten egg then again in bread crumbs, and fry in smoking hot deep fat 4 to 6 minutes for rare and 6 to 8 minutes for well done. Arrange them on a mound of mashed potatoes to serve. Or serve them on a platter with tomato sauce poured over them.

Tomato Sauce.—Heat up together ½ can of tomatoes, one cup water, 2 cloves, two allspice berries, two peppercorns, one teaspoonful mixed herbs, and 2 sprigs of parsley. Fry one tablespoon of chopped onion in one tablespoon of butter until yellow but not brown. Stir in one tablespoon of cornstarch, then stir all into the tomato. Simmer 10 minutes, then add ½ teaspoon salt and ⅛ teaspoon pepper (if you like it quite "bitey," you might add a dash of cayenne). Strain the sauce over the meat.—Harriet Mason.

STUDIES IN NUTRITION.—4.

By Pearl MacDonald, Penna. State College

Fuel or Energy Foods

In the previous articles we discussed the foods which build and repair the body tissues. We found that these foods, which are called proteins, are found mainly in milk, cheese, eggs, meat, including fish, peanuts, and to a limited extent in cereals, dried peas and beans. We learned that nitrogen is the element in these proteins that is necessary to the life of every cell.

Let us now take up consideration of the food elements which are usually used to furnish fuel and energy for the body. The fuel foods are to the body what coal or wood is to the engine. The coal or wood when burned in the engine furnish heat which converts water into steam, and the steam drives the engine. This power we call energy. In our bodies the process of digestion and the use of food is a process of burning, altho we do not see a flame as when coal or wood are burned. Scientists frequently use the term fuel combustion. Food when thus burned in the process of digestion produces heat and keeps the body warm.

Our bodies are so built that this heat is regulated, and our bodies are kept at an unvarying temperature in health. We call this temperature a normal body temperature.

The burning of food thus in our bodies not only keeps them warm but also furnishes energy to do work. Every exertion of the body—walking, running, sewing, writing, etc.,—every activity of the body, whether we are conscious of it or not, uses up energy. And if the body is not properly supplied with fuel, we get the same results as when an auto runs out of gasoline—the machine cannot do its work.

Therefore, since our bodies are constantly doing something, and using up energy and heat, it very important that we should know the best foods which supply energy, as well as those which supply building and repair materials.

The starches, sugars and fats are our surces of fuel to make heat for our bodies and power to do our work.

Proteins will also furnish heat and energy, but they are as a class much more expensive than the starches, sugars and fats. And as proteins are the only source of building and repair elements for our bodies, we should get our fuel and power foods from the cheaper and more abundant starches, sugars and fats. Furthermore, the amount of protein that would be required for both energy and building and repair would be more than the body could take care of. For these reasons it is better to have in the diet generous amounts of the foods supplying starches, sugars and fats. Thus the proteins may be used to serve their more special purpose of furnishing the building and repair materials.

Starches and Sugars

When the early scientists studied the starches and sugars chemically they found them very simple in the way that they were made, and that they did not contain any nitrogen as the proteins did. They found only carbon, hydrogen and oxygen, and that these elements were always in the same proportion.

Carbon is the substance which we know as the black charred mass which remains when we burn bread or sugar just as much as it is possible to burn it. And hydrogen is the gas which is used to inflate the little colored balloons that children love to have us buy for them on circus or fair days. Oxygen we know as one of the elements of the air; without oxygen we could not live, and neither could any of the plants.

It has been shown in the chemical laboratories that when oxygen and hydrogen are combined in the proportion of two parts of hydrogen to one part of oxygen, water is the result. The root of the Greek word for water is "hydr." We are very familiar in English with words derived from this Greek root. For instance, we get water from a hydrant. During the war we heard much about dehydrated fruits and vegetables, which meant merely dried fruits and vegetables, that is, those which had had their water taken out of them, for "de" means "from" or "out of."

So when the chemists found that the starches, sugars and fats contained only carbon, hydrogen and oxygen, and that the hydrogen and oxygen were always present in the proportion to make water, they coined the word, carbo-hydrate, to designate the starches and sugars, and this term has been used ever since.

The next article will take up starches, showing how they look under the miscroscope, and some of their properties and their behavior under certain circumstances.

TO CAN GREENS

Remember that you do not add any water to them other than that which clings to them from the final washing; wash them in several waters.

You will need to reduce their bulk before you put them into the cans, otherwise they will require too many cans. To do this, wilt them in a colander or steamer over a kettle of boiling water; this will take

bout 15 minutes for a colanderful. Then pack them into the cans, ut in a teaspoonful of salt per uart, adjust the rubber ring, then he covers loosely, set the cans in a ater bath that comes over the tops f the cans. Have the water lukearm when you put the cans in, and et it to boiling as soon as possible. oil for two hours steadily after the ater about the cans begins to boil. ou will need to have a reasonably ight fitting cover on your boiler in hich you do the cooking. Your ash boiler will answer if you scrub t out clean.

As soon as the two hours is up, ake the cans from the water at nce and screw down the covers as ight as you can. A pair of can tongs handiest for this. Set the cans on heir heads to make sure that no uice oozes out, which will denote a erfect seal. Leave the cans standng thus on their heads until they re cool, then set away on your celr shelves for winter use.

Always use new can rubbers for his cold pack canning, for you canot trust a rubber ring that has been sed one season to go thru the twoour cooking and stand up afterard without disintegrating after a ew weeks or months of standing in he cellar.

If you have a steam pressure cooker that carries five pounds pressure, ou will not need to cook the cans ore than one hour; and in 10 to 5 pound pressure the time is reuced to 40 minutes.

EARLY SPRING GREENS

Very few of us realize the very eal value which the early green egetables have for a system that as had too limited a diet of meat nd starchy vegetables all thru the inter. The craving that we have or greens in the spring is a sympom that our systems need the medinal tonic of the mineral salts so bundant in the green leaves of egetables.

Coming on now is the watercress ound along the creeks in many laces; if you do not have any on our place sow some seed this spring nd get a good plot started. It is good to use in sandwiches and alads. Young horseradish leaves lso make good greens cooked with eets. Be sure to sow some chard his spring for summer salads and reens.

And there are the dandelion eaves coming on, too, which make e best of "stomach bitters." They re good to cook as greens or to use a salad by themselves, or mixed ith canned peas or string beans. ome use not only the young tender eaves but also some of the bitter oot so as to get the valuable tonic hat it affords.

To get the full benefit of all the ineral salts in any kind of greens, hey should be cooked in just as litle water as possible, because you ill not want to throw away any of he water into which a goodly part f the mineral salts will have dislved. The very best way to cook reens is to steam them in a steamr or in a double boiler, after havg washed them thoroly. The rinse ater that clings to them will be all at they will need.

Hot Dandelion Salad.—To make a ood hot dandelion salad, put some f your boiled salad dressing in a illet, let get hot, then put in the andelion leaves, picked over carelly, washed and cut in two crossise, and let boil up, then imediately remove from fire and rve.—Mary Croll, Del. Co., Pa.

BUT NOT TOO GOOD

"Why did you ask those people to wait, Marie?"

"I wanted to see if you were in, madam."

"A good maid can always tell from the look of visitors whether her mistress is in or out."—London Opinion.

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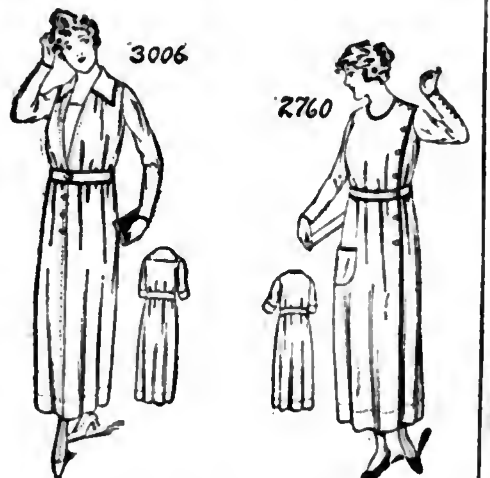
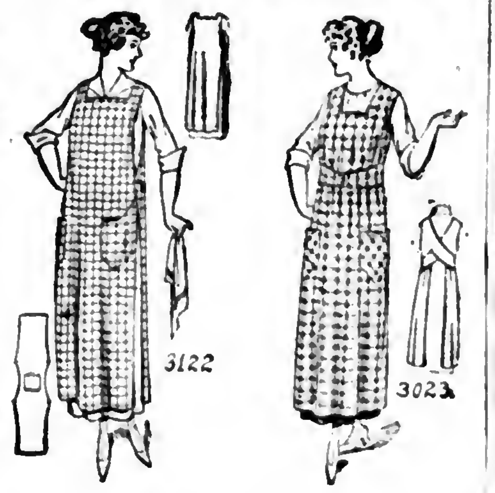
3006.—Dainty House Dress.—For this design gingham or seersucker could be used. The sleeve may be finished in wrist or elbow length. This pattern is cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires 6½ yards of 36-inch material. Width of skirt at lower edge, is about 1¾ yard. Pattern, 10 cents.



2760.—Practical Work Dress.—Gingham, seersucker, drill, galatea, khaki or percale are good for this style. The closing is at the side. The sleeve may be in wrist length or elbow length with a cuff. The pattern is cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires 6 yards of 36-inch material. The dress measures about 2¼ yards at the foot. Pattern, 10 cents.

3122.—Handy Apron Pattern.—Is cut in 4 sizes: Small, 32-34; medium, 36-38; large, 40-42; and extra large, 44-46 inches bust measure. Size medium will require 4⅝ yards of 36-inch material. One could develop this in white drill, linen or lawn, with tape binding in white or colors. It is good also for gingham, lawn, percale, chambrey, sateen and alpaca. Pattern, 10 cents.



3023.—Novel Apron.—The back has belt extensions which hold the fulness at the waistline and are fastened at the centre front.—The pattern is cut in 4 sizes: Small, 32-34; medium, 36-38; large, 40-42; and extra large, 44-46 inches bust measure. Size medium requires 4¼ yards of 36-inch material. Pattern, 10 cents.

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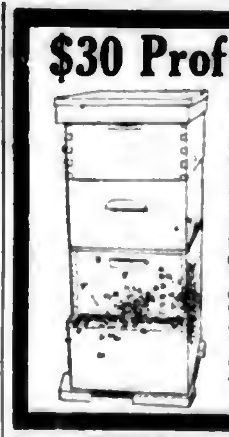

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A STORY OF SEVEN EARS OF CORN

(Continued from Page 5).

"The corn for the next yea planting is picked while standing the field and then taken to the dry ing racks. These racks are four fe wide and six and a half high. The will hold 400 ears each and a made by nailing lath on each side two boards five inches wide with steadying base. They set up well a are very convenient. When selectin for planting, the corn is taken fro the racks, laid on the floor and give a careful going-over. It is fascinat ing to watch the keen eye of Mr Mosher selecting the seed for th coming year's planting from the dry ing racks where it is stored for win ter.

When I was at his place, he wa working on types, shelling a weighing and studying the differe shaped and sized ears. An ear s and one-half inches long weighe the same as one eight inches long We shelled these two ears and th weight of the shelled corn was iden tical. In commenting on this r sult, Mr. Mosher said: "I am com ing to believe that maybe we hav been discarding the shorter ears t our detriment."

"The sixteen rowed seems to giv the most shelled corn and we are s lecting toward this type. Howeve what we are after is shelled co per acre; the ear that gives this ea stay, the others must go. Type isn going to hinder the highest produ ing ears from going to the see plot," says Mr. Mosher.

"Another point I have observed continued Mr. Mosher, "is that th rough surface kerneled ear is th corn that is later in maturing, ju the way Dr. Webber said I woul find it."

Naturally the neighbors of M Mosher would become interested i this superior corn and planting Cornell No. 11 has become very ge eral in the county. In the hill se tions it is used for the silo as th later corns known to the trade a silage corns, do not mature well.

In order to insure an adequat supply of seed of this variety, th County Agent enlisted the co-opera tion of Prof. John Barron of th State College at Ithaca who is a expert on good seeds. Together the inspected fields of Cornell No. 1 while it was growing during su mer and fall. These inspectio found the men growing corn true t type and under proper conditions t make good seed. The careful wor of the State College and the Cayug County farmer has made availabl a valuable asset to the agriculture o the state.—E. C. Weatherly, Aubu N. Y.

NOT IN THEIR LINE

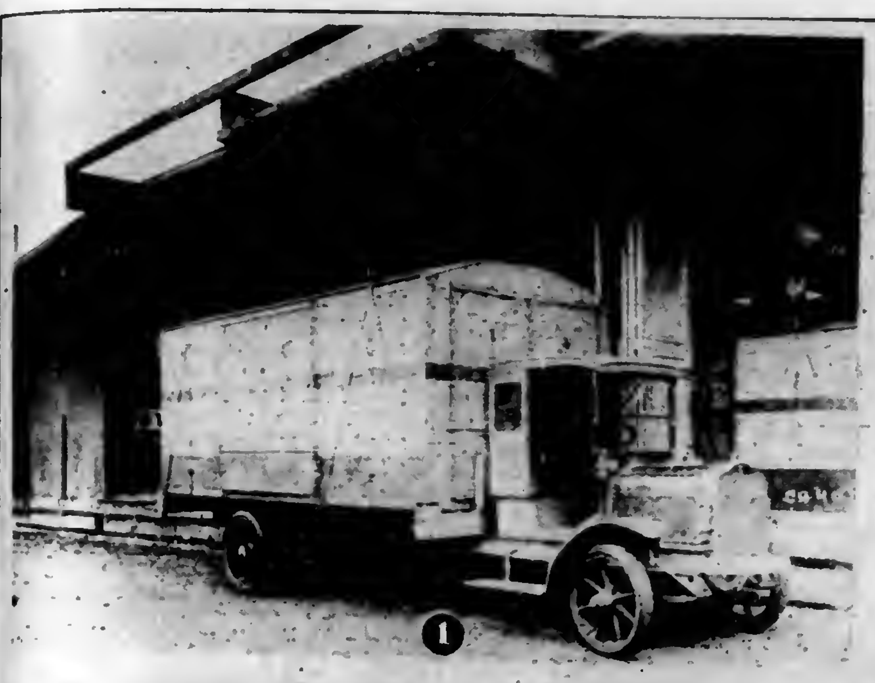
The Browns (father and daugh er) had been doing Italy. On re turning, Brown, relating his adve tures, was asked if they visite Venice in the course of their trave

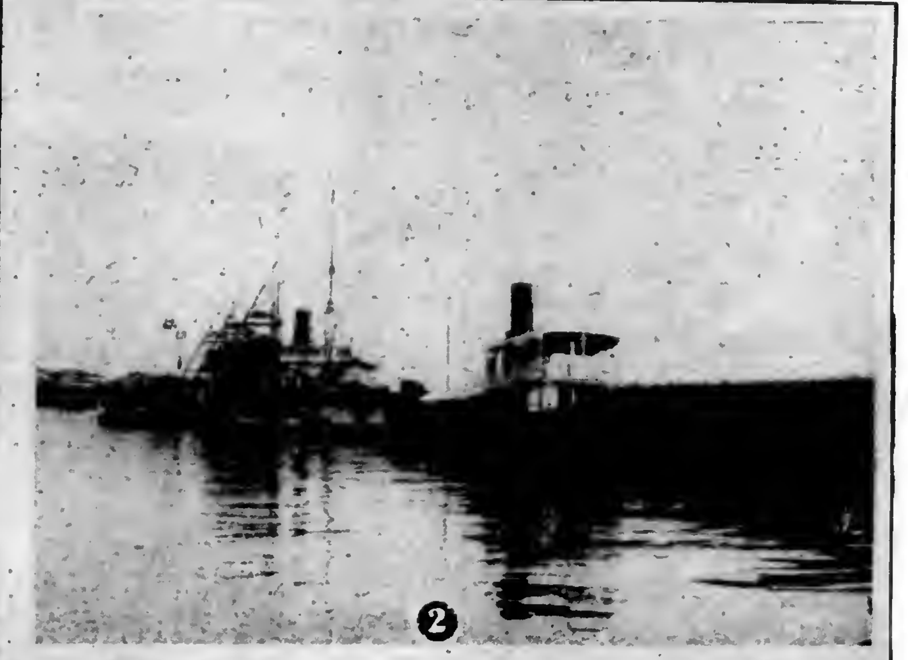
"I say, Mary," he asked his daugh ter, "did we go to Venice?"

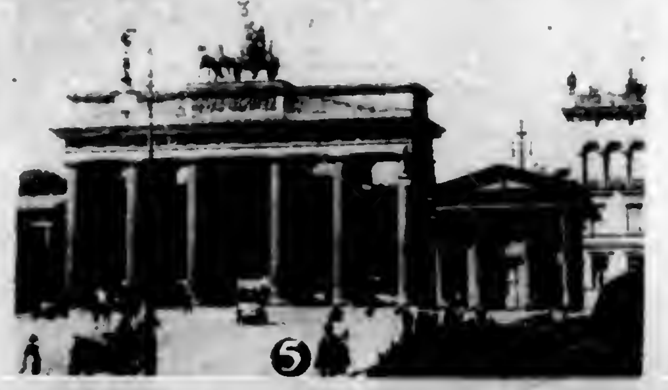
"Why, no, dad; don't you remem ber? We got to the station, b there was a flood on, so we didn't g out."—Tit-Bits.

The person who said that the u bringing of children demands mo study than the raising of poult probably didn't like poultry a less but children more.

PASSING EVENTS IN PICTURES







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1.—Transferable Auto Truck Bodies Are Being Used to Save Freight Cars.

2.—Steamer from New York Loading Rubber in Brazil, 1600 Miles Up the Amazon.

3.—John D. Rockefeller, Jr., Addressing Clergymen on Inter-Church Movement.

4.—"Oh, what would the world be to us
If children were no more;
We should dread the desert behind us
Worse than the darkness before."

5.—Gate thru which the Revolutionary Forces Entered Berlin Recently.

6.—Mrs. Tumulty, wife of the President's Secretary, and Youngest of Her 6 Children.

7.—Senator Gast of West Virginia who raced Across Continent to Vote for Suffrage.

8.—Alice Paul, chairman of Women's Party Sewing the 36th Star on Victory Banner.

OUR STORY PAGE

THE THREAD OF FATE

"Penny," said Jessie French thrusting her curly head into the bedroom where her cousin sat upon the windowsill picking sweet cherries from a huge tree that grew almost against the house, "Aunt Cora has sprained her ankle and I have to get breakfast, as Minnie must stay with her until the doctor comes. The new boarder came last night and every drop of milk in the house is sour."

"The new boarder will be a delightful acquisition to the family circle if his presence in the house turns the milk sour in one night," laughed Penny, throwing a handful of the crimson fruit to Jessie, who caught it deftly, and continued,

"So I came to ask if you will milk the cows this morning because Joe has gone for the doctor and neither Oswald nor I can milk."

"Certainly," answered her cousin, promptly. "I am sorry to hear that Aunt Cora has been hurt, so I'll just run in and see her and then go and milk. But if you are responsible for the breakfast, do hurry for I am almost starved now and I may be tempted to drink all the milk myself."

Jessie hurried away and Penny reached out for another handful of the fruit when the sound of her cousin Oswald's voice reached her ears.

"I am sure you will not find it dull, Professor," he was saying, "for my cousins are staying here, the seminary they were attending having closed earlier than usual on account of an outbreak of scarlet fever. They will keep the blues away, I assure you."

There was a groan, followed by a deep voice saying, "Deliver me from the society of a couple of raw school girls who, having read the prefaces of their text books are prepared to criticize everything upon the earth as well as in the heavens above the earth. Please keep them out of my sight."

Oswald laughed. "You don't know what you will miss, if I do," he said. "For, like Tennyson's Princess, they are 'most exceeding fair,' besides being the jolliest companions imaginable."

Penelope's coral-red lips grew hard, and an ominous gleam in her eyes made them look like sea-green pools in whose warm depth lurk unseen dangers.

As she finished milking the two cows in the wood-lot, from the lane emerged a tall gentleman, whose face wore a look of perplexity, which vanished when his gaze fell upon her.

"Pardon me, Miss," he said in the deep tones that she at once recognized, "can you direct me to a farmhouse known as 'Hazel Glen'? I have lost myself among these thick, high hedges."

For a moment a spirit of revenge prompted her to send him in the wrong direction, but a glance at his pale countenance, where the ravages of illness were visible, restrained her.

"It is just behind that group of trees," she answered, as freezingly as possible.

Thank you. As you appear to be going in the same direction, allow me to carry your pails."

"I am staying there at present. I am Mrs. Kingden's niece Penelope Percival," she said, very haughtily.

"I am Gordon Starr. I am happy to meet you, Miss Percival. Your cousin Oswald was speaking about you this morning."

Penelope shut her lips tightly, and bowed in a very distant manner as he took up the pails.

"I hope that he won't spill that milk," she thought, surveying his thin form with apprehensive, dubious eyes, "he looks awfully wobbly, tho."

As they walked under the trees, the sunlight slipped on and off of the thick braids of her yellow hair and clinging around her slim, swaying figure, Professor Starr likened her to a painting he had greatly admired of the Saxon princess Rowena. He did not guess his remarks about "raw school girls" was the cause of her haughty carriage and queenly aloofness.

When they reached the farmhouse gate they found it ajar and an unearthly chorus of barks, shouts and squeals making a hideous discord among the sweet sounds of the morning. Both laughed as round and round, over lawn and flower-beds, swept two dogs, three pigs and a tow-headed boy. They whirled thru the gate; with true porcine perversity one of the pigs rushed back so swiftly that the Professor was thrown face downward upon the animal's back and the milk-pails were flung out on each side, turning the crimson carnations along the border a pale pink. Involuntarily he grasped the creature's ears and was half dragged, half carried, thru a flower-bed before he recovered enough presence of mind to relinquish his grasp.

But his misfortunes were not ended, for as he rose from the bed of nasturtiums into which he had rolled from the back of his unique steed, a wasp which had been seated on a broad leaf, arose also, and with a buzz of wrath plunged its stiletto into his cheek.

As wasp stings are usually too severe and sudden to allow one to summon up enough philosophy to bear them stoically, he gave a cry of pain that, under other circumstances, would have moved Penelope's heart with sympathy; but, her girlish vanity smarting under the words she had heard that morning, she viewed his mishaps with secret satisfaction.

"You should avoid yielding to the temptation to indulge in such youthful antics, Professor," she remarked rebukingly as he mopped the dust, milk and perspiration from his face, "besides being undignified, such violent exercise may be injurious to you. You look quite flushed."

He gave her a reproachful glance as she calmly picked up the milk pails, just as Jessie's voice called.

"Penelope Percival, where are you, and what are you doing?"

"In the garden, studying astronomy," was the response.

"Astronomy?" echoed the Professor, in bewilderment.

"Certainly. Wasn't your recent performance the passage of a Starr thru the milky-way?" innocently inquired Penelope.

He frowned, yet he felt unaccountably hurt by her behavior. If she had giggled or shown any signs of being amused at his unlucky escapade, as another girl would have done, he would not have been so vexed. But for her to assume that he did such a ridiculous thing purposely was too irritating. Yet his anger was blent with admiration, as he watched her pass into the house.

"Oh, Penny! where is the milk?" cried Jessie, in dismay, as she looked into the empty pails.

"Spilt," returned Penelope, serenely.

"Goodness! and the Professor—"

"Abominates milk. Unless you want to make him your enemy, I adjure you never mention it in his presence," interrupted Penelope, solemnly, as she washed her hands at the sink.

—

To the residents of Hazel Glen the summer passed with incredible rapidity. With restored health, the professor became one of the merriest members of the household. He was a general favorite, Penelope alone treating him with a coldness that made him compare her to the Snow-Maiden of the German legend. He often wondered what magic would cause her to show any trace of human warmth toward him, for tho gay, bright and winsome to all the others, with him she retained a reserve that was frigid.

The seminary had not opened, as the scarlet fever had been followed by an outbreak of another dangerous disease, so the approach of Hallowe'en found the girls and the Professor still on the farm.

A party of the young folks in the neighborhood had been invited to Hazel Glen to spend the evening and question Fate in regard to the mysteries of the future, and, notwithstanding the regret all professed to feel at the absence of the Professor, their fun waxed noisier and merrier until near the "witching hour" when it grew more subdued.

A few minutes before twelve, a tall figure, in a flowing robe of crimson, entered the room. A mask hid its face and cabalistic characters were traced upon its garments.

In profound silence each member of the party approached the newcomer and received a red-bordered scroll whereon, in red ink, were traced the directions for the charm the receiver was to employ to ascertain the secrets of the future.

To Penelope was assigned "the thread of fate," the old-fashioned charm where by casting a ball of yarn into a well and rewinding it, if she was to become a bride she would see the future bride-groom when she finished the task.

Throwing a fleecy wrap over her head, she hurried to a field at some distance from the house, in which was an old well partially filled with rubbish.

The moonlight threw the shadows of shrubs and fence posts in strange, uncouth shapes upon her path, but she went swiftly along to the wishing-well, her cheeks and eyes aglow.

Pushing aside one of the planks with which it had been covered, she threw in her ball of yarn and chanted, in a clear, unwavering voice,

"Wishing my destiny to know,
Fate, to thee this ball I throw;
If clay clings to the thread, then I
Am doomed in twelve-months' time
to die;
If water, 'tis a happy sign,
For riches surely will be mine;
And if I am to wed, then he
Who is my mate come to me;
So, Fate, I pray thee, deign to tell
My fortune at this wishing-well."

The thread caught upon some obstacle and Penelope stepped on the covering of the well to free it when the plank broke, precipitating her into the darkness below. Fortunately the well was almost filled with rubbish, on top of which Oswald had recently dumped a load of mouldy hay, saying it was unfit for feed and too damp to burn.

Penelope's shriek of terror was followed, almost immediately, by the sound of footsteps, and above the aperture thru which she had fallen, she beheld Professor Starr's face, gazing down, very white and anxious.

"Penny—Miss Percival, are you hurt?" he cried in a voice of tender distress.

"No," was the short answer, given most ungraciously.

He drew back and his tones were as cold as the tinkle of hailstones, as he said:

"May I inquire what you want in that well?"

"That's an absurd question. I want to get out," responded the lucless prisoner, in accents decidedly cross.

"Very, well, Miss Percival, I am going to the house and I will inform your cousin Oswald of your present situation, and of your desire to leave it," he rejoined, lifting his hat. "Goodnight."

"Professor Starr, you would not go off and leave me in this dreadful place?" cried Penelope, in a startled manner.

He turned and looked down at her coolly.

"Why not?" he asked. "You assure me that you are not hurt and as the well is nearly filled you are in no danger of being drowned. To be sure," he added meditatively, snakes might have crawled into it for winter quarters, but if you are perfectly still"—a mild shriek from Penelope interrupted him and she stretched up her arms, crying,

"Oh, Professor—Gordon, take me out, please."

"They will not harm you, as they are dormant at this season of the year," he continued, with diabolical cheerfulness, "and, even if they were not, your mere presence would be enough to freeze them stiff."

"Gor-d-o-n, how can you be so cruel?" she sobbed.

"Cruel?" he retorted, with considerable warmth, "I'd like to know on whose side the cruelty has been for the last five months? You have made life unbearable by your cruelty, you human iceberg."

"Gordon, please," cooed a soft voice, and a pair of arms were again upstretched.

He ignored her appeal and continued.

"Whenever I have tried to tell you of my love you have ridiculed or snubbed me most unmercifully and yet you accuse me of cruelty. They say truth dwells in the bottom of well and as you are as near her you can get, answer me truly, you love me!"

"How can I love anyone who such a N-Nero?" sobbed Penel "If you told me the truth about loving me, you wouldn't treat me this manner."

"You have no need to cry, Pen he responded, grimly. "You ha only fallen in a well and can ea get out, while I have fallen in lo which is a far more serious matt

"Gordon, I am sure if you wer in love with me you would just and fall in love with some other anyway," said Penelope, with viction, ceasing to sob.

"I wish I could—"he began wh she interrupted him.

"Oh! if that's the way you fe go—"

"Certainly, I'll not delay a m ment longer. Altho I may be m taken about snakes in the well, am perfectly sure there are mice that hay, so do not be nervous you feel them running over you

"Gordon, Gordon, don't leave m screamed Penelope. "Take me of this awful place or I'll go m Oh! please help me."

"I must be paid for my w then," he said. "I want a Penny my reward."

"Anything—only get me quickly," she cried, eagerly.

In a moment she was safely the ground at his side.

"I shall keep you for my penny forever," he said, kissing glowing cheek.

'It may be unpleasant being love, as you say, but it is better th being in a well," she laughed as adjusted her wrap; then, as handed her the ball of yarn wh she had dropped as he lifted her of the well, she added blushingly,

"It is the thread of Fate, so I m bow to the decrees of destiny. I sure there is something uncan about Hallowe'en and its char despite the skeptics' sneers."

FORMALDEHYDE TREATME FOR OAT SMUT

Pennsylvania produces appr mately 35,000,000 bushels of annually. The average amount smut in the oat crop for the past years has been 3.8 per cent. R and other diseases reduce the cr three per cent more, making the l from disease approximately 2, 000 bushels each year. Of th amount 1,427,000 bushels is attri table to smut. This means a la loss to the state from a disease wh can be prevented by a method wh for materials and labor costs o about ten cents an acre.

Experiments have been conduct which show that oats prop treated with formaldehyde will y more than the control of t smut alone would indicate. In fa it is not unusual to secure an i crease of from eight to ten per c by treating seed oats when the treated plots show from three to f per cent of smut. It is evident th the treatment is of consider value over and above the be gained by killing the smut.

The new dry method of treatm has proved to be just as effective the old "wet method." It consists mixing one pint of formalde with one pint of water and at ing the grain with a hand spr as it is being shoveled over a clean floor. One stroke of the at izer for every scoopful of the g will give success, if the sprayer held close to the grain and the well distributed. One quart of solution will treat 50 bushels of oats. 'After treatment cover the for four or five hours, no lo They are then ready to sow im diately, thus eliminating the dr process necessary with the method."

PRESERVE THE MARKET BA

A good willow market b could be bought a few years ago a dollar. We all know what a one costs now. It pays to keep old basket in good condition as as possible.

It will help to do this by apply a coat of stain finish, obtainable any paint store. This makes weather proof.

FARMERS AND FOREIGN EXCHANGE.

Few producers of farm products pay much attention to the complicated foreign exchange situation. They know in a general way that the decline in the rates of exchange has affected our trade, but for the most part they regard it as a matter of interest only to international bankers and large concerns doing foreign business. As a matter of fact, it is of much interest to producers of many exportable commodities.

Europe on Depreciated Paper Basis

It can best be explained by pointing out that England and nearly all other European countries are no longer on the basis of the gold standard but on a basis of depreciated paper money. The English pound sterling, in gold, is the equivalent of $4.8665, in American money, and in normal prewar times the rate of exchange fluctuated between $4.84 and $4.90. Within the last few months, English paper money has fallen so greatly in value that the rate of exchange has stood as low as $3.20 in American money, and at this writing stands at about $3.70.

Widely Fluctuating Exchange Embarrasses Exporters.

The present apple market is an excellent example of the effect of this situation upon the producer or holder. England being the principal export market for American apples, the early prices paid for apples were in some measure based upon the assumption that large quantities would be shipped to England. Unfortunately for the American exporter, the British Food Controller fixed a maximum price for apples at a time when British paper money had depreciated but little, and the rate or exchange stood at about $4.60. This top limit has not been changed to correspond with the decline in value of the British pound, and with the pound equivalent to $3.70 in our money this top limit is virtually 20 per cent lower than when established. In large part, for this reason, the export demand did not develop fully and difficulty may occur in moving at satisfactory prices the large remaining stock on hand.

With commodities on which there is no fixed top limit, particularly with those for which this country is substantially the only source of supply, the difficulties are not so serious. Cotton is an excellent example. Some weeks ago, when English paper was falling rapidly in value and the rate of exchange was moving down to its low point of $3.20, exporters who had sold on contracts payable in British money were reasonably sure to sustain a loss, and accordingly our export trade was greatly demoralized. With the recent rise in exchange the contrary result has undoubtedly frequently occurred, an increased profit instead of a loss. In the long run, England will of course make large purchases of our cotton, since this country is her principal source of supply for this raw material so necessary in her domestic consumption and export trade; but the fluctuations in the rate of exchange must necessarily be a constant embarrassment. Inasmuch as it is embarrassing to the dealer, it is likely to have some slight effect in diminishing demand and in reducing prices to the producer.

Currency Depreciation Encourages Exports

On our imports, the depreciation of the currencies of other countries is likely to be of more general effect. An excellent illustration appears in the sale of potatoes from Canada in the Detroit market. The discount on Canadian money in Detroit is now about 17 cents on the dollar; in other words the United States dollar received for potatoes in Detroit is worth about $1.20 in Canadian exchange. With Michigan potatoes selling at $2.70 per bushel, the Canadian producers can sell potatoes of the same grade in competition for $2.70 per bushel and convert this into Canadian exchange and have as the proceeds approximately $3.25 in Canadian paper currency. Altho this $3.25 in Canadian paper is the equivalent of only $2.70 in American gold, yet the cost of producing in the country with the depreciated currency are likely, for a considerable time, to increase less than the gold premium. Accordingly, at a time when the general tendency of the value of the paper money in other countries is downward, those countries are likely to have a certain advantage in exporting commodities to this country or in competing in other markets in commodities produced in competition with this country. Later on, if those countries become thoroly adjusted to the basis of depreciated paper and if the paper money in those countries then rises in value, ultimately perhaps reaching its gold equivalent, there will be the opposite condition that those countries during that process of returning to a gold basis will have a disadvantage in competing with this country, precisely the converse of their advantage at the present time.

In all the belligerent countries of continental Europe the paper money has fallen far more in value than the British or Canadian paper. In those countries the encouragement to exports by the resulting decline in the rate of exchange will be even greater and more lasting since it will presumably require a longer time for costs of production to adjust themselves to the depreciated basis. Conversely, if those countries subsequently attempt to return to the former specie basis, their disadvantage in foreign trade during that process will be correspondingly greater than that of England and Canada.

The principal concern of our exporter of agricultural products is with the competition of other agricultural countries. The fluctuation of rates of exchange with Europe does not affect this competition with South America and other countries on a gold basis. The general rise of prices thruout the world may, however, place any country in a more favorable position for export trade in which, owing to commercial backwardness, the costs at home such as wages rise less rapidly than prices in the world market. The principle involved is the same as in the instance of the paper money countries. With prices rising thruout the world any country in which costs rise less rapidly than world prices will be a vigorous competitor in the world market.

We've All Played It

NO ADVERTISING, NO BUSINESS

When asked what kind of advertising is most fruitful, Van Camp, the baked bean man, said he could not tell, but what he did know was that when he advertised he got the business, and when he didn't advertise he didn't get it, and he proposed to keep on advertising.

OPPOSITION

The Federal Truth in Fabric Law has gained headway until it has ceased to be a thing to be ridiculed. Apparently, it now excites the determined opposition of those interested in the dishonest practice of selling the consumer merchandise for what it is not.

"This house was the snuggest place in the County last Winter—John."

WARM AIR (UP)
COLD AIR (DOWN)

One register heats the house

"I was glad enough to have an excuse to stop in here on cold days, I can tell you. In the other houses you'd find everyone sitting close to the stove and the rest of the house ice cold. But in here there was a good even temperature in every room in the house."

"That was easy, Doctor. I picked the NOVELTY PIPELESS."

NOVELTY PIPELESS FURNACE

Behind Novelty Heating and Cooking Apparatus is 73 years of engineering skill—the use of the highest test material—fabricated in a great plant where science rules with an iron will.

We make **all types** of heating and cooking apparatus. The advice you get here is unbiased—you will get just the type and size plant you should have.

Not only does the Flex-O-Tuf Iron used in NOVELTY products mean longer life—less wear and tear—but the heat producing parts are scientifically balanced to give the greatest volume of heat at the least possible expenditure of fuel and effort.

Write today for descriptive circulars.

ABRAM COX STOVE COMPANY
American and Dauphin Streets, Philadelphia, Pa.
Makers of Novelty Heating and Cooking Apparatus for 73 years

Water for every farm need

HOOSIER Water Service

The many uses you have for Running Water—Under Pressure

IN every farm home there are a multitude of uses for running water, and scarcely an hour in the day passes but what water is in demand. Hoosier Water Supply Systems provide water for country homes conveniently and economically. They modernize the home, lessen housework, make possible an up-to-date bath-room, afford fire protection, and provide water at the barn for watering the stock.

Any form of power may be used for operating a Hoosier System. They are easy to install, simple and economical to operate.

Hoosier Water Service Tanks are coated inside with a rust resisting preparation, which lengthens the life and usefulness of tank; and prevents water contamination from rust.

Send today for Bulletin F, which illustrates many complete Hoosier Systems

FLINT & WALLING MFG. CO.
Department F Kendallville, Indiana

Weeds are Like Flies

A WEED is like a fly. Give it a good start, and before you know it you have hundreds, thousands, millions—instead of just one! We kill the flies to protect ourselves against diseases that they so readily spread; we kill weeds to save our crops from being smothered. "Swat the weed" should be just as popular a slogan as "Swat the fly."

And when it comes to killing off weeds, there is no more efficient tool than an **International Corn Cultivator.** Because these cultivators are furnished with *adjustable bearings,* making it possible to take up all play from wear, it is easy to keep the cultivator close against the corn row.

This is practically impossible with a cheap, flimsy cultivator that has only *bored bearings,* because there is no provision to take up wear. As a result, after the cultivator has been used a short time, the wheels wobble badly and every time they strike a bump or rock they twist to the side instead of riding straight over the obstruction, causing the cultivator to dodge into the nearest corn hill with disastrous consequences. If, to avoid this, the cultivator gangs are set closer together a strip of weeds will be left along the corn rows on each side. Rely on **International.**

There are other desirable features aside from the adjustable bearing, which are sure to interest you in **International Cultivator** design and construction. See your International dealer about these cultivators the next time you are in town.

INTERNATIONAL HARVESTER COMPANY
CHICAGO OF AMERICA USA

pop corn SEED

Dwarf AUSTRALIAN Hulless- pops 90 per cent or better. Send $1.00 for 3 lbs., enough to plant one acre. Mailed postpaid with planting directions.

3 LBS

G. E. BURSLEY & CO.
Fort Wayne, Indiana

INOCULATE and double your legume crops with

STANDARD INOCULATING BACTERIA

The guaranteed inoculator. Grown direct from nodules. Prices lowest, virility highest. Impossible to prepare a more highly bred or more virulent culture if ten times price offered. Prepared for Alfalfa, Clovers, Soys and all legumes

1-A. size 75c, 2-A. $1.50, 4-A. $2.25, 6-A. $3.00

For sale by leading seed houses. If not catalogued by your seedsman send order direct. Send for our Legume Book free

THE EGGERT CHEMICAL COMPANY, CANTON, O.
Largest Producers of Legume Cultures in the world

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ROOF COATING

waterproofs as well as fireproofs your roofs. Sold under positive guarantee. We want a few more **SALESMEN** for our well known brands of waterproof roof coating, lubricating oils, greases and paints. Salary or commission.

The Todd Oil & Paint Co.
Department SD, Cleveland, Ohio

SEED CORN TAKE NO CHANCE ON FROZEN CORN. BUY NORTHERN GROWN SEED. Four varieties, 90-100 10 rowed Kauffman's Yellow Dent, Reid's Yellow Dent, White Cap Yellow Dent, Early Minnesota. Ear tested, extra high germination. Shipped upon approval. Your money back if not satisfied. Circular and samples free. Send us postal today.
WOODFIELD'S FARM, Wycombe, Bucks Co., Pa.

SECOND HAND SHARPLES MILKER,
3 units, in good order. Bargain, $110.
C. L. TAYLOR, WYALUSING, PA.

Wanted: Young Girl to help in boarding house on large stock farm. Steady employment and good wages. State age and reference.
ARCHIE BECKWITH, Winterthur, Delaware.

R. K. TIRES
Are Tough Ones!

Rebuilt tires, with twice as much fabric as an ordinary tire—double tread and chain stitched so tough they like the rough roads in preference to the easy ones. Guaranteed to do all an ordinary tire does—and then some! They'll make good if you give them a chance to show you!

The following are the little prices of our guaranteed tires:

Size	Non-Skid	Price	Size	Non-Skid	Price
30x3	....	$ 7.00	34x4	....	$11.50
30x3½	1-2	8.50	34x4	1-2	13.50
32x3½	1-2	9.00	35x4	1-2	14.00
33x4	....	11.50	36x4	1-2	14.50

2 percent off for cash with order.
10 percent deposit required with all C. O. D. orders.

R. K. Tire Company
837 No. Broad St., Dept. A, Phila., Pa.
Send for descriptive booklet and price list.
Good Territory Open for Live Agents.

FIRST TURN OVER STARTS YOUR FORD IN ZERO WEATHER

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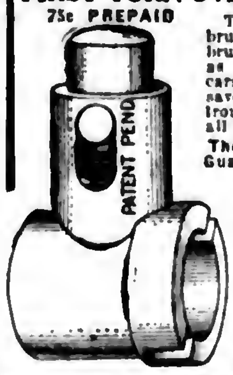

The latest improved timer brush for Fords. Sliding brush contact principle same as used on highest priced cars. A time and trouble saver. Avoids 50 per cent trouble in using your Ford all winter.

The "MASTER" Timer Brush Guaranteed for 5,000 miles

Assures long hot spark. Increased power. Affords easy starting and a smooth running motor. Send for one today. Price 75c—your money back if you want it.

Agents, Dealers and (Distributors wanted at once)

Master Products Co.
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New York Stable Manure

Prompt shipments in carload lots and by boat.

264 W. 34th St.
New York City.

1510 Market St.
Philadelphia, Pa.

McKEAN COUNTY SHEEPMEN INCORPORATE.

The sheepmen of McKean County, Pa., held a lamb dinner at the Grand Central Hotel, Smithport, on March 6th, for the purpose of popularizing lamb and mutton, after which they adjourned to the Court House for the afternoon to listen to addresses and for a general discussion of their problems.

The marketing of the 1919 crop of wool was discussed by W. B. Connell, of the Pennsylvania State College after which plans were made for the marketing of the 1920 crop. These present agreed unanimously to have the wool graded in the county and offered for sale according to the grade, as was done in the past year. In addition to marketing of wool, it was brought out in this meeting, that the Association had done a great deal toward enforcing the dog law, since the figures show that in the year of 1915 there were 246 sheep killed by dogs, and in the year only 28 sheep killed by dogs in McKean County.

A. T. Kearney of the Pennsylvania State College then gave the "Why" and "Hows" of an incorporated Organization after which much discussion followed. These men knowing the value of organization voted to incorporate under the Act of Assembly of June 1919, which provides for the incorporation of Agriculturel Organizations.

Articles of Association were written up, a Board of nine directors was elected, application blanks filled out, affidavits made, and then forwarded to the Department at Harrisburg thru which they expect to receive a State Charter.

The Association at this meeting ordered rape seed to be used for forage crops in feeding lambs of 1920, and placed and order for paper wool twine for the members of the Association.

PROSPECTS FOR GRAPES BELIEVED GOOD

What in the face of prohibition, is the grape outlook for 1920 and hereafter? During the early stages of the climax to the wet era a distinct wall went up that with prohibition in full effect the grape industry would be utterly ruined. How has it worked out? Already some indications are being seen. They point to an industry more firmly footed than ever and with greater profit to the growers.

According to S. J. Lowell, of Fredonia, N. Y., Master of the National Grange, and owner of forty acres of vineyard in the Fredonia district, the outlook is better than ever before. "I look to see a very heavy demand for grapes another year," he says. "The fact that the grape juice holdings now are being rapidly absorbed, indicates what we may expect. Any man who has a vineyard would be foolish to sell with the present outlook."

W. N. Wise, one of the leading growers in the Penn Yan, N. Y., district says: "Ninety-eight per cent. of the crop in the Lake Keuka district was sold in bulk in the picking trays just as they came from the vines without any trimming or sorting. The condition is dependent largely on how successful manufacturers are in disposing of the grape juice on hand and on how strictly the law is enforced in relation to making wine in one's own house for one's own exclusive use. Domestic wine making is much more extensive than is generally known. I estimate that something like 5000 carloads are consumed in this way.

As to the commercial vineyards heretofore given to wine production, the unprecedented market for all varieties of grapes last season did not permit of full and complete experiments tending to establish substitute uses for these varieties, but some progress was made. It is quite possible that outlets never thought possible, when the manufacture of wine was permitted, will be developed into highly specialized industries. It is said that at least 4000 cars of wine grapes were sent East from California last year and made into non-alcolic wines and grape syrup. A large stock of unfermented juices was made, a large per cent being pasteurized and put up in fifty gallon barrels. Considerable work was also done in sun-drying and dehydrating wine grapes, and the product found a ready market at prices much higher than those paid for raisins.

Important grape varieties that have been imported and tested by the U. S. Department of Agriculture have paved the way for some new features in the grape industry. Among them are a number of varieties of shipping and storage grapes that are considered superior in every way to the varieties heretofore grown in this country. Some ripen at the same time as varieties now grown, some earlier and some later, thus offering the opportunity for greatly extending the grape marketing and consuming season.

In addition a much larger demand for table grapes can be created than has existed up to this time, because the new varieties have superior eating qualities. The department has also demonstrated that currant grapes can be grown in this country by grafting on resistant stocks and girdling the vines while they are in bloom. From 4000 to 8500 acres of these grapes would be needed to produce the 34,000,000 pounds of dried currants imported annually during the decade previous to the war. In the distinct dry wine districts where many of the vineyards are on resistant stocks, regrafting can be done with other varieties, if the vines are not grafted too near or below the ground. Where there are vineyard plantings of resistant stock, they can be grafted to such varieties as are found most desirable.

In the Lake Keuka, N. Y., district last season great quantities of grape jam and jelly were processed by the wine companies and in many plants special machinery was installed to take care of the grape crop in conformity with the new regime. No tone of pessimism prevails among the growers today.—Alvah H. Pulver, New York.

FERTILIZER SUPPLY LESS THAN DEMAND

Because of a shortage of both mixed and unmixed fertilizers, farmers are advised by those who are watching the situation closely to get their spring supply early; otherwise they may be disappointed at seeding time.

Replies to inquiries made by the state college of agriculture at Ithaca to a large number of companies supplying fertilizers and fertilizing materials to the New York State trade indicate that there is a 25 percent shortage in production of fertilizers and about a 10 percent increase in demand.

This situation has apparently been brought about by a long strike in the Florida hard rock phosphate field, the inability of the railroads to move rock phosphate and other raw materials to the manufacturing plants, and the inadequacy of ocean shipping facilities to bring a large supply of muriate of potash from Europe, and of nitrate of soda from South America.

Replies dated from February 16 to 21 showed that two firms had no acid phosphate available for spring delivery, that one could supply only mixed goods, that four could supply acid phosphate with mixed goods, and that six had fair stocks of acid phosphate which are on the market without restrictions.

Owing to the slow movement of local freight, orders for less than full cars the college says had best be obtained from local dealers, many of whom have on hand fair supplies of acid phosphate and of mixed goods.

GOOD BERRY VARIETIES TO PLANT

What varetles of raspberries are best to plant for home use? This is one of many questions answered by the horticulturists at the Ohio Expriment Station this spring.

Cuthbert, Herbert and King have been found valuable. Among the most desirable purple varieties are Cardinal, Royal Purple and Columbian.

Cumberland, Plum Farmer, Kansas and Gregg are included in the list of satisfactory black-cap raspberries.

Varieties of the desirable black berries include Eldorado, Snyder, Early King and Early Harvest.

SEED CORN AND SEED CORN VARIETIES

(Continued from page 3).

age years when a longer season type would mature.

Choice of Varieties

Our American corn varieties vary in length of growing season all the way from the little Northwestern Dent grown in Minnesota, less than four feet tall and ripening grain in little over three months, to the immense southern varieties nearly 20 feet tall and needing the heat of the long southern season to ripen. We can best understand corn by remembering that it is a heat loving plant. The more heat, the more corn.

Not only does every degree of latitude farther north mean a shorter growing season, less heat and a smaller possible corn yield, but elevation above sea level has the same effect. Roughly, 1000 feet of elevation is equal to three degrees of latitude in effect upon climate. A valley may be so subject to late spring and early fall frosts that it has a shorter growing season than the hill tops a half-mile away on each side. Other valleys may have a longer growing season than the adjacent hills thru the action of water in lakes, rivers or even heavy fogs holding off frosts.

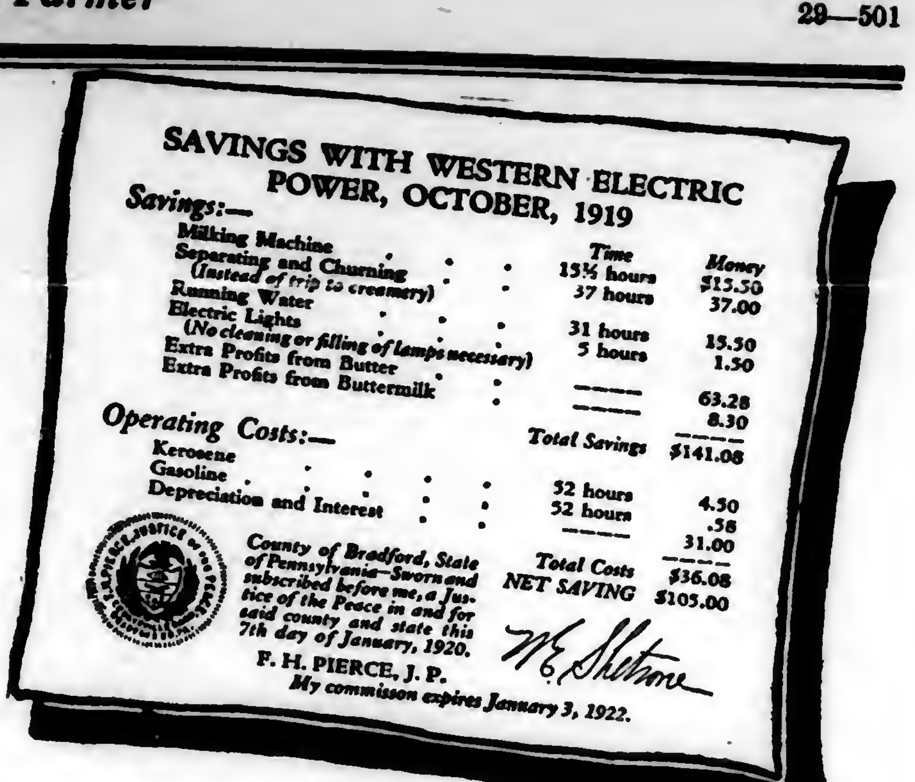
Soils and their effect upon selection

Gravels and sands warm up and dry out quickly in spring and can be safely planted to corn weeks earlier than can heavier soils that hold moisture longer. Corn on light soils grows very fast early in the season. If a light soil has abundant rainfall thru the summer a very long season variety can be planted and an immense yield grown. But the common trouble with so many gravelly and sandy soils is that a hot and dry July and August often practically stops the growth of the crop. Many careful northern farmers prefer to plant such warm and dry soils to corn varieties naturally early enough to be nearly ripe before the usual summer drought may be expected. Finally, the immature condition accepted by most dairymen for silage corn varieties as compared with corn grown for grain makes it advisable to select for silage purposes a variety which is normally one to three weeks later in ripening than one safe for grain on the same farm.

I believe that every corn grower should either test out for himself or have his Farm Bureau test out for him those corn varieties most likely to succeed under his conditions. I have tested out six to eight varieties in a number of seasons, finding that for my own conditions the variety Cornell No. 11 is the best. Others may give larger yields in exceptional years, but the Cornell 11 has never failed to ripen perfectly but once. I believe that every grower of corn for grain should grow his own seed, save it in the field early in fall and dry it down until cold weather cannot hurt the germ. Two years supply should be kept as one year may be a complete failure. Corn variety tests of only one new variety under the conditions of a single season mean but very little. The sure test of experience over a number of years, with all promising varieties will prove the variety that is best for any farm and the one from which the most profit may be expected.

Smith had no time for our outfit

But Shetrone saved time with Western Electric Power—and he saved money, too.



SAVINGS WITH WESTERN ELECTRIC POWER, OCTOBER, 1919

Savings:—

	Time	Money
Milking Machine	15½ hours	$15.50
Separating and Churning *(Instead of trip to creamery)*	37 hours	37.00
Running Water	31 hours	15.50
Electric Lights *(No cleaning or filling of lamps necessary)*	5 hours	1.50
Extra Profits from Butter	——	63.28
Extra Profits from Buttermilk	——	8.30
Total Savings		$141.08

Operating Costs:—

Kerosene	52 hours	4.50
Gasoline	52 hours	.58
Depreciation and Interest	——	31.00
Total Costs		$36.08
NET SAVING		$105.00

County of Bradford, State of Pennsylvania—Sworn and subscribed before me, a Justice of the Peace in and for said county and state this 7th day of January, 1920.

F. H. PIERCE, J. P.
My commisson expires January 3, 1922.

W. E. Shetrone

FARMER SMITH'S letter, printed below, shows the attitude of many farmers toward power on the farm. Farmer Shetrone's figures, printed above, are the most convincing proof that Western Electric Power and Light is a real economy.

> *Western Electric Co.*
>
> *Dear Sirs:*
>
> "To my mind there's been too much talk about what electric power and light will do on a farm, and too little proof. As far as I can see, electricity on my farm will amount to a luxury I can't afford.
>
> "You haven't proved to me that if I install your outfit I can operate enough machinery with it to make it a paying investment. So I don't see why I should put in Western Electric Power and Light till you do prove that point."
>
> J.H.S

How we answered him

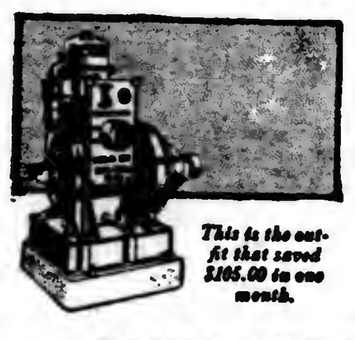
It wasn't hard to convince our friend that a Western Electric Power and Light Outfit is an economy, a real money-maker on the farm. We had the proof—not the usual run of manufacturer's claims, but an actual table of savings made by a real farmer—W. E. Shetrone of Le Raysville, Pa.—as a result of installing Western Electric Power and Light on his farm.

To back up this evidence we told Mr. Smith where he could see our motion picture, "The Go-Getter"—a story of old, wasteful methods and the up to date, economical system of farming with Western Electric Power. Ask your Western Electric dealer when "The Go-Getter" will play in your neighborhood—and go see it. This interesting movie tells you

How power can put money into your pocket

The Western Electric Power and Light Outfit is built with an extra capacity engine to operate any machinery you have been turning by hand. The table above shows how in pumping and churning and milking alone, Western Electric Power actually made a hundred dollars in one month.

It's the extra power Western Electric engine and long-life battery that do it.



This is the outfit that saved $105.00 in one month.

* * *

Our booklet PA-3 is the one that gives you facts and figures as to how Western Electric Power and Light can help you in your farm work. So just send a postcard to the Western Electric Company, Philadelphia or New York—and ask for Booklet PA-3.

Western Electric Power & Light

SOME GOOD TERRITORY STILL AVAILABLE FOR LIVE-WIRE REPRESENTATIVES.

Makes the Battery last longer

Feed Your Pasture and Save Your Silage with
Flink's Perfect Silo Seal
Patent applied for

"Saves every inch"
"Makes the top cure—and keeps it pure."

FLINK'S SILO
PERFECT SEAL

The one sure and certain way to stop silage poisoning from mold, decay, and rot due to unsealed, unpacked, uncured silage. It forces all air out of upper silage; packs thoroughly and evenly and permits the top silage curing perfectly. Absolutely airtight. Proof against water, acids and weather. Pays for itself first year—will last ten. Fits any silo.

Sold on Year's Trial

FLINK'S PERFECT SILO SEAL is guaranteed to do all we claim or your money back after one year's trial. Your wife puts lids on fruit jars—you put corks in bottles—you need a seal for your silo. Let us tell you more about it. Write us today and we will send you FREE a booklet on silage and particulars about silo seal. Silo owners wanted as agents everywhere.

Flink, Smith & Co., Inc.
DEPT. E LA SALLE, ILLINOIS

SEED CORN

Buy direct from the grower. Johnson Co. White, Reid's Yellow Dent, Long's Champion. High germination. PALMDALE FARM, PALM, PA.

Clip in the Spring

Treat your horses with consideration. You would not do your spring work wearing your winter overcoat—don't make your horses work while burdened with the winter's clothing. Clip them. A Stewart machine costs only $12.75 and lasts a lifetime. Send $2.00 and pay balance on arrival. Or write for catalog showing complete line of clipping and shearing machines.

CHICAGO FLEXIBLE SHAFT COMPANY
Dept. A 149, 12th St. and Central Ave., Chicago, Ill.

ORNAMENTAL FENCE

8 Cents per Foot and up. Costs less than wood. 40 designs. All steel. For Lawns, Churches and Cemeteries. Write for free Catalog and Special Prices.
Kokomo Fence Machine Co. 42 North St., Kokomo, Ind.

For Sale Cow Peas, Soy Beans, Crimson Clover Seed, Cracked Peas
JOSEPH E. HOLLAND, MILFORD, DEL.

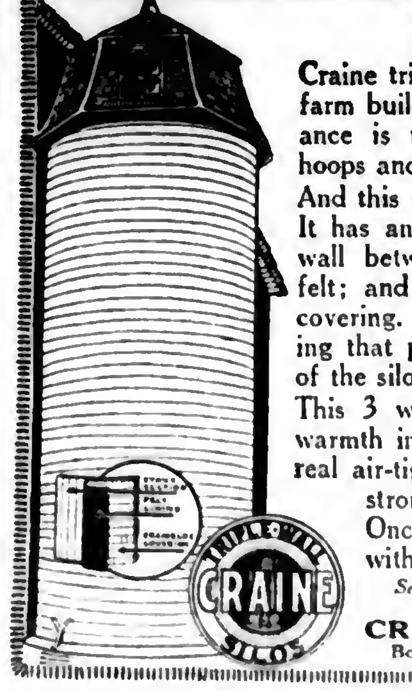
For Sale Sweet Clover Seed, White Blossom, my own growing; purest you can buy; best rotation crop, sow with wheat or oats.
G. A. CARPENTER, Manns Choice, Pa. R. I.

LIGHTNING RODS

BIG PROFITS AND QUICK SALES TO LIVE DEALERS SELLING "DIDDIE'S UNIVERSAL RODS." Our copper tests 99.96% pure. Prices are right. Get our agency. L. L. Diddie Co., Marshfield, Wis.

1500 First Class Fruit Trees For sale, true to name, 3 to 4 and 4 to 5 feet, Apple and Peach. Prices right. G. ROUTZAHN, Aspers, Pa.

***The* Handsomest and Strongest SILO Made**



Craine triple wall silos harmonize with the finest farm buildings. Their smooth, handsome appearance is unmarred by ugly, bothersome, loose hoops and lugs.

And this great silo is as strong as it is beautiful. It has an inner wall of closely fitted staves; a wall between of special heavy weather proof felt; and the famous smooth finished Crainelox covering. This is a continuous, patented covering that provides strength to every square inch of the silo.

This 3 wall construction keeps warmth in and cold out; it is a real air-tight, frost-repelling and strongly supported silo. Once erected it stays put without tinkering.

Send for literature, early order discount and agency offer.

CRAINE SILO CO., Inc.
Box 140, NORWICH, N. Y.

Rebuild the Old STAVE SILO

Any homemade or stave silo, if twisted, tipped or collapsed, can be rebuilt into a beautiful, new Craine 3-Wall Silo at about 1/2 the price of a new one. All the old material (except hoops) can be used. We buy the hoops. Send for our plan of rebuilding old silos.

Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., April 5, 1920

Supplies of potatoes are again light. Pennsylvania stock is selling from $5.85@6.25 per cwt., with New York and Maine grown stock at $5.75@6 per cwt., while the Maryland and Delaware Hoosiers are selling from $5.75@5.85 per cwt. The market is ruling very firm at the prevailing prices. It is not expected that it will ease off to any great extent for some time to come.

Sweet potatoes are moving very slowly. Eastern Shore hamper stock is selling mostly around $2.25 for the No. 1 stock, with No. 2s at $1@1.25 per hamper. The barrel stock is showing a wide range in condition and prices, sales being reported all the way from $2@5.50 per barrel. The nearby New Jersey sweet potatoes in 5/8 baskets are selling at $1.50@1.85 for the No. 1s with the No. 2s at 75c@$1.

Vegetables

Under more liberal supplies from California the market on asparagus is quite a little lower, ranging from $4@8 per dozen bunches. The great majority of the beans arriving are ordinary and sell mostly at $4@6 per hamper. Old beets from nearby New Jersey and Pennsylvania points are showing no improvement, but if anything are more dull and draggy than they were last week, and the movement is very slow at $1.50@2.75 per barrel. The market on old cabbage is very slow at $30@40 per ton, but most of the stock is very poor and has to be trimmed before it can be sold. Old carrots from Pennsylvania and New Jersey points are also lower than last week and best stock is now selling around $5.50@6.25 per barrel. New carrots have eased off and are now selling around 2½@3½c per bunch. The market on cauliflower was lower today mostly by reason of the poor condition of the cauliflower, sales of which ranged from $1.75@2.50 per crate on the green stock with poor and yellow and stock in bad order at $1@1.50 per crate. The market is firm on strictly fancy celery which is selling at $3.75@4.50 per crate, but at the same time there is some small size and poor celery on the market which only commands $2@3 per crate. Cucumbers continue very scarce and are still bringing high prices. Egg plant continues very scarce and the market is firm on fancy at $5@6.50 per box with poorer stock at $2.50@3.50 per crate. Nearby horse radish is more plentiful and the market is lower than it was a week ago with No. 1 stock selling at 15@20c per pound and No. 2 around 10@15c. Supplies of kale from Norfolk were very heavy this morning, prices are very much lower than they were at our last report, as today's sales only ranged from 50c@$1.25 per barrel. Fancy lettuce is scarce and again best California iceberg selling today at $5.50@6 per box with poorer at $3.50@4. Old onions are showing a very wide range in condition, many of them being badly sprouted making a very wide range in value. Today best old onions sold at $6 per crate while others ranged on down to as low as $1.75 per sack for badly sprouted ones. Onions sets continue firm and active at $3.25@4 per bushel. Mushrooms are showing practically no change in price at $1.25@2 per three pound basket. Parsley also remains about steady at $5@6 per barrel. Peas have been a little more plentiful. The market has eased off during the past week, sales are now being made around $8@10 per crate. Peppers continue very scarce and prices are showing no material change, the best peppers are still selling at $6@8 per crate with choice at $2.50@3.50. There has been no fresh romaine on our market in several days and some strictly fancy stock would bring very fancy prices. Radishes are also very scarce and would probably sell around 8@10c per bunch if here. The market has eased off on hot house rhubarb as [illegible] is now selling at 75c@$1.15 per bundle and choice at 40@50c per bundle. There are now quite liberal supplies of nearby scallions on the market which are selling around $2.50@3 per hundred bunches. Spinach is much more plentiful and the market ever so much lower. There were some 25 to 28 cars of Norfolk spinach and kale here this morning. Under these liberal supplies the market broke and Norfolk spinach was sold at $1.25@1.75 per barrel mostly with one or two cars at $2@2.25 per barrel, while the Texas spinach was sold at $1@1.50 per bushel. There is practically no demand for parsnips whatever and prices are very irregular. An occasional sale of parsnips is made around $4@4.50 per barrel, but most of them are being offered at prices ranging from $1.50@3 per barrel but not selling. Tomatoes are lower under heavy supplies of mostly poor quality, sales are now being made all the way from 75c up to $3 per crate. Nearby white turnips are mostly very poor and the market is very irregular ranging from 15c up to 75c per basket as to quality. Yellow turnips are firm at $1@1.25 per basket. There have been liberal supplies of turnip top greens on the market during the past several days which are now selling at 50c@$1.50 per hamper mostly. Watercress is a trifle easier at 4½@4¾c per bunch on best with poor stock on down to as low as 1 cent per bunch.

Fruits

Our comments on the [illegible] market as reported in these columns last week [illegible] practically be repeated for this week. Sales are being made about as follows: Baldwins, $4.50@8, Ganos $4@7, Ben Davis $4.50@6.50, Greenings $4.50@8, Winesaps, $6@7, Rome Beauty, $6@7.25, Russets $4@6. Box apples from the far west are also easier, Winesaps selling today at $3@4 per box and Delicious at $4@4.25 per box. Some Newtowns in poor condition only brought $1.25@1.75 per box. Cranberries are still on the market but prices are mostly nominal at $3@5 per barrel, a car of cranberries was being sold at West Philadelphia this morning at $1.75 per half barrel crate.

Poultry

The supplies of live poultry are running quite light and the market is ruling about steady on the following basis: Heavy fowls, 44@45c; smaller sizes 40@42c, with inferior at 38@39c. Average roasting chickens are firm at 42@45c, with inferior about steady at 38@40c per pound. Good fancy nearby broiling chickens are in active demand at 55@60c per pound. Staggy young roosters are unchanged at 30@32c, while old roosters are about steady at 25@27c; ducks are showing little or no change at 30@46c per pound as to variety.

Eggs

With the Easter demand over the market is ruling somewhat easier on eggs and prices are showing quite a little decline over prices prevailing at our last report. At this writing sales of Pennsylvanias and other nearby current receipts are being made on a basis of 41½c per dozen with firsts at 42c, while western firsts are quotable at 41c, with extra firsts at 41½c, and Southern eggs are being freely offered ate 39@40c per dozen.

LANCASTER PRODUCE MARKET

Lancaster, Pa., April 5, 1920

Following Saturday's enormous Easter movement of eggs at fifty cents a dozen, the supply today was small but yet sufficient to meet the decreased demand. All records for week-end marketing were broken by the Easter trade, every stall being virtually cleaned. Prices were generally firm. The quotations:

Butter and Eggs.—Creamery, 75@78c per lb.; country butter, 70@75c per lb.; fresh eggs, 50c per dozen; duck eggs, 55c per dozen.

Poultry.—Dressed old chickens, $2.25@2.50 each; dressed young chickens, $1.75@2.25 each; live fowls, $2 each.

Vegetables.—Spinach, 40c per half peck; turnips, 20c per half peck; potatoes, 40c per ½ peck; do., $2.75@3 per bu., sweet potatoes, 35c per half peck; cabbage, 10@20c per head; cauliflower, 10@15c per head; oyster plant, 10c per bunch; lettuce, 15@25c per head.

Fruit.—Apples, 30@40c per half peck.

Grain Market.—Wheat, $2.20 per bu.; corn, $1.25 per bu.; oats, 85c per bu.

YORK PRODUCE MARKETS

York, Pa., April 5, 1920

The potato is of chief interest in the markets at this time. Some are still predicting large quantities in the hands of growers; one authority even claims the stock on hand is ⅝ as large as at this time last year. Certainly the south-eastern section of the state is not in this showing.

Poultry has taken a leap and reached the 10 cent mark but only for a short time. Eggs held up well over Easter. A big slump is predicted by some the coming week but owing to the fact that meats have advanced this may not occur.

Eggs.—45 cents per dozen.

Butter.—Country, 65@70c lb.; separator, 75@80c lb.; milk, 12c quart.

Poultry.—Hens, 36@40c lb.; dressed, $1@2.75 each.

Vegetables.—Potatoes, 25@45c ½ peck; $2.50@3 per bushel; cabbage, 5@20c head; lettuce, 10@15c head; beets, 5c box; radishes, 5c bunch; onions, 5c bunch; 25@30c ½ peck; lima beans, 35@40c quart; soup beans, 20@30c quart; celery, 5@15c stalk; turnips, 20c ½ peck; apple butter, 45@50c quart; sausage, 35@38c pound; pudding, 30c lb.; lard, 30@32c lb.

Fruit.—Apples, Yorks, 30@50c ½ peck; Stayman, 60@80c ½ peck; common stock, and uncolored, 40@50c ½ peck.

Retail Grain Market.—Wheat, $2.75; corn, $2.00; oats, $1.20; rye, $1.80; bran, $3 per cwt.; middlings, $3.50 cwt.

Wholesale Grain Market.—Wheat, $2.50; corn, $1.55; oats, $1; rye, $1.50; bran, $55 per ton; middlings, $60 per ton.

BALTIMORE PRODUCE

Baltimore, Md., April 5, 1920

Butter.—Creamery, Western separator, 69c; firsts, 67@68c; do., prints, ½ pound, extras, 69@70c; firsts, 68@69c; do., 1 pound extras, 69@70c; firsts, 68@69c; nearby creamery, extras, 67@68c; firsts, 65@66c; dairy prints, Maryland, Pennsylvania and Virginia, extras, 45@46c; firsts, 43@44c; storepacked, firsts, 38c; rolls, West Virginia, extras, 41@42c; do., Ohio, extras, 43@44c; do., Maryland and Pennsylvania, extras, 43@44c.

Eggs.—Western Maryland and Pennsylvania, nearby, firsts, 41c; Eastern Shore, Maryland and Virginia, firsts, 41c; Western (Ohio), firsts, 41c; West Virginia, firsts, 40c; Southern, (North Carolina), firsts, 39c.

Live Poultry.—Chickens, large, young, per pound, 44@45c; do., winter, under 2 pounds, per pound, 52@55c; do., rough and staggy, per pound, 25@26c; do., old roosters, per pound, 22c; do., old hens, per pound, over 4 pounds, 37@38c; do., small, per pound, 37@38c; do., white Leghorn hens, per pound, 37@38c. Ducks, Muscovy and mongrel, pound, 35@36c; do., white Pekins, per pound, 40@42c; do., puddle, per pound, 4 pounds and over, 38@40c; do., small, pound, 30@35c. Pigeons, per pair, old, 30@35c; do., young, 30@35c. Guinea Fowl, young, 1¾ to 2 pounds, 75c; do., old, 30c.

NEW YORK PRODUCE

New York City, Apr. 5, 1920

Butter.—Firm; receipts, 6,051. Creamery, higher than extras, 68@68½c; extras (92 score), 67@67½c; firsts, (88 to 91 score), [illegible] 66½c; packing stock, current make, No. 2, 37c.

Eggs.—Steady; receipts, 25,000. Fresh gathered, extra firsts, 44½@45½c; firsts, 42@44c; state, Pennsylvania and nearby western hennery whites, first to extras, 53@60c; state, Pennsylvania, and nearby hennery browns, extras, 48@49c; state, Pennsylvania, and nearby gathered browns and mixed colors, firsts to extras, 43@47c.

Cheese.—Irregular; receipts 2,749. State, whole-milk flats, held, specials, 30@31c; do., average run, 28@29c; state whole-milk twins, held, specials 28½@30c; do., average run, 27@28c.

Live Poultry.—Firm; chickens, 38@42c; fowls, 47c; old roosters, 29c; turkeys, 35@40c; dressed steady; broilers, frozen, 39@51c; stags, fresh, 26@32c; frozen, 35@40c; fowls, fresh, 30@41c; frozen, 30@40c; old roosters, fresh, 27@28c; frozen, 27@28c; turkeys, 51@55c.

Vegetables.—Potatoes, [illegible] per cwt.; Long Island, $11 [illegible] Beets, $1@1.50 [illegible] @4; onions, $2@5.50 per 100-pound bag.

Fruit. — Apples.—Ben Davis, $4@5; Winesaps, $5@8.50; Greenings, $4@8.50.

PITTSBURGH PRODUCE

Pittsburgh, Pa., April 5, 1920

Butter.—Prints, 71@71½c; Tubs, 70@70½; cooking, 54½@55½c; Ohio, 65@65½c.

Cheese.—New York full cream, 36½@37c. Ohio, 35@35½c; Wisconsin Swiss, 60@61c; Philadelphia cream, $1.00 per dozen.

Eggs.—Fresh, select, 47@48c; at mark, 42@43c.

Potatoes.—Round, $8.75@9.00 per 150-lb. sacks. Onion, $6.50@7.00 sack. Cabbage, Texas, 5½@6½c head. Sweet potatoes, $2.75@3 hamper. Turnips, $2.25@2.50 bushel.

Fruit.—Apples, $3@5 box.

PHILADELPHIA LIVE STOCK

Philadelphia, Pa., April 5, 1920

Receipts of live stock for week ending April 3, were as follows:

	Beef Cattle	Sheep and Lambs	Hogs
Total for Week	2,279	6,809	9,157
Previous Week	2,791	3,159	10,002

Calves.—Receipts of calves last week were 2,573 head against 1,936 head week previous.

Beef Cattle.—Offerings of desirable stock were light and values were well maintained, with prices of veal slightly higher. We quote: Steers, fair to good, $12.50@14; common to fair, $10.75@12.50; cows, per lb., good to choice, corn fed, 8@9½c; fair to good, 6@8c; common to fair, 4@6c; calves, extra to choice, $20@21; do., heavy to good, $16@18; do., common, $12@15; do., heavy and rough, $8.50@11.50. Tennessee, $16@18; other southern, $9.50@14.50.

Sheep and Lambs.—The market for sheep and lambs of desirable quality ruled firm, with demand absorbing the offerings of this description. We quote: Sheared, sheep, wethers, extra, $13@13.25; do, good to choice, $10@11; do., medium, $7@8; do., common, $5@6.50; ewes, heavy, fat, 9@10c; lambs, spring, choice, $17@17.25; do., medium grades, $16@16.50; do., culls and common, $13@15.

Hogs.—The market ruled steady under moderate supplies and a fair demand for fine stock. We quote: Best western, $17.50@18 per 100 lbs.; hogs, nearby, good, $16.50@17.

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PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., April 5, 1920

Baled Hay.—Receipts, 228 tons of hay and five cars of straw. We quote:

Timothy Hay, No. 2, $40@41; No. 3, $37@38; sample, $32@33. No grades, $28@30. Clover, mixed hay, light mixed, $40@41; No. 1, mixed, $38@39.

Straw.—No. 1 straight rye, $20@21; No. 2, do., $18@19; No. 1 tangled rye, $18@18.50; No. 2 do., $17@17.50; No. 1 wheat straw, $17@17.50; No. 2, do., $15@15.50; No. 1 oat straw, $17@17.50; No. 2, do., $15@15.50.

Bran.—Firmly held. We quote car-lots, to arrive including sacks. Soft winter bran, Western, in 160-lb. sacks, per ton, $58@58.50; spring bran, in 100-lb. sacks, per ton, $57@57.50.

Corn.—No. 2 Yellow, $1.72@1.85.

Oats.—No. 2 white, $1.09@1.09½; No. 3, white, $1.08@1.08½; No. 4, white, $1.07@1.07½.

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NEW YORK HAY AND GRAIN

New York City, April 5, 1920

Feed.—The market for mill feed was firm with a fairly active demand for nearby delivery. Mill offers from the West were moderate, but buyers again showed hesitation about making large contracts ahead as a general fear was entertained that prices will not hold after the pasturage season opens.

Quotations: City feed bran $58; middlings, $62, in 100-pound sacks; red dog, $72, nominal in 100-pound sacks. Western spring bran, $57@58, standard middlings, $62; flour middlings, $63@64; red dog, $70@71, all in 100-pound sacks, 30-day shipment. Oat feed, $34; rye middlings, $58; white hominy feed, $66, all in 100-pound sacks. Cottonseed oil meal, $73.50; linseed oil meal, $63, in 100-pound sacks.

Hay and Straw.—There is a firm and higher market today. The strike of harbor workers last week caused increased buying, and while there is still plenty of hay moving there is a decidedly better situation throughout. Straw plenty and without improvement.

Hay.—No. 1, large bales, $47 ton; No. 2, $44@45 ton; No. 3, $41@42; shipping, $37@39 ton. Fancy light clover mixed, $44@45 ton. Clover, No. 1, mixed, $41@42; No. 2 mixed, $37@39.

Straw.—No. 1 rye, $30; No. 1, oat, $28@30.

Wheat.—No. 2, red, $2.89.

Oats.—No. 1 white, $1.12; No. 2 white, $1.12.

Rye.—F. O. B., $2.17¾; Barley, feeding $1.70.

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PITTSBURGH HAY AND GRAIN

Pittsburgh, Pa., April 5, 1920

Hay.—Arrivals of the better grades of Timothy hay continue light and insufficient to meet the demand, which is very active. No. 1 Clover and No. 1 Clover Mixed are also wanted. No difficulty in realizing top figures for the aforesaid grades. Poor stock is getting hard to dispose of.

No. 1 Timothy, $39@40; Standard Timothy, $38@39; No. 2 Timothy, $36@37; No. 3 Timothy, $34@35. No. 1 Light Clover Mixed, $37.50@38; No. 1 Clover Mixed, $37.50@38; No. 2 Clover Mixed, $33@34; No. 1 Clover, $37.50@38; No. 2 Clover $30@32.

Straw.—Receipts continue light and inadequate to meet the demand. Market strong.

No. 1 Oat, $15.50@16; No. 2 Oat, $15@15.50; No. 1 Wheat, $15@15.50; No. 2 Wheat, [illegible]; No. 1 Rye, $15.50@16; [illegible]

[illegible] a little slow on account of [illegible] weather, altho a few cars can be placed to advantage.

Yellow No. 2, $1.66@1.68; Yellow No. 3, $1.61@1.63; Mixed No. 2, $1.64@1.67.

Oats.—Demand limited while the receipts are light. Market steady.

No. 2 White, $1.03@1.03½; No. 3 White, $1.02@1.02½.

PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., April 5, 1920

Butter.—Receipts, 972 tubs. As usual on Saturday there was not much wholesale trading, but the market was very firm under light receipts and strong outside advices and prices advanced ½c on solid packed creamery and 1 cent on prints. We quote the following prices: Fresh, solid-packed creamery, fancy, high-scoring goods, 69@71c, the latter for jobbing sales; extra, 68c; do., firsts, 66@67c; firsts, 62@65c; seconds, 56@60c; sweet creamery, choice and fancy, 70@72c; fair to good, 57@69c; ladle-packed, as to quality, 39@42c; packing stock, 35@37c; fancy brands of nearby prints jobbing at 76@78c; good to choice, 68@75c; fair, 65@67c.

Cheese.—Firmly held. We quote: New York, whole-milk flats, held, fancy, 30½@31c; specials higher; ordinary to good, 28@29c; current make nominal, jobbing sales of fancy held goods, 32@33c.

NEW YORK MILK MARKET

New York City, April 5, 1920

Demand was not quite so brisk last week owing to the Jewish holidays, and surplus still very heavy. Condensed milk manufacturers are not buying to any extent as yet. April rate to the shipper in 200 mile zone is $2.55 per 100 lbs. for 3 percent milk; 3.60 percent is $2.79 and 4 percent milk is $2.95. Retail prices in the city are Grade A, 16@17c per quart bottle; grade B is 15c and loose milk 10 cents.

Receipts of milk and cream in 40-quart cans for the week ending April 3, 1920 were as follows:—

Railroad	Milk	Cream
Erie	43,510	3,605
Susquehanna	9,116	148
West Shore	16,742	1,068
Lackawanna	61,120	1,318
N. Y. Central (long haul)	167,620	2,943
Ontario	44,882	2,495
Lehigh Valley	58,971	1,071
New Haven	7,350	62
Pennsylvania	12,040	419
Other Sources	6,300	200
Totals	427,651	12,737
Same week last year	372,317	14,068

◆

INTERSTATE MILK PRICES

The basic price for 3 percent milk within 10 miles of Philadelphia is $3.28 per 100 pounds, and one cent per hundred less for each 10 miles distant. Four cents per 100 pounds is paid for each one-tenth of one percent fat above 3 percent. These are prices for the basic quantity or less. Amounts exceeding the basic quantity are paid for at a less price.

WOOL

Little buying has been reported from the West during the past week, altho one clip is reported to have been secured in Nevada, this being the Golconda clip in Nevada, which is understood to have been secured by a Boston house, the price being reported at around 50 cents.

Shearing has commenced in Nevada and doubtless would be much further advanced were it not for the fact that recent storms have held up shearing to a considerable extent. Shearing was scheduled to start in Utah on Saturday last, i. e., in southern Utah, where the early wools are [illegible].

◆

CLOVERSEED

Toledo, O., Apr. 5, 1920

Cloverseed.—Prime cash and March, $35.25; April, $32.10; October [illegible].

Alsike.—Prime cash, $36.25; April, $36.25.

Timothy.—Prime cash, 1917, $5.85; 1918, $5.85; 1919, $5.97½; March, $6.10; April, $5.97½; May, $5.92½; September $6.20; December, $6.

Note.—It is well to remember that these are wholesale prices per bushel paid by jobbers.

◆

TOBACCO MARKET

Long retarded tobacco deliveries have been quite active recently and it is now known that a large percentage of the 1919 product is out of growers hands. Many impassable roads have returned to a state of utility and all sorts of vehicles are now travel as usual. The general quality of product is a great satisfaction to all concerned including packers who are often inclined to be unduly critical. The product has been described by experts as being of superior quality, a good burner of fine quiet flavor and very mild in strength, in some ways superior to the 1918 product altho a year newer. On this account it is estimated that the new crop will be ready for manufacturers by next July. No sales of 1919 tobacco were reported during the week and, indeed, very little of the product remains in the growers hands.

It was known that packers made some sales of their 1918 tobacco [illegible] of which has now passed from the hands. A prominent instance was that of [illegible] to parties in New York but price was not given out. It is said that the deal involved not less than $500,000. Growers were busy in the early preparation for the [illegible] of the present year. Thousands of pounds have been made and much land intended for tobacco has been plowed. Many new areas or areas long abandoned will be reclaimed and planted in tobacco. It is predicted that an unusual effort will be made to produce tobacco of superior quality, as shown by the increased tendency to thorough cultivation including the use of more [illegible] the purchase of a large amount of commercial fertilizer. Opinions differ as to the probable acreage but it would seem that some will at least equal that of last year. [illegible] there is more available [illegible] at the corresponding time last season.

Farm Products Prices and Prospects

ARIFF BILLS PENDING OF INTEREST TO FARMERS

The following Tariff bills provid for the duties mentioned there have been introduced in Congress ring the present session and now before the Ways and Means mmittee:

attle, Sheep and Farm Products

H. R. 3623. On cattle, if less than e year old, $2 per head; all other ttle if valued at not more than 4 per head, $3.75 per head; if lued at more than $14 per head, per centum ad valorem. On ine, $1.50 per head; on horses d mules valued at $150 or less per d, $30 per head; if valued at er $150 per head, 25 per centum valorem. On sheep, one year old over $1.50 per head; less than e year old, 75 cents per head. On other live animals, not specially vided for in this Act, 20 per cen m ad valorem. On corn or maize, cents per bushel of fifty-six nds. On corn meal, 20 cents per hel of forty-eight pounds. On s, 15 cents per bushel. On oat l and rolled oats, 1 cent per und; oat hulls, 10 cents per hun d pounds. On rye, 10 cents per shel; rye flour, one-half of one rcent per pound; wheat, 25 cents r bushel. Wheat flour, 25 per tum ad valorem.

Citrus Fruits

H. R. 4100. On lemons, limes, nges, grapefruit, shaddocks, and melos, 1 cent per pound.

License Control—Potassium

H. R. 4870. Providing for license trol of imports of potassium ts; fixing a reasonable maximum ce for domestic potassium salts, d providing a duty on potassium ts, from and after five years after proclamation of peace of 10 ts per unit of potassium oxide t can be produced from such po ium salts. The term "unit" ns 1 per centum per ton of po ium oxide. As used in this act, term potassium "salts" includes y muriate or chloride of potas m, sulphate of potassium, carbon of potassium and nitrate of po ium of a purity of 98 per centum less and mixtures and compounds taining any such salts.

Corn or Maize

H. R. 5425. On corn or maize cents per bushel of fifty-six lbs.

Citrus Fruits

H. R. 6374. On lemons, oranges, es, grapefruits, shaddocks or elos, 1 cent per pound.

Acetate of Lime

H. R. 7115. On acetate of lime, rcoal and formaldehyde, 25 per tum ad valorem. On eighty-two centum (crude) wood alcohol, cents per gallon. On ninety-five d up per centum (refined) alcohol, cents per gallon. On acetone, 5 ts per pound. On acetic acid, 10 ts per pound.

Wheat and Potatoes

H. R. 7122. On wheat 10 cents bushel and 45 cents per barrel flour, seminola and other wheat ducts On potatoes and potatoes ed dessicated and otherwise pre d, 25 per centum ad valorem.

Corn and Corn Meal

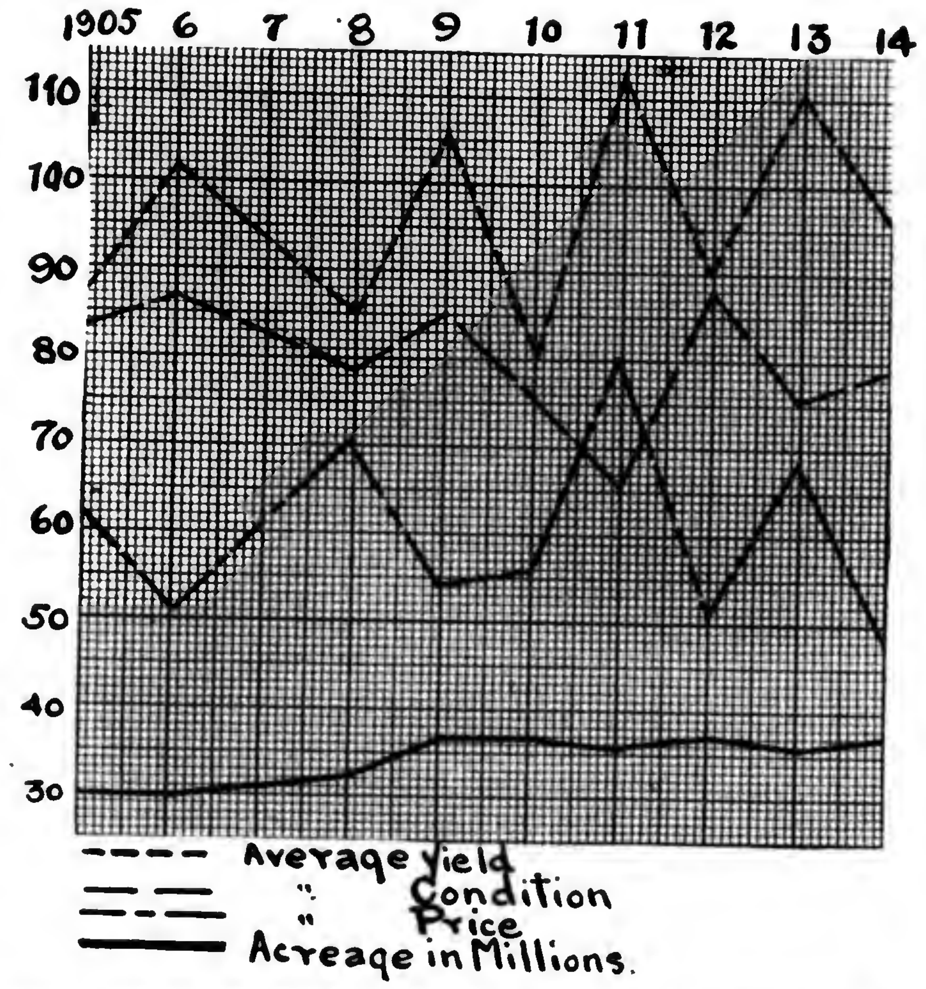
H. R. 7484. On corn 15 cents per bushel of fifty-six pounds. On corn meal 45 cents per one hundred lbs.

Beans and Peas

H. R. 7737. On beans, not specially provided for, 2 cents per pound; lentils, not specially provided for, 25 cents per bushel of sixty pounds. On beans, peas, prepared or preserved or contained in tins, jars, bottles, or similar packages, including the weight of immediate coverings, 4 cents per pound; mushrooms and truffles, including the weight of immediate coverings, 2½ cents per pound.

Wheat and Semolina

H. R. 9946. On wheat, 25 cents per bushel. On wheat flour, 132½ cents per barrel of one hundred and ninety-six pounds. On semolina and other products of wheat not specially provided for, 10 per centum ad valorem. This bill also provides for the repeal of paragraph 644 of the Act of October 3, 1913.



Graph Showing the Average Acre Yield, Condition, Price and Acreage of Potatoes For 10 Years in the United States

FARMERS SHOULD USE INVENTORY

From various and seemingly authoritative sources, many farmers have received the information that they are not allowed to use their inventories in making their income tax report. This apprehension should be dispelled at once. The rulings are very plain on this point. The farmer who takes an inventory of his live stock and crops at beginning and end of the year, can and should use it in making his report. The inventory value of all live stock and crops on hand at beginning of year plus all farm expenses for the year, should be subtracted from the sum of all farm sales and inventory value at end of year. The difference is net income. From net income, the farmer takes personal exemptions and church contributions to find the income on which he is to pay tax. Inventories should be taken now and dated January 1 in order to start the year 1920 right.

By figuring income on the inventory basis, one gets around the difficulty where two crops may be sold the same year, thereby instead of having to record two years 'income in one, it properly distributes the income in the year in which it was actually made. This principle holds true for stock that may be carried over from one year to another. The inventory method protects the man who may have a sale and sells off a lot of live stock and feed. A man will pay $210 more income tax on $8,000 income when this is all paid in one year as ocmpared to paying on $4,000 for each of two years.

A farm record properly kept will save the farmer many times its cost in income tax alone, because the inventory and record will reflect the proper income. Without the record, the farmer will almost invariably report an income larger than he really has. Get a farm account book now and start your record for 1920. You can secure simple account books from your County Agricultural Agent. Also many banks furnish their customers with serviceable books.—Mo. College of Agriculture.

POTATOES FROM EUROPE

During 1913-14, the last season during which imports of potatoes were received from European countries, the stock was apparently of about the same quality and condition as that which is arriving now. After investigating conditions and prices as they existed at that time and consulting with several of the dealers who handle foreign stock, the consenuss of opinion seems to be that this stock usually sells considerably lower than the domestic potatoes on account of its smaller size and inferior quality.

Sold Lower in New York

From October, 1913, to the end of May, 1914, quotations on the European stock, principally from Denmark and Belgium, ranged in New York $1 to $2 per 168-pound sack, mostly around $1.50 to $1.75. During this same period Maine and New York stock in 165-pound sacks ranged $1.85 to $2.75, with most of the sales around $2.50, the latter part of the season.

The stock arriving in New York the present season is of inferior quality and condition, is ungraded or field run. It has sold from $4 to $5, mostly $4.50 per 165-pound sack, altho it is reported that some of this stock sold late in February as high as $5.75 a sack, when New York and Maine stock was bringing about $7 to $7.75 per 165-pound sack.

About 2,000 sacks of potatoes from Denmark have been refused entry at New York after rejection by the Federal Horticultural Board. Nearly 7 percent of the rejected stock was infected with scab and rot. This cargo, which arrived March 4, included some potatoes of fairly good grade, which sold wholesale at $4.55 per 100 pounds, or considerably below best native stock, and most of the imported potatoes not rejected sold still lower. That portion of the cargo which was refused entry may be shipped to Cuba.

AVERAGE POTATO YIELD AND PRICES

The accompanying chart plotted from the figures given in the Yearbook of the U. S. Department of Agriculture disproves the statement so often heard among potato growers that a large acreage of potatoes generally follows high prices. The acreage has increased very gradually during the past ten years and this increase has been quite consistent from year to year. It would seem that the price is dependent primarily upon the yield as affected by climatic conditions and other factors of culture.

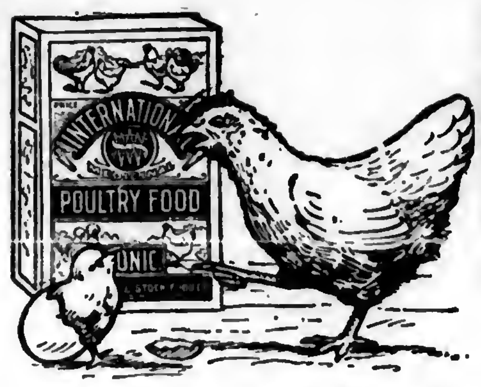
MANURE WORTH MILLIONS

Manure is recognized as one of the finest fertilizers obtainable for the farm. The Bureau of Statistics, Pennsylvania Department of Agriculture has estimated that the manure produced on the farms of the state, each year, has a market value of the enormous sum of $61,069,101.

The manure produced by the various species of farm animals in the state is valued as follows:

Horses	$11,958,513
Mules	1,243,458
Cows	18,386,120
Other Cattle	12,147,180
Sheep	5,286,438
Hogs	9,047,392

Only a small portion of this vast sum is realized by the farmer. With fertilizers selling at top prices, the thrifty farmer will take care to see that not a pound of manure is wasted and that it is properly protected and placed on the fields—not permitted to lay exposed to the elements where it loses most of its value as a soil fertilizer.



"Always Take Mother's Advice"

"Little one, there's nothing that will make you grow and develop so as to lay lots of eggs, as quickly as International Poultry Food Tonic."

Thirty years of successful use by thousands upon thousands of poultry raisers *proves* it to be thoroughly dependable. If you want the biggest broilers and earliest layers use

INTERNATIONAL Poultry Food Tonic

Helps chicks to develop remarkably fast. Helps to invigorate the digestive organs of all kinds of poultry, to supply material for bone, feathers and muscle—and to make hens lay more eggs.

Helped Her Chicks Grow Faster

I am sure that International Poultry Food Tonic made my young chicks healthier and grow faster.
—Mrs. Herbert Elliot, Gladbrook, Ia.

Successful With Incubator Chicks

We gave International Poultry Food Tonic all spring to the little chicks and hardly lost one, although they were all incubator chicks I am well pleased, and will buy more soon.
—Fred J. Happel, Pender, Neb.

Got Five Times More Eggs

Before using International Poultry Food Tonic I was getting one and two eggs a day, but now am getting eight and ten.
—Solomon Walters, Marengo, Ohio.

ASK YOUR DEALER

for International Poultry Preparations. Then use them as per directions and you can't help but be successful.

International Stock Food Co.
Minneapolis, Minn. Toronto, Canada

DIGESTER TANKAGE FOR HOGS

Write for prices, feeding directions, etc.

IDEAL RENDERING CO.
NORTH WALES, PA.

IDEAL MEAT SCRAPS TRADE MARK

Farms

250 Acres Equipped $1500 Cash Required

Estate must be settled and quick buyer gets everything for less than value of buildings; near R. R. town, excellent markets; 125 acres machine-worked fields, balance spring-watered pasture, and wood, apple orchard; nearly new 7-room house with water, telephone, maple shade, new barn, silo, spring water, other buildings; quick buyer gets 7 cows, wagons, machinery, &c., only $3300, part cash, easy terms. Details page 30 Strout's Catalog Spring Bargains 33 States, copy free. STROUT FARM AGENCY, 1422 R E, Land Title Bldg., Philadelphia, Pa.

FARM— 250 Acres, 100 acres woods, 150 acres pasture and cultivated. Good house, new tobacco barn, stables, cabin, etc. Only 1 mile from village with banks, churches, schools, etc.
E. ROWELL, JR., LOUISA, VA.

The Best Farms for the money, all sizes $50 to $100 per acre, good buildings, Cent. Schools, good soil. List free.
F. H. STEWART, ESYPVILLE, PA.

HAY Ship To The Old Reliable House
Daniel McCaffrey's Sons
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REG. O. I. C. and C. W. PIGS and Service Boars. Satisfaction and safe delivery guaranteed.
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CHESTER WHITES and O. I. C. Big Type prize winners. Pigs $15.00 and up, prepaid.
GEO. F. GRIFFIE, NEWVILLE, PA. R. 3

SHEARING SHEEP AND BAGGING THE WOOL

The cash value of a crop of wool not only depends on the care and management of the flock, during the wool growing season, but also on the manner in which it is removed from the sheep's back, packed and marketed.

The time to shear sheep depends on conditions where proper barns and sheds are provided to give the animal protection, in case of cold damp weather. The wool may be taken off as soon as the weather is warm enough to cause the grease to rise in the fleece. This adds weight, gives the wool more life, and makes shearing easier.

Where poor shelter is provided it is best to wait until the weather is settled and danger from cold wet rains is past, because sheep take cold more or less easily and this may result in loss to the flock.

Sheep that are not in lamb or nursing lambs should be shorn first. Ewes heavy with lamb may be injured during the shearing process. Ewes nursing lambs may take cold which is likely to retard the flow of milk thus giving the lamb a serious setback.

Plenty of Dry Bedding

Should cold weather set in after shearing, house the sheep in a dry place free from drafts using plenty of dry bedding.

Sheep may be shorn either with hand shears or the power machine. The machine cuts more closely to the body, does not make so many second cuts, or as many cuts in the animal's body, and the inexperienced person can do a much better job than with the hand shears. Experienced sheep shearers are getting scarce and the average flock owner could well afford to have a machine in order that he might do his own shearing.

Before starting to shear have all tools, twine bag, and place to do the shearing handy. A clean dry floor free from dirt and dust is an excellent place to do the work. This should be close to the pen where the sheep are kept, to avoid losing time catching the animals.

Give a Close Cut

To do a good job shearing the wool should be removed smoothly, close to the body, in such a manner that the fleece is not torn apart.

The animal is set on its rump with the body tilted backward against the knees of the shearer, so that the hind feet do not touch the ground; thus the animal cannot struggle so readily.

No certain method of procedure in removing the fleece is recommended, as most people do the job a little differently. First shear down the belly and sides, up on the neck, around the sides and up the outside of the hind quarters is a good practice.

After the fleece has been removed all dung tags and wet portions should be removed. The fleece should be rolled in a neat bundle with the flesh side out and tied with either paper or wool twine, the former preferred. Sisel and like twine should never be used as it adheres to the wool and lowers its value because it will not take the dyes and is harmful to the strength and finish of cloth. The tying of the fleece may be done by rolling it up or by the use of the wool tying board. The latter is to be preferred by the inexperienced person.

Don't Tie Too Tight

Do not tie the fleeces too tight, as it makes them appear too heavy for the bulk and may cause the purchaser to suspect an unhonest package.

Wool should be tied in wool sacks which average about seven feet in length and hold about two hundred and seventy-five pounds, depending on the kind and condition of the wool. These bags should be filled by means of a wool ring. The bag is attached to the ring and fastened so that the bag barely touches the floor. A person gets in the bag to pack the wool. It is a good plan to keep the grades of wool separate where enough fleece is taken off to make it practical. It should be the aim of the wool producer to put a good honest package of wool on the market.

The marketing of wool has been unsatisfactory in the past, but as the public realize more the value of sheep the sheep population will increase materially. This increase will make pooling more satisfactory, because larger quantities of wool can be centralized thus giving more inducement to the buyers.

The pooling of wool will be educational as the grower will receive the value of his wool based on the grade, quality, condition and cleanliness of the product.—Kansas Industrialist.

FITTING THE HORSE'S COLLAR

The first few days of the spring work while the horses are soft and fat, are the most important ones as they largely determine the horses value for putting out the spring crops. An injury to the shoulders at this time may cause more or less trouble during all the spring work, and will undoubtedly lay the animal off from work for some little time. It is important that each horse have his own individual collar. It has not been satisfactory to use one collar on two horses. It is rarely possible to find two horses shoulders that are just alike so when the collar becomes set to one horse's shoulders it should not be worn on another.

Usually in the spring, the horse that has been idle will be very fat. When fitting a collar to him it will be necessary to fit the collar to the neck as you find it, for if you do not you may injure the horse before he has become thin from working. The only thing you can do after he loses flesh is to put a sweat pad under the collar or get a new collar.

Few firms make a collar on practical lines. The old straight sided collar will fit some horses, but not the majority. The reason for this is plain, how many horses are there that have a flat even surface from the top of the neck to the bottom along either side. The proper method of building a collar is to build it to fit this contour of the neck. The collar should be long enough that the hand can be placed between it and the bottom of the horses neck and thru to the wrist without any pressure. It should be wide enough just below the top of the neck that it will admit the fingers of the hand comfortably. This width from top to bottom of the collar should be maintained. The collar when placed on the neck should fall loosely into place, if it has to be pushed into placed it is too tight. If there is too much movement of the collar from side to side it will cause injury, as it will if it is too long or too short. To test the collar grasp the top of the collar in one hand and hold it tightly against the shoulder, then grasp the throat of the collar in the other hand and work the collar from side to side; if the play is more than two inches it is too large.

The collar should be used a few times while the animal is doing very light work to break it in. A good leather collar is the cheapest in the end as a good collar will produce less shoulder trouble than a poor cheap one. At night the sweat and dirt should always be scraped off, and if necessary sponge it off as it must always have a smooth surface.
—Dr. G. H. Coon, Ames, Iowa.

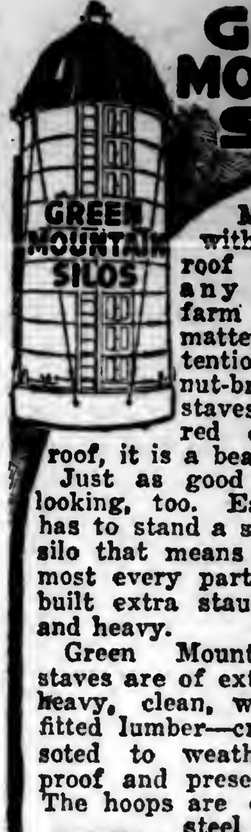
WHICH WAY SHALL WE LOOK IN BREEDING LIVESTOCK

It is a well grounded principle in breeding live stock that we shall look well to ancestors—study the pedigree in trying to determine what the offspring shall be. This certainly is a wise thing to do in selecting animals as our foundation stock and in mating them afterward. We have more hope in securing transmitted excellences in offspring from parents in which a type has been well established and in which there are individual merits, than can be expected from matings of mediocrity. If this were not so we would have to acknowledge that our efforts at breed improvement by type establishment has been a failure. It has not so failed. We have not scored as many successes as we often think we have deserved but we have on the whole made very encouraging progress. Therefore, we should look backward enough to understand fully the trend of forces and influences we are trying to unite or strengthen in our breeding operations. We must work to bring forces together and into unison. To secure adhesion and fixity we must have contact. To this end we must have the good points well brought together in the male and female. They should not only inherit good but have it. This far only need we look back.

Then we shall look forward. Too many breeders are inclined to be concerned about the offspring only after it is dropped. The farm mare that must work, the dairy cow that must keep in flesh and fill the milk pail—they are generously discharging the two obligations of work and motherhood. The new, unseen life must be considered, and if we are going to breed anything but scrubs we must make it our care that in the function of too hard work the other finer function of motherhood is not unduly imposed upon. The work mare may be kept busy; the good cow coaxed and encouraged to give an abundance of milk and the unborn not suffer, but collateral with the work must be absence of unusual excitement; there must always also be an abundance of wholesome and easily digested food.—W. S. McSparran.

Get all tools and implements ready for the rush of spring work.

GREEN MOUNTAIN SILOS



The Green Mountain silo with the new hip roof does credit to any group of farm buildings, no matter how pretentious. With its nut-brown creosoted staves and bright red cedar shingled roof, it is a beauty.

Just as good as it is good looking, too. Each part that has to stand a strain and in a silo that means almost every part—is built extra staunch and heavy.

Note the Safe-like Doors

Green Mountain staves are of extra-heavy, clean, well-fitted lumber—creosoted to weather-proof and preserve the wood. The hoops are of extra-heavy steel with easy-fitting, rolled (not cut) threads.

Wooden Ladder No Frosting

The safe-like Green Mountain door is a patented feature that insures sweet silage.

The Green Mountain anchorage system prevents warping and blowing over and holds rigid against unusual strains.

No iron parts on the Green Mountain ladder to frost your hands or pull off your mittens in winter.

There's a real reason for every Green Mountain feature. Write for free 1920 literature and get the whole story. Special discounts on early orders.

CREAMERY PACKAGE MFG., CO.
345 West St. Rutland, Vt.

Hoops and Lugs Extra Heavy

The Eshleman Sheaf Elevator

Single or double chain. The great labor saving machine for the farm today.

Easy to operate, strong, light, convenient. 1½ H.P. engine or motor will operate largest machine.

Boy large enough to handle sheaves can unload your grain.

Made in sizes to suit any height barn. If you are short of help or want to save time, labor and money write for circular.

When writing for circular give height from floor to top log of barn.

Not only carries sheaves to the mow, but will drop them in middle of mow.

MANUFACTURED BY
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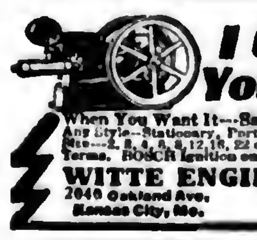

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As a Human Liniment and Antiseptic for external use it is invaluable.

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urocs: Young Pigs, Bred Sows and Service Boars. Send for book "How ...ale Hogs." Visit our Farms, Enfield, Conn. ...IELD FARMS, Representative herds at Bing...ton, N. Y., Trenton, N. J., Enfield, Conn. ...-34 Church Street, New York City.

EDGEWOOD HAMPSHIRES
... checks received get a few choice gilts, bred March and April farrow. Priced at $100 each ... they are good.
...W HEAD, Edgewood Farm, Marion, Ohio.

...istered Durocs Best blood lines. Sold out at present. Will book ... for spring pigs. Northumberland County Duroc ... Breeders' Association, J. M. FRY, Correspond... Secretary, Sunbury, Pa.

...ge Type Reg. Berkshires, of all ages for sale ... a breeder from a thirteen pig litter. Pay ... you see stock. No cash in advance.
...ID WIANT, HUNTINGTON MILLS, PA.

...SHIRES—Longfellow and Masterhood breeding ... Superior length, depth and extra thick hams. ... Booking orders for spring shipment. Marian... Farms, A. L. Hostetter, Manheim, Pa. R. 1.

...LROSE DUROCS— EXPRESS PAID Boars and Bred ... bred and open gilts all sizes. Prices right.
BELROSE FARMS, RICHFORD, N. Y.

... Berkshire BOAR AND SOW, weighing 400 lbs. each, $125 per pair. ...le, 2 female pigs, $15 each; $150 takes the lot.
...OWELL, JR., LOUISA, VA.

...e of America's Best Durocs. 40 head bred and open gilts and ... boars at Public Sale, December 2, 1920.
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Growthiness Prolificacy
We guarantee satisfaction.
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... Poland Chinas 3 sows, weighing 500, 400, and 300 lbs.; ... boar, 500 lbs.; pigs, either sex, cholera im...
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BIG TYPE POLAND CHINAS. Special price ... pigs this month; also spring pigs. Giant ... and Blue Valley Blood. Prices reasonable.
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...SHIRES.—The high-quality home-market and ...table breed. Our type pleases. Pigs and ... boars. Morningside Farm, Sylvania, Pa.

Berkshire Swine Registered High Grade. Prices reasonable. Write ... FARM. CENTER VALLEY, PA.

Big Type SPOTTED POLAND-CHINA pigs, ... & son of O. K.'s Pride No. 30.
...EYMER, R. 4, Shippensburg, Penn'a.

O. I. C.'S ALL AGES. Booking orders for Sep... October and November Pigs. BLACK DIA... MINORCA FARM, MT. BETHEL, PA.

Big Berkshires of quality. Special offer on spring ...
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Sale Registered O. I. C. Boars, six months old. Good breeding.
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O. I. C.'s Booking orders for Spring pigs. Silver strain breeding.
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... Duroc Pigs of Ohio Chief and Cherry King. ...ne young boars. Prices reasonable.
... F. ROBINSON, Rt. 1, Amelia, Ohio

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A THAW BRINGS OUT THE COONS

THEY come out of their den-trees—travel a little during the night—and then lie out on limbs in the grateful afternoon sun.

Take a walk in the woods with your little Savage Junior rifle. Watch the snow around the trees for the hand-shaped tracks. Run your eye along the highest limbs. Search for the gray body—the ringed tail.

A hollow-pointed .22 long rifle bullet from your carefully rifled, carefully targeted, deadly accurate little Savage Junior will bring a coon from the tallest tree *and coon skins are bringing high prices this year.*

Your little .22 Savage Junior Bolt-action single-shot rifle is simple and dependable. If you haven't yours yet, your dealer has it for you. Only $9.75. Ask him to show it to you. For description, write us.

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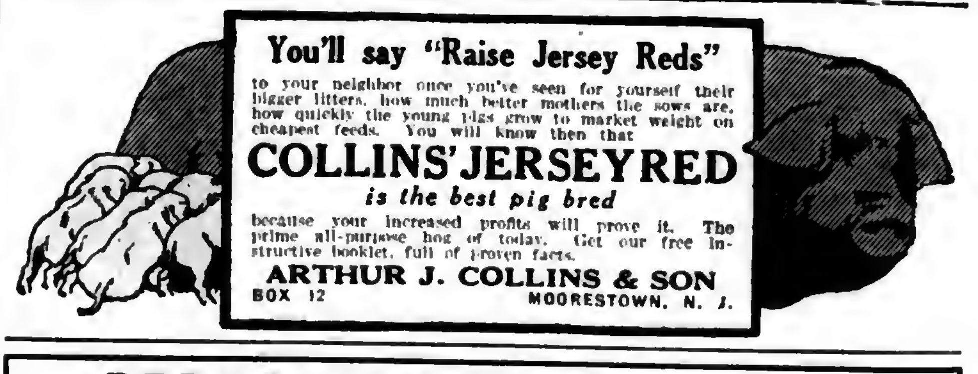
.22 calibre Savage Junior 18-inch round barrel single shot model. Shoots .22 short, long, and long rifle cartridges. Bolt action modeled after best military rifles. Genuine walnut stock with steel butt-plate. Bead front and adjustable rear sights. An arm which wins the respect of experts.



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to your neighbor once you've seen for yourself their bigger litters, how much better mothers the sows are, how quickly the young pigs grow to market weight on cheapest feeds. You will know then that

COLLINS' JERSEY RED
is the best pig bred

because your increased profits will prove it. The prime all-purpose hog of today. Get our free instructive booklet, full of proven facts.

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To provide for additional young stock we offer part of our foundation herd as follows: "King Louis 50th," tried service boar and active breeder of excellent type and proven quality. Eight (8) young sows bred for late spring farrow. These animals are all large typical Berkshires, and prolific breeders, bred for their second or third litters.

This offer makes a splendid opportunity to found a herd and we will make a special price covering the entire lot. They also will be priced separately. It will pay you to get our prices now and take advantage of this splendid offer.

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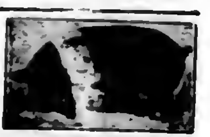
Blue Hogs. Shipments desired the coming summer should be booked at once. Now shipping Spring orders. These hogs are actually Blue in color. They are the largest growthiest and most prolific breeders on earth. Write for information. Mention this paper. THE BLUE HOG BREEDING CO., WILMINGTON, MASS.

Hampshires Eastern Quality Herd, National Swine Show and State Fair winners. Also Guernsey cattle. Free Cir. Locust Lawn Farm, Bird-in-Hand, Box 2, Lanc. Co., Pa.



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$10 each while they last, all from imported Southern stock, none better. Bargains in bred gilts, service boars, brood sows and spring pigs. C. W. Ellis, Jr., Maple Lawn Farm, Cortland, N. Y.

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Both sexes, all ages. Reasonable prices.
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Crandell's Prize Hogs, Cass City, Mich.

Stop Losing Chicks

Put Avicol in the drinking water.

Most people 'ose half of every hatch, and seem to expect it. Chick cholera or white diarrhoea is the trouble. The U. S. Government states that over half the chicks hatched die from this cause.

An Avicol tablet in the drinking water, will positively save your little chicks from all such diseases. Inside of 48 hours the sick ones will be as lively as crickets. Avicol keeps them healthy and makes them grow and develop.

Mrs. Vannie Thackery, R. F. D. 3, St. Paris, O., writes: "I had 90 chicks and they all died but 32. Then I commenced on Avicol and haven't lost any since. They have grown wonderfully."

It costs nothing to try Avicol. If you don't find that it prevents and promptly cures white diarrhoea and all other bowel diseases of poultry, tell us and your money will be refunded by return mail. Avicol is sold by most druggists and poultry remedy dealers, or you can send 25c or 50c today for a package by mail postpaid. Burrell-Dugger Co., 497 Columbia Bldg., Indianapolis, Ind.

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Strong, free range, pure bred stock, 18 cents up. Shipments every week. Send for price list and catalog.
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GULDIN'S WHITE LEGHORNS
Bred for size, vigor and high flock average egg yield.
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LOOK! Barron Pedigreed 300 Egg Strain S. C. White Leghorn baby chicks. Big, husky, pepful chicks that live, grow, pay and lay. $18 per 100, $85 per 500, June 14th delivery by prepaid parcel post. Highly fertile hatching eggs, $9 per hundred delivered.
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White Leghorns	$20—100
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Our 1920 catalog FREE. How we breed the 300-egg hen. Scientific facts plainly told. Each month's routine. Feeding for winter eggs. *How We Win Medals at the Egg Laying Contests.*
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Better Produced Day-Old Chicks are the kind you want—17 leading breeds at reas. prices. Send for free catalog today. Springfield Hatcheries & Poultry Farm, Box H. Springfield, Ohio.

Ducklings Tiffany's Superior Mammoth Pekin, Giant Rouen, Everlay Indian Runner (all varieties) Eggs. ALDHAM POULTRY FARM, R 39, PHOENIXVILLE, PA.

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A specialty, from the leading varieties of poultry. Prices very reasonable. Meadow Brook Poultry and Stock Farm, Gordonville, Pa.

Day Old Chicks and Hatching Eggs
White Leghorns, Barred Plym. Rocks, Rhode Island Reds. Safe delivery guaranteed. Place orders now to insure prompt delivery. PARADISE POULTRY FARM, BOX C, PARADISE, PA.

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Baby Chicks. Eleven leading varieties, bred from show-stock, to produce eggs, at utility prices. Send for illus. catalog and price-list. Ohio Poultry Yard & Hatcheries, Dept. B. Marion, O.

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PIELL'S BLACK LEGHORNS. Famous Leghorns, and layers, fine birds. Hatching eggs only, $2.50 setting. Information free. Book orders now.
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Hatching Eggs of Pure-Bred Poultry
Prices reasonable. Catalog free.
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MAMMOTH White Pekin Duck Eggs. Splendid stock. High fertility. $12 per hundred, cash with order. Beech Dale Duck Farm, BIRD-IN-HAND, LANC. CO., PA.

Baby Chicks Barred Rocks, White Rocks, White Leghorns and Reds. Circular Free. Mechanic Grove Poultry Farm, Mechanic Grove, Pa.

SHIREY'S S. C. White Leghorn Baby Chicks 14c and up according to season. They make the greatest egg producers on earth. C. P. Shirey, Stewartstown, Pa.

RINGLET— BARRED ROCK COCKERELS—PULLET bred. Hatching Eggs.
C. T. DOWNING, WEST CHESTER, PA.

Nice Lot Barred Plymouth Rock Cockerels, also egg settings from special mated pens. Write for prices. EUGENE A. GROVE, Lime Kiln, Frederick Co., Md.

WHAT HAPPENS IN THE SILO.

When green forage is packed firmly into an air-tight chamber, such as a silo, fermentations take place, cause both by the enzymes contained in the plant cells and by bacteria and yeasts carried into the silo on the forage. During these fermentations much of the sugar in the ensiled forage is broken down into organic acids, chiefly lactic acid the same as the acid in sour milk, with some acetic acid like the acid of vinegar, and traces of other acids. In these changes oxygen is taken up and carben dioxide is given off. If the ventilation is poor this gas becomes so prevalent that one would be drowned in it because there would not be sufficient oxygen to supply the needs of the body.

When the sugar in the forage has been changed into the acids the fermentation is checked, for the other carbohydrates are attacked to only a small extent. It is due to this that well-matured corn makes less acid silage than immature plants containing more sugar. The fermentation comes to an end at length even tho an excess of sugar is present because sufficient acid finally prevents the further growth of the bacteria and yeasts, and the action of the plant enzymes. Just as when hay is put in the mow the temperature rises somewhat but if the silage is well-compacted it seldom rises above 100 degrees F. The presence of air causes a greater increase in temperature.

The accumulation of acids also prevents the growth of undesirable putrefying bacteria, and after a few days the silage making processes cease, and no appreciable changes will take place as long as the air is excluded. Instances are on record where silage made 12 and 15 years before has been found to be of excellent quality.

Tho the conversion of sugar into organic acids is the chief change which takes place in good silage other decompositions also occur to some extent. A considerable part of the protein is broken down into amino-acids. However, these processes are similar to the digestion which takes place in the digestive tract of the animal and the nutritive value is not necessarily impaired when mature corn is used.

BETTER LIGHTING PROTECTION

I visited an insurance office not long ago, and ran over the list of losses which had occurred during the past summer from lightning. "It is appalling." I said to the agent. "Yes," he replied. "And how many of these losses could have been prevented?"

I could not answer the question, but it set me thinking. I have found by experience, that farmers are too careless about lightning, considering value of livestock, machinery and building material. Before the storms come is a good time to devise methods of protection.

It has been proved that good rods properly installed, form the best safeguard to buildings. Many farmers do not have them but any one can construct home-made devices that will pay well for the trouble. A good serviceable rod can be made by lapping several strands of common fencing wire into a rope. These may be cut into any length desired and passed over a building or grain stack. Be sure that both ends of the rod are firmly anchored in the ground. Metal evespouts make a good conductor, pass a wire from each end to the ground; notice that these ground wires do not come in contact with wood, straw, manure, or other inflammable material. See that all telephone and lighting wires which enter buildings are insulated, and keep away from them in a storm. It is dangerous to use a building as a corner post in a fence, but if such is done,—always pass a strand of smooth wire from the fence to the ground.

It is more difficult to protect live stock in the field, tho a farmer near my home has good success in this way; he has ground wires placed at intervals of fifty feet along his fences. He also forced the 'phone company to place a ground wire at every pole upon his farm. Altho much damage has been done by lightning in that neighborhood—he has never met with a loss.

"I have found," says this man, "that lightning takes the easiest course to the ground; and wire is the safest means to convey it there. I go over my buildings and fences once each month during the summer season and see that all lines and metal pipes, etc., are safe; and that no bare wires are touching wood. When a new fence or wire corrall is built, I see that it is properly provided with ground wires. I am careful myself. No one on my farm stands in the barn, or under a tree during a thunder storm.—F. R. C., Ohio.

TRI-STATE PACKERS WANT PURE TOMATOES LAW

A resolution introduced by W. R. Messenger, Federalsburg, Md., calling on the legislature of Delaware, Maryland, and New Jersey to enact laws to insure "pure tomatoes" was adopted by a vote of 19 to 7 at a special meeting of Tri-State Packers' Association in the Hotel Dupont, Wilmington, Del., last week. The resolution voices the opposition of the association to the use of juices or other substances in the canning of tomatoes. There was strong opposition to it, one member stating that he felt the Federal pure food laws were sufficient to cover any faults in the canning industry.

J. P. Andrews, of the Andrew's Packing Company, of Hurlock, Md., asserted that the canners of Dorchester and Caroline counties were opposed to such legislation and that "they had a hard enough time to manage their business under the restrictions of the Bureau of Chemistry."

Baltimore packers headed by Mr. Hamburger, declared that they would oppose this resolution to the last, and would endeavor to block it in the Maryland Legisislature. He stated that the Federal Law put a stop to the practice of packing inferior odds and ends, together with unclean materials, and passing them off as tomatoes.

A resolution was introduced criticising the Bureau of Chemistry of the Department of Agriculture for alleged laxity in the inspection of canned vegetables, which it was claimed permitted packers of inferior goods, to expose for sale their goods on the market to the detriment of packers of unadulterated products. This resolution was defeated after a spirited discussion. Another resolution was passed, urging that the army and navy departments be requested to disclose how many cans of various foodstuffs they have on hand.—K. P. H., Seaford, Del.

Sick Baby Chicks

There is only one way to deal with baby and that is to keep them well. Doctoring a dred or more chicks is mighty discouraging

It's pure carelessness to lose more than cent of chicks, from hatching to full growth. lose 40 per cent to 60 per cent, and even more. profit in that.

Our book, "Care of Baby Chicks" (free) and package of Germozone is the best chick WITH BABY CHICKS YOU MUST SICKNESS—NOT ATTEMPT TO CURE had a sick chick all last season"—C. O. Moline, Ill. "Not a case of white diarrhoea in years"—Ralph Wurst, Erie, Pa. "Have 300 now 5 weeks old and not a single case of trouble"—Mrs. Wm. Christiana, Olive Ridge, York. "Two weeks after we started last were a mighty discouraged pair. Every day three to six chicks dead. A neighbor put to Germozone and we are now sure if we had at the start we would not have lost a single Wm. E. Shepherd, Scranton, Pa.

GERMOZONE is a wonder worker chicks, chickens, cats, dogs, rabbits or other pet or domestic It is preventive as well as curative, which times better. It is used most extensively for bowel trouble, snuffles, gleet, canker, swelled sore head, sores, wounds, loss of fur or 25c, 75c, $1.50 pkgs. at dealers or post
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All through the blustry winter months, our WYANDOTTES lay eggs, and lots of them. a limited number of carefully selected eggs flock at $15 per 100, $8 per 50, $2.50 per 15. Also chicks at 40c each. We advise chase of this stock for those who want from our high production, trapnested birds. cash with order. Eggs and chicks forwarded post prepaid. We know you will be pleased stock. Book your order early. J. V.
GORDONVILLE, Lancaster Co.,

EGGS FOR HATCHI
NONE SUCH WHITE LEGHORNS. For NONE SUCH WHITE LEGHORNS have been nested and bred to lay more eggs. FERRIS strain, mated to Grandsons of Prince Eglatine, of the world's famous Lady Eglatine. GUARANTEED. Hatching eggs and day old
April Prices
300 egg strain, hatching eggs 15, $3.00 100,
300 egg strain, day old chicks 25, 8.75 100,
The H. M. Spahr Breeding Estate, Dept. C Westbor

ENGLISH WHITE WYANDO
MAMMOTH PEKIN DUCK
for hatching, from the very best stock. eggs, 15 for $2.50. Ducks eggs, 11 for $2.50 carefully packed and delivered. A. R.
WOODBURY, BEDFORD CO., PA.

CHICKS from large, pure white, old hens. Wyckoff strain. Extra fine, Brown Leghorns, 20 cents. White Barred Rocks, Orpingtons, R. I. Reds, Black cas, 25 cents. Postpaid. Eggs; Half chicks.
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BIG STURDY BABY CHICKS AND EGGS from high egg producing strains Martin's Dorcas White Wyandottes, Rocks, Shepard Anconas, Eglantine White S. C. R. I. Reds. Hatches every week ary 15th. Catalog free. SUNNY SIDE FARM, COOPER HILL, N. J.

BABY CHICKS of the eties of Poultry. Eggs for hatching, Brooders, Poultry Supplies. cular free. Prices low. Satisfac anteed. Write today. NICHOL'S TRY FARM, Box 130 Monmouth,

Baby Chicks S. C. Rhode Island White Leghorns. Improve flock by buying chicks from these heavy strains. Bred for twelve years for heavy egg tion. Write for delivered prices.
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200,000 Chicks Reds, Rocks, Minorcas and low prices. Shipped by Parcels Post, paid. Safe delivery guaranteed. Our 11th catalog free. THE KEYSTONE
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Baby Chicks and hatching eggs from egg-laying strain White baby chicks $20.00 hundred. Hatching hundred. Safe delivery guaranteed. We inspection of our birds, if possible.
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Hampton's Black Leghorn Chicks. free circular order chicks. Tells why the Black Leghorn greatest layer and most profitable breed Write today. A. E. Hampton, Box F, Pitts

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White Leghorn Day-Old Chicks and eggs from our own breeders. Can still supply some chicks for May delivery. Stanmith Poultry Farm,

CHAMPION LAYERS S. C. horn Eggs setting. Winners of all prizes at the Fair. EDWIN BOVAIRD, Brockwayville,

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Single Comb White Leghorns. Big Vigorous Good layers. Eggs and Chicks. Write
PAUL R. EMERICK, CLINTON

For Sale BABY Chicks. Barred Rocks, Buff Orpingtons, and White Buckeye Hatchery, Millerstown, Perry

S. C. BUFF ORPINGTON EGGS for $2.00 for 15, $10.00 per 100.
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Save $10. Buy Hummer's Famous Chicks Leghorn $21, Ancona $31, Bar. Rock $2 per 100. E. R. Hummer & Co., Fren

White Rock Chicks from good stock 100 postpaid and White Indian Runner ducklings 30 MRS. I. F. GRIFFITH, R 2, MO

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Approximately 10,000 cases are successfully treated each year with
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No experience necessary; easy and simple; just a little attention every 5th day. Price $2.50 a bottle (war tax paid)—money refunded if it fails. Send for free copy of FLEMING'S VEST-POCKET VETERINARY ADVISER Valuable for its information upon diseases of horses and cattle. 197 pages, 67 illustrations. Write today.
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Increase Your Wool Clip
Shear with a machine and not only get 15% more wool the first season but leave a smooth, even stubble that grows more wool the next year. You lose money by shearing with hand shears. Machine shearing is easier and doesn't scar the sheep. Get a Stewart No. 9 Ball Bearing Shearing Machine. Soon pays for itself. Price $19.25. Send $2 balance on arrival. Write for catalog.
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OF CORTLAND, N. Y.
King Korndyke Sadie Vale Jr., No. 20391, two nearest dams averaging 36 pounds of butter in 7 days, heads my herd. Butter records from 17 pounds two-year olds to 34 pounds at full age. Also high grade Holstein calves, either sex, $15.00 each. Write your wants. PAUL H. STEVENS, Prop.

King Cornucopia Dekol Paul No. 204356
First prize 2-year-old bull N. Y. State Fair 1919. His dam 743 lbs. milk in 7 days, as a 3-year-old world record when made. Two nearest dams average 30 lbs. butter, 721.75 lbs. milk in 7 days. Bull and heifer calves for sale at all times. Postal brings full information. Write me before buying a bull calf for your herd. E. G. DORAN, PREBLE, N. Y.

Penns Valley Stock Farm Percherons, Holsteins, Berkshires. Special offering in fresh cows and heifers; bull calves, grandsons of King of the Pontiacs; herd boars with size, breeding and quality; pigs, either sex. W. F. RISHEL. Centre Hall, Pa.

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REG. P. CHINAS, BERKSHIRES, C. WHITES. Big strains, all ages, mated, not akin; 8-wk pigs, service boars. Beagles and Collies. Write for circulars. P. F. HAMILTON, COCHRANVILLE, PA.

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FLEMISH GIANTS FOR SALE. 3 months old $3, 6 months old, $5 each.
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Chester Whites and HAMPSHIRE SHEEP. Write your wants. We can suit. TWIN BROOK FARM, Newville, Pa.

Chester White Hogs, All Ages
Shorthorn Bulls. R. L. MUNCE, Canonsburg, Pa.

Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Mange.—I have a mare that has the itch, or whatever the ailment is. It affects the whole surface of body. Have closely examined her for lice, she has none. Stabling her in a livery barn is where she caught it. W. W. R., North East, Md.—Your mare should be clipped, then apply one part Creolin, 1 part alcohol, 8 parts green soap, daily, but treat only part of body at a time. Occasionally apply one part Creolin and 50 parts water. In your treatment of this case, tackle the most diseased part first and, I might add, the itchy parts are the spots for you to cover first.

Eczema.—Last May I bought a 12-year-old mare which will weigh 1,100 pounds, used some during the winter and more in summer. She seems to be perfectly well during the winter, but as soon as warm weather sets in her skin becomes itchy, covered with small pimples, but these go away when cool weather arrives. She rubs and bites herself. Some mucus discharges from nostrils and in hot weather she seems to be in heat most of time. W. W. F., Center Hall, Pa.—Give her 30 grains of potassium iodide and 3 drams of Fowler's Solution at dose in feed or in drinking water, 2 or 3 times a day, and keep up this treatment for not less than sixty days. Clip her, apply one part Creolin and 50 parts water to itchy parts once or twice a day.

Deep Milking Holstein.—During 1919 I bought a Holstein cow which soon came fresh, after a few milking she began to leak milk from all four teats and kept it up for several months, but as soon as her milk yield lessened she held her milk. A short time ago she came fresh again, now the same thing is goin on. What shall I do? This cow is seemingly in perfect health. J. S., Plainfield, N. J.—Milk her 3 or 4 times a day, this is much safer than using teat plugs.

Acute Indigestion.—On the 16th of March my Guernsey cow took sick at which time she gave 16 quarts of milk daily, now she is giving only 8 quarts. I feed her good hay and dairy feed, but she is growing thin. J. A. S., Hammonton, N. J.—Give her one ounce bicarbonate of soda and same quantity of powdered wood charcoal at dose in each feed. Change her feed.

Weakness.—I have 5 last-fall pigs. They did fine all winter, but now every one of them is weak and they walk on their knees. Besides, they are stiff. F. B. Mineral Point, Pa.—You have fed them too much corn and perhaps failed to exercise them. Feed oats, oil meal, alfalfa, and roots. Keep them in a clean dry place and let them walk on the earth.

Pigs Choke.—Indigestion.—I have 14 Jersey Red Pigs. While trying to eat they choke and cough. They seem to be fond of lime and earth. What is the cause of their ailment? J. K., Waterford, N. J.—Doubtless you have been feeding same kind of food too long. Mix some air slacked lime in their feed, twice a day. A teaspoonful is dose enough for 3 hogs which weigh 100 pounds each and it should be given to them twice daily. Feed them some roots and alfalfa.

Lice on Poultry.—Our chickens and some of the small chicks are troubled with lice. What had I better apply? W. J. C., Meadville, Pa.—First of all, clean and wash all the inside of hen house with fresh-made lime wash. Clean and burn all the litter you find in their house, especially where they roost. Mix one part blue ointment in two parts petrolatum, and rub a very small piece under the wings and around their vent twice a week. It will pay you well to kill the lice as they are blood suckers. Apply kerosene to roosting poles.

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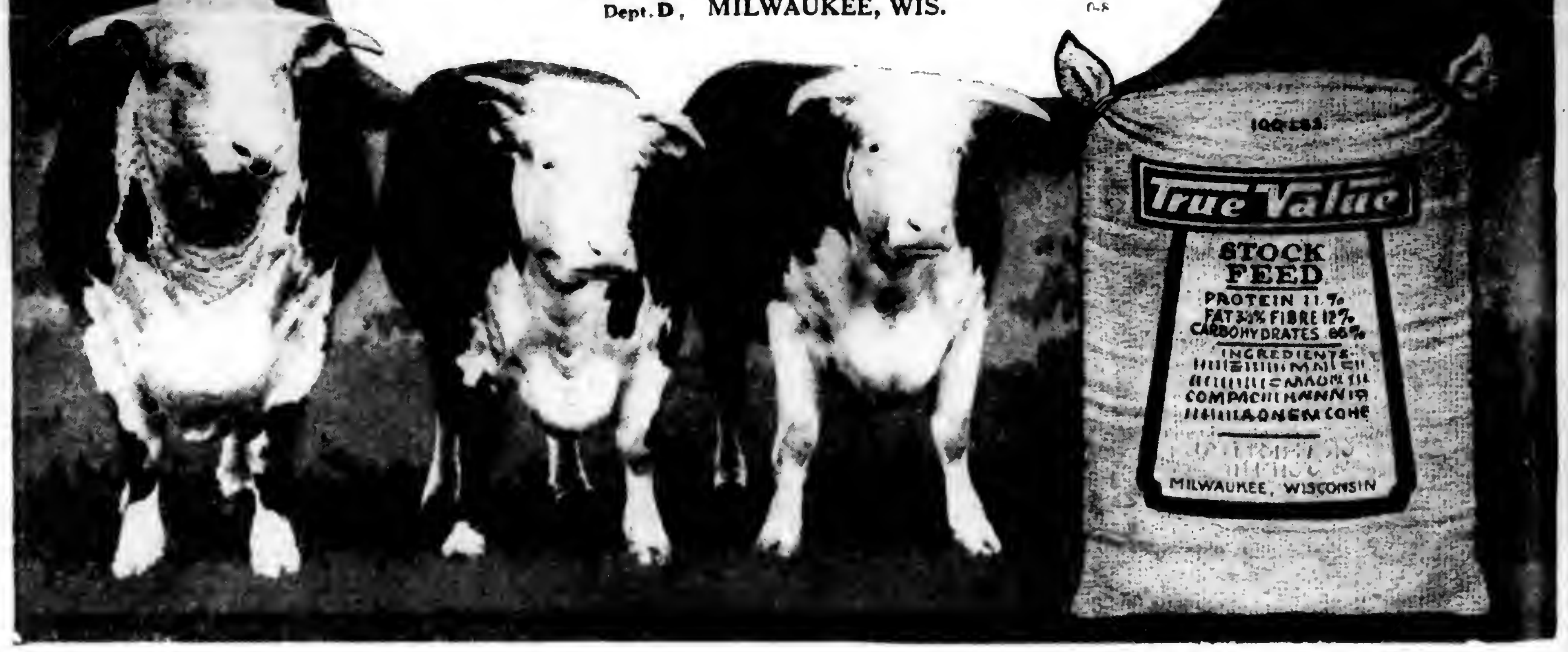

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PENNSYLVANIA FARMER
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75 Cents per Year

How Dairymen's Organization Helps

The Inter-State Milk Producers' Association Tells of its Work

Every leader in the movement for better farming and better farm conditions is urging and pleading for farmers to organize—to get together, to pull together and stick together for their mutual benefit. Those farmers who have vision and understanding realize this and are only too glad to give both financial and inspirational support to the movement. They know that any action that benefits the farming industry as a whole is also a distinct benefit to the individual farmer, and a benefit to the whole people in the long run.

But there is unfortunately another group who cannot see beyond the immediate present, who count their profits in today's dollars only, who are interested merely in the price of wheat, corn, or a quart of milk or whatever it may be without giving a thought to the underlying reasons or influences controlling that price. These people are indifferent to organization ideas. The idea of self-defense and protection is fighting individually with the buyer of their products. Approach these people with suggestions of co-operation and joining an association for mutual protection and the reply many, many times is:

"I do not need the help of an association. I am getting as good a price as the members and sometimes better. I cannot see they have ever benefited any one. Why should I waste my money supporting an association."

The blindness of such reasoning is appalling, and yet the idea is so common that some action should be taken to offset it. There should be more publicity—more interest taken by the various associations to reach this type of producer — more arguments presented to show that for an individual farmer to try to protect himself and fight his own battles is about as futile as the proverbial task of trying "to sweep back the sea with a broom."

And yet after all perhaps it is the fault of those associations. Perhaps the officers have been too modest to explain the wonderful results accomplished by the weight and numbers and strength of many farmers pulling together. Possibly they have been so absorbed in the many problems and tangles presented to them every day for solution, that advertising and "blowing the association horn" have been too much neglected.

To tell what the Inter-State Milk Producers' Association has been able to accomplish during the three years of its existence may help change some of these "knockers" to "boosters." Certainly every ambitious farmer who wants prosperity, would help a co-operative association if he knew the benefits that come from it.

The Inter-State Milk Producers' Association covers the Philadelphia territory and outlying sections of South Jersey, Delaware, Eastern Maryland and Eastern Pennsylvania including the cities of Altoona, York, Pottsville, Atlantic City, Trenton, Chambersburg, Carlisle and Harrisburg. Every dairyman in this territory who sells milk or cream to a dealer, creamery, condensery, ice cream, cheese or any manufacturing plant should be a member for his own protection. There are now over 11,000 members. It is a good increase from the 2,000 membership when the organization was first chartered, March, 1917, but only half and possibly a third of the strength the association ought to have in the district. Some things that should have been accomplished in the last few months failed just because we did not have all the milk producers back of us. The officers, however, were criticised for lack of persistency and of being too easy. This lesson should be impressed emphatically on the minds of every farmer. Every dairyman not a member weakens the association, and both members and non-members suffer in consequence.

Organization of a Local in the Interstate Dairymen's Association at Dover, Delaware.

One of the valuable accomplishments of the Inter-State Milk Producers' Association is an arrangement with the railroads relieving farmers who ship milk direct from loading the cans on the cars. For years it had been a universal requirement on all railroads that farmers must load their own cans, and during winter when trains were often late, and during the busy summer season the delays were an irksome and costly burden to the farmer. This condition became acute during the war. After a long and tedious fight with all the railroads during the summer of 1918, the matter was finally taken before the Inter-State Commerce Commission with a complete victory for the farmers. Every dairyman in the Inter-State Milk Producers' territory is permanently benefitted—member or not—and the matter was something that no individual could possibly have accomplished alone.

At the special request of the Inter-State Milk Producers' Association the Pennsylvania Legislature passed a law that went into effect January, 1920, requiring all milk testers doing a public business to be examined and licensed as to their ability. A law was also passed requiring all testing instruments used to be up to state standard. These measures are safeguards around every farmer who sells his milk on butterfat test.

Several of the smaller local milk producers' associations in Bethlehem, Harrisburg, Allentown, have joined with the Inter-State Milk Producers' Association. This strengthens our organization. We have been able to go into those sections and make arrangements with the dealers so that one uniform price is paid to all dairymen instead of all kinds of prices as before.

The Association has acted as a stabilizing influence on the milk market. Dealers who buy thru the association are not permitted to drop any milk shipper without due notice of 30 to 60 days. This arrangement has been faithfully lived up to by all the big city dealers and gives a comforting security to our producers. There has been difficulty with some of the small dealers in outlying sections, but when we examine the situation carefully we usually find that the farmers have either put on a lot of extra cows during a season when the milk market is always poor, or they have not properly adjusted their production to meet seasonal demands. A few extra cans of milk a day is serious to a small dealer, but nothing to a large dealer because a surplus at one plant may be offset by a shortage at a plant in another section.

In some localities the Association has been able to develop a market for milk. In Huntingdon County, Pennsylvania there was no outlet for milk except in the form of butter, and the Farm Bureau agent appealed to the Inter-State Milk Producers' Association for aid of some kind for the dairyman. The officers thoroly canvassed the district and found that there was plenty of milk

(Continued on Page 10.)

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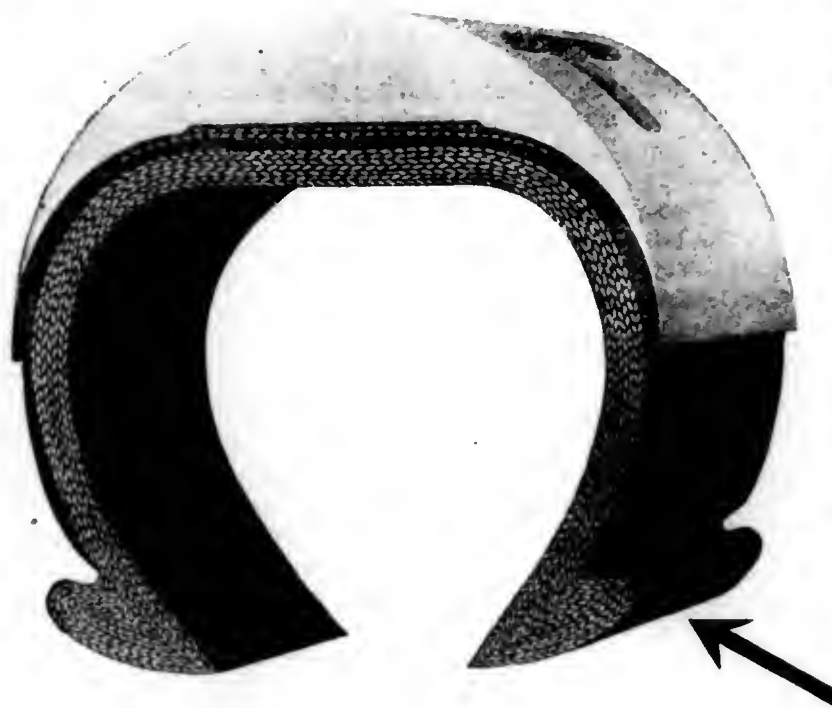

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PENNSYLVANIA FARMER
AGRICULTURE THE KEYSTONE OF NATIONAL PROSPERITY
ESTABLISHED 1880 PUBLISHED WEEKLY

The Lawrence
Publishing Company
Philadelphia

The Prevention of Plant Diseases--Part I

Showing Progress Made and Directions for Effective Seed Treatment

By Prof. FRANK D. KERN

STATE COLLEGE, PA.

The plant disease problem is by no means a new one. Various plant diseases and pests were recognized by the ancients centuries ago. The Greeks and Romans believed them to be a visitation of the gods upon sinful humanity. The Bible speaks of scourges and enemies of the grain crops. In the English text the word "mildew" frequently appears. It is practically certain that the Hebrew word should be translated "rust." There can be no doubt that ancient peoples were fully aware of such diseases as rusts and smuts and of the great injuries they caused to crops.

The development of scientific agriculture has done much toward improving and increasing crop production and one factor, deserving far more attention than it has received, has been the working out of practical methods for combatting diseases. Efficient and practicable methods for controlling many crop diseases have been available for some time and yet have been too little used. It remained for a great crisis in the production of food, that caused by the great war, to emphasize the truth of such a statement. In as comprehensive a way as is possible in the confines of a brief article I wish to discuss the effect of the war on the problem of increasing and conserving the food supply by the prevention of plant diseases.

Effects of War Time Work

The problem may be viewed in two ways: (1) the effect upon the producer, especially as regards his attitude toward accepting and applying methods for disease control, and, (2) the effect upon the science relating to plant diseases (plant pathology) as regards the efforts to improve or add to the methods of disease control.

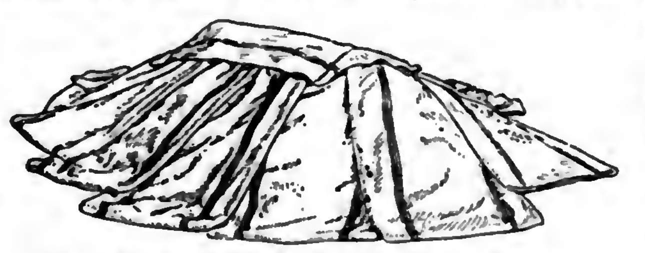
There was a noticeable and encouraging response on the part of American farmers during the war to the plant disease control programs which were available. This was particularly true with regard to the great food crops such as wheat, oats, and potatoes. Methods for controlling the stinking smut of wheat, or bunt, and oat smut have been known for twenty-five years, but have not been as generally practiced as the situation would warrant.

Loss From Wheat Smut

The losses from stinking smut of wheat annually in the United States in reduction in yield are about 25,000,000 bushels and in dockage for smutty grain about $10,000,000, to say nothing of the fact that smut is often a contributing factor to "dust" explosions which sometimes occur during threshing. Too much stress must not be placed on the foregoing statement that farmers responded more readily during the war to the disease prevention program. There is still much to be done. There are some farmers who think that there is very little stinking smut of wheat in our Eastern winter wheat regions. In thirteen Pennsylvania Counties where surveys were made in 1918 stinking smut was present in quantities varying from 1 to 10 percent. In some fields losses as great as 15 percent were observed. In some cases the negligence on the part of farmers is inexcusable. In one field where I found stinking smut during the harvest of 1919 the farmer told me that he was sure it was brought in by the threshing machine in 1918 which came to him from a farm where smut prevailed. Obviously, he should have refused to have that threshing outfit, or treated his seed. He did neither.

Oat Smut

The oat smut treatment has a good start. At a meeting a while ago where I spoke on this subject a man told me that the farmers in his country treated their seed oats regularly. A good point to remember regarding smut of oats and stinking smut of wheat is that every treatment eradicates some smut and that the total amount of smut in existence can be actually reduced by wide enough applications of the treatments. A recent letter from a plant pathologist in Australia states that stinking smut has been nearly eliminated from that continent. We have a long way to go but there are possibilities. The best of all is the fact that each farmer begins to get immediate annual returns—that he does not have to wait until Country wide elimination is reached. The latter fact is pointed out merely as an additional reason for the general acceptance of cereal seed treatment. As evidence of the immediate gain to the grower it may be pointed that, according to a U. S. Department of Agriculture Bulletin, in more than 4,000 cases of treatment for oat smut the average increase was 4.6 bushels per acre. The total profit in these cases, involving about 400,000 acres was $1,197,722.



Cover Grain With Sacks After It Is Treated

Potato Diseases

That potato production can be increased by disease prevention has been a demonstrated fact for a good many years. A great many more demonstrations will be necessary before remedial measures are practiced as they should be and yet during the war time a great many potato growers took up spraying and seed selection as the surest and quickest means to increased production. Their results are so favorable that they will never abandon the practices and without doubt their neighbors will soon take them up. Five farmers in five separate communities in a certain Pennsylvania county with an average of ten acres each secured an average increase per acre in 1919 of 45.77 bushels per acre which was a net profit of $53.06 per acre. The increase obtainable by selecting disease free potato seed is equally striking. In one case selected seed yielded 198 bushels per acre whereas run-of-bin yielded 151 bushels; in a second case selected seed, 155 bushels, run-of-bin, 103; in a third selected, 110, run-of-bin, 70.

In the remainder of this paper I wish to discuss briefly some of the effects of the war upon the science relating to plant diseases. The workers in this science realized that in many instances the prevention of disease is the keynote to maximum production. In the great crisis, when the matter of food was a world problem and there was a shortage of labor, the scientific workers were prompt in appreciating their duty in arousing public concern in this cause of increasing and improving our food supply.

Organized Work

One of the first things accomlished by the plant disease workers was organization to bring about closer and more effective cooperation. There had been a national society of American Plant Pathologists for a decade. This society took the lead by the appointment of a special board charged with the responsibility of stimulating and accelerating plant disease control work to the end that reduction in crop losses from diseases might be an effective factor in the increase of the world's food supply. Thru the activities of this board conferences were held in various parts of the United States, ideas were exchanged, and team work in investigations was inaugurated. This board rendered aid in the distribution of necessary materials, helped to crystallize sentiment favoring fair prices, brought manufacturers together, and brought pressure to have the embargo on spray machinery and material lifted.

(Continued on Page 12.)

Treating Oats For Smut With a Hand Atomizer

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PHILADELPHIA, PA., APRIL 17, 1920

VOLUME 47 NUMBER 16

Our job is to serve our readers. Whenever and wherever we can help you, write us.—The Editors

Encouraging Signs

THERE are many signs that leaders in all lines of business and social activities are waking up to the economic importance of fostering the proper development of agriculture. They are beginning to realize the necessity for a condition of greater general prosperity out on the farm, and that something more than a change in cultural methods is necessary to bring this about. Whenever the consuming class fully understand that their own interests are involved in the success or failure of farming they will have traveled a long way towards finding out what is just and fair. The U. S. Chamber of Commerce, which will hold a convention in Atlantic City April 26 to 29, gives a prominent place to the consideration of agriculture, and a most encouraging feature is that they have invited men engaged in and in sympathy with agriculture to speak upon it. Secretary of Agriculture Meredith and J. R. Howard, President of the Farm Bureau Federation are on the program.

Compulsory Military Training

PRESENT indications point to the probable defeat of the compulsory military training bills now before Congress. In spite of the strong sentiment thruout the country certain persistent advocates in Congress keep the question continually agitated. The opposition is not confined to any class or party but is found among all classes and professions, including farmers, educators, business men's associations and women's clubs. Aside from the questions of timeliness and consistency, the problem of meeting the expense of such an undertaking is sufficient to condemn it. To establish a system which would be worth while from a militarist's point of view would cost, it is estimated, a billion dollars a year—as much as the total government expenditures previous to the war. To add this burden to the task of paying interest and principle of the 25 billion dollar war debt strikes the majority as being an unwarranted assumption.

What Did Growers Receive?

THE unusually high price of the clover seeds is causing farmers to wonder if it is justified. A valued reader sends us the following which we print in full. We shall be glad if our readers will respond by sending us the price which they received for seed sold to seed buyers. The letter follows:

"The price of clover seed in the market this year being so wonderfully high, those who have to buy are naturally wondering how much profit the dealers receive for handling the seed. Would it not be a good idea for farmers who have been raising and selling clover seed to write to your paper an article giving the price at which they sold their Mammoth, Medium, Alsac and Sweet Clover seed per bushel of 60 pounds. These seeds today on the market are selling at $25 to $27 for Sweet Clover; Alsac, Red Medium and Mammoth are selling at $37 to $40 per bushel of 60 pounds. The idea in this information being to establish the fact that the farmer is not charging or receiving exorbitant or unreasonable prices for his product. If the farmers will give the public this information it will go a long ways toward helping to clear us of the profiteer, and also to give the producer a more equitable share of the profits on the goods that he has to sell."

The Question of Immigration

FARMERS may not yet generally appreciate the importance of adopting an intelligent and just policy concerning immigration to this country. Heretofore, it has, like the tariff, been dealt with erratically and mostly upon the ground of immediate expediency. The gates have been raised or lowered at the behest of certain interests—usually labor or capital—but without any well defined purpose or with any sense of obligation to the country as a whole or to the immigrant himself. The acute labor needs of the country at the present time, and the activities of certain anarchistic groups and individuals—all of whom were foreigners—leave no room for doubt that future immigration legislation needs wiser supervision that it has had in the past.

A national conference in immigration was held in New York City last week. It was attended by prominent men and women from all over the country and from every walk of life. Careful estimates indicate that we are just about 4,000,000 laborers short of enough to fully man all the industries, and that there is little possibility of production catching up with demand under these conditions. The conference recommended several changes in immigration laws and in the methods of "assimilation" of the newcomers. One resolution favored the elimination of the literary test as being unnecessary and even injurious. It was pointed out that all the deported "Reds" were able to read and write—some of them in three or four languages. Sound bodies, good health and good intentions are sufficient. But the nation must have more interest in the immigrant after he arrives than simply to exploit him. Society owes it to him and to itself to intelligently educate him and his family into American ways and spirit.

Directly opposite to the spirit and purpose of this congress, the chairman of the legislative committee of the American Legion appeared before the House Committee on immigration the same day and urged the suspension of all immigration until all aliens in this country can be "assimilated," or the 100 percent American citizens will be outnumbered. Who, we wonder, is to select the "100-percent Americans?" It is this kind of short-sighted policy that has brought us most of our immigration troubles.

Our Washington Letter

Hearings on packer legislation before the House Committee on Agriculture are dragging slowly along, with little to indicate that an effective law regulating the packers will be enacted during this session of Congress. Some optimistic friends of packer control, however, believe that a regulatory bill will be passed soon.

The most important recent event in connection with these hearings was the testimony given by Attorney General Palmer in which he reviewed the long campaign to secure regulation of the packing industry thru court proceedings. In the agreement between the packers and the Federal Department of Justice, the attorney general said he wanted to accomplish five things: "First, to take the packers out of the stockyard business, out of the terminal railroads which entered the stockyards and out of the live stock or market publications, and keep them out. The plan is worked out so that the defendants themselves may present a plan to dispose of their interests, and if that plan is not approved by the court, then a plan is made possible by which the court may decide upon the method of proceedure, with the purpose in view of permitting the producers themselves, if they desired, to be substituted in the ownership of the stock yards and terminal railroads for the packers."

Among the other things Mr. Palmer desired to accomplish were to take the packers out of the public storage warehouses business, the retail business and all the unrelated lines of business. He did not promise that this would mean immediate lowering of prices to the consumers.

The live stock producers are not displaying much confidence in the effectiveness of Mr. Palmer's agreement with the packers. They are bringing much testimony before the committee showing the necessity for workable regulatory legislation similar in its provisions to the Gronna-Anderson bills.

* * *

Little progress is apparent in any proposition now pending in Congress in which farmers are directly interested. After weeks of hearings in which the representatives of farm organizations and live stock associations have given volumes of convincing testimony showing the necessity for such legislation, the Capper-Hersman bill, designed to legalize co-operative marketing, is actually being smothered in the committee. This alarming situation has led the representatives of the national farm organizations maintaining headquarters in Washington to send an urgent appeal to the members of these organizations to take action to impress the need for the legislation on Senators and Representatives.

* * *

There are altogether too many men in Congress, coming from districts in which farming is a leading industry, whose ears are wide open to the testimony of interests opposed to the farmers, and are either closed tight or are critical toward the testimoney of farmers and the representatives of their organizations. It will be interesting to hear these men undertake to explain their records when they go out after the farmers' votes next fall. The farmers that I have met recently are not asking for class legislation. They only want an even chance under the law with men of other industries, and by their evident determination I am led to believe that they are going to have fair play, or know the reason why.

* * *

In a number of the states a poll tax is levied, varying from $1 to $3.50. When the suffrage amendment is ratified, the women voters in these states will be subject to the tax. In Virginia it is estimated that the advent of woman suffrage will increase the state's income by more than a million dollars. It is already suggested that this money be appropriated to the improvement of public schools and increasing the teachers' salaries. The women will undoubtedly have something to say about this.

* * *

The Federal Farm Loan Board has issued instructions to all local associations that there will be no more loans granted until the Supreme court acts upon the legal status of the board. This delay will prove disappointing to many farmers who have made applications for loans.

* * *

A powerful effort is being made by influential interests in and out of Congress to pass the Universal Military Training bill. The plan proposed in this bill, according to the chairman of the Senate Military committee, is as follows:

"Every young man, when he reaches the age of eighteen, becomes liable to training for the period of four months, which may be taken in any one of three years; that is, in his nineteenth, twentieth or twenty-first year. The training will be in two periods of each year, and each young man may elect in which period of the year to take it. Thus there are six periods of choice. On completion of the four months of training, the young man goes home, and is assigned to a reserve unit; he is a member of the reserve army of the United States, or rather is a reservist in the army of the United States. He remains a reservist for five years, during which time he may be called upon to attend two maneuver camps of two weeks each. While he is a member of the reserve army, he is liable, in the event of war being declared by Congress, to go to war.

HARRISBURG LETTER

Farm Labor Very Short.—Conditions which prevailed on the farms in Pennsylvania in regard to labor during the war causing great anxiety at the time are declared by officials of the State Department of Agriculture to have been less alarming than the present. For the first time a frank statement has been made at the Capitol that people of the state must realize the situation is beyond the control of any official agencies. Secretary of Agriculture Fred Rasmussen says his returns show that help is short on 81,140 farms in Pennsylvania. During the war something like 30,000 farms needed help. Rasmussen says that the trouble is that industries are drawing upon farms for their hands while the high wages paid in mills and factories are a natural attraction. The effect upon the basic industry is such that sooner or later there is going to be a shortage of food. Production has become disorganized, he remarks, and it is now extending to agriculture to an alarming extent.

Many Cooperative Bodies.—One of the striking developments of the time in state corporation lines is the number of cooperative associations being formed. These are being organized very largely by labor unions and communities and there will be a big business done in direct buying this year. The number of agricultural cooperative associations formed under the act of 1919 has not been large.

To Boom Milk.—A campaign to bring the food advantages of milk to the people has been promised and Secretary Rasmussen and Director T. E. Munce, of the Bureau of Animal Industry, have pledged their efforts to bring about better breeding of cattle. At a meeting held here during the week it was stated that there are 917,000 milch cows in Pennsylvania but that advantages were not fully realized.

School Merging.—Dr. L. L. Driver, chief of the Rural Education Bureau of the Department of Public Instruction, has been delivering a series of addresses in eastern counties in favor of merging schools. Dr. Driver, who made a reputation on this work in Indiana, has become convinced after a survey of the rural schools of Pennsylvania that consolidation is badly needed in many districts under ordinary conditions, but that with finances in the shape they are merging is imperative. State efforts to secure a number of model districts are under way and business resulted will be tabulated for general information.

More Home Rule; Less Borrowing.—Hearings held before the State constitutional revision body developed a marked demand for a greater measure of local self government, the state to pass laws establishing minimum requirements in regard to taxation, bond issues, health, education, police and essential matters, but the form of government to be left to the people themselves.

Poultry by Weight.—The State Bureau of Standards is getting ready to urge again the passage of a bill to require poultry to be sold by weight. It will also urge a law which will require poultry to be drawn. The contention is made that institutions controlled by the state are being forced to pay for non-edible parts and that the general public is in the same fix.

More Lime Than Ever.—It is expected that the lime distributed on the farms of Pennsylvania this year will be the greatest in amount and that the figure of 14,000,000 lbs. used last year will be much exceeded. Heavy orders for agricultural lime have been given in many counties, it is reported here.—Hamilton, Harrisburg, Pa., April 12.

NEW YORK LETTER

Consumers and Producers Confer.—The consumers and producers' associations of the state held a three day conference in Syracuse this week with speakers of practical experience. Both separate and joint sessions were held. A list of committees covering a wide range of activities was appointed early and these brought in many resolutions and practical recommendations bearing on the problems of both householders and farmers. Marketing experiences of co-operative stores were related and plans made for a closer co-operation between the city people and the producers.

Contest Over Teachers' Bills.—There is much interest among upstate and rural teachers in seeing that the Mullen-Hutchinson bill passes the legislature, instead of a similar bill drafted by New York City representatives. Both call for liberal appropriations, but the former fixes definite maximum and minimum salaries for all grades of teachers, while the latter bill would allow the money to be used for other purposes, not fixing the salary question definitely.

Decreasing Dairy Herds.—The milk market is so sadly demoralized and the labor question so difficult of solution that dairymen of Onondaga County report that they cannot hire help and will therefore cut down their herds and get along without help until milk production becomes a more encouraging proposition. Syracuse retailers refuse to cut their prices in proportion to the wholesale drop, saying that they retailed for 16 cents all winter while New York dealers had 18 cents. The latter have finally agreed to drop one cent, on the wholesale drop of 1.7 cents.

Dairy Congress.—The Dairymen's League will illustrate the food values of milk and butter at the dairy show in Malone, April 28, 29 and 30. Speakers from the animal husbandry department of the State College, the Grange and the Farm Bureau will put on a full program.

Troopers' Magazine.—The state rural police will publish a magazine to acquaint the public with their work and to educate the masses of alien workers on law and order.

The One and Only Rural Problem. One of the political parties has sent out to farmers a questionnaire having 41 questions. It is evidently prepared by some one having some knowledge of agricultural affairs. It is to help determine the advisory committee's agricultural policies for the party platform.—M. A. F.

NEW JERSEY LETTER

N. J. Legislature Recesses.—A recess of the New Jersey Legislature has been taken until Wednesday of next week, April 21, when the members of the Senate and House will return to take any necessary action in the way of passing bills over vetoes of Governor Edwards and consider any business which he may have brought before the lawmakers. The latest bills affecting rural sections and agriculturists passed in the House were: Allowing counties to advertise escape of prisoners and offer reward for their re-capture; increases county debt limit to four per cent in the issuing of bonds; requires horse-drawn vehicles to carry a light at night; makes owners of lands responsible for not disclosing to purchaser that there is a blanket mortgage on the lands disposed of; permits boards of education to erect dormitories for school teachers; requires landlords to give monthly tenants a reasonable time to find living quarters elsewhere; encourages poultry raising and poultry exhibitions; permits farmers who have a license to kill rabbits when they are interfering with crops; permits killing of deer by farmers on cleared land and adds five additional days to the open season for all licensed gunners; forbids the shooting of ring-necked pheasants in three townships in Burlington County; re-organizes the State Highway Commission by having a board of four instead of eight members, known as a bi-partisan body; permits farmers to organize for the purpose of buying in bulk; prohibits the use of wood alcohol in veterinary preparations; permits State Health Department to fix the standards for certified milk; increases salaries of county attendance officers to $700 per year; increases salaries of Common Pleas Judges in certain counties; increases compensation of township committeemen to $4 per day. Among the bills signed by the Governor were four of President's Wilson's "Seven Sisters."—Wm. A. Kelly.

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Sectional view showing circulation of heat

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COLD AIR
HOT AIR
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—Not because you need its service right now but so that you will be sure of having it when you want it next Fall and Winter—so that you will not need to close up some of your rooms to keep the others warm—so that you will never again need to have stoves in several rooms, making dust and dirt all over the house. Have your heating plant down cellar where it belongs.

This Powerful, Durable Heater is built for lifetime use. It burns WOOD, Coal or Natural Gas—and SAVES ¼ to ½ usual fuel expense. It is no more trouble to tend than a stove. Its construction is such that no heat escapes into the cellar—it is all sent upstairs where it thoroughly, evenly heats every nook and corner of the house.

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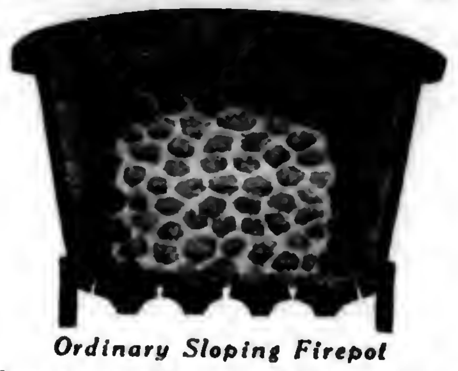
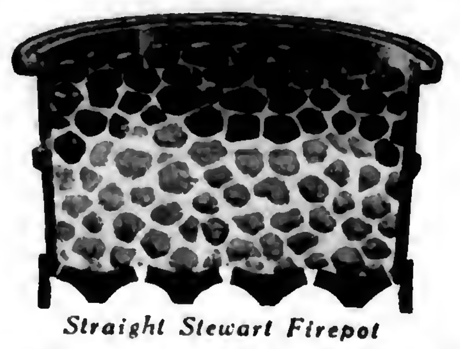

Ordinary Sloping Firepot


Straight Stewart Firepot

Above at the left is pictured the firepot of the ordinary pipeless furnace. Note how the sloping sides collect ash, which deadens the fire and prevents proper radiation. Picture at the RIGHT shows the STEWART firepot, built EXTRA heavy and with STRAIGHT sides to increase grate area, coal capacity, heat radiation and assure perfect combustion This is just one of the many features that make the STEWART ONEPIPE so successful

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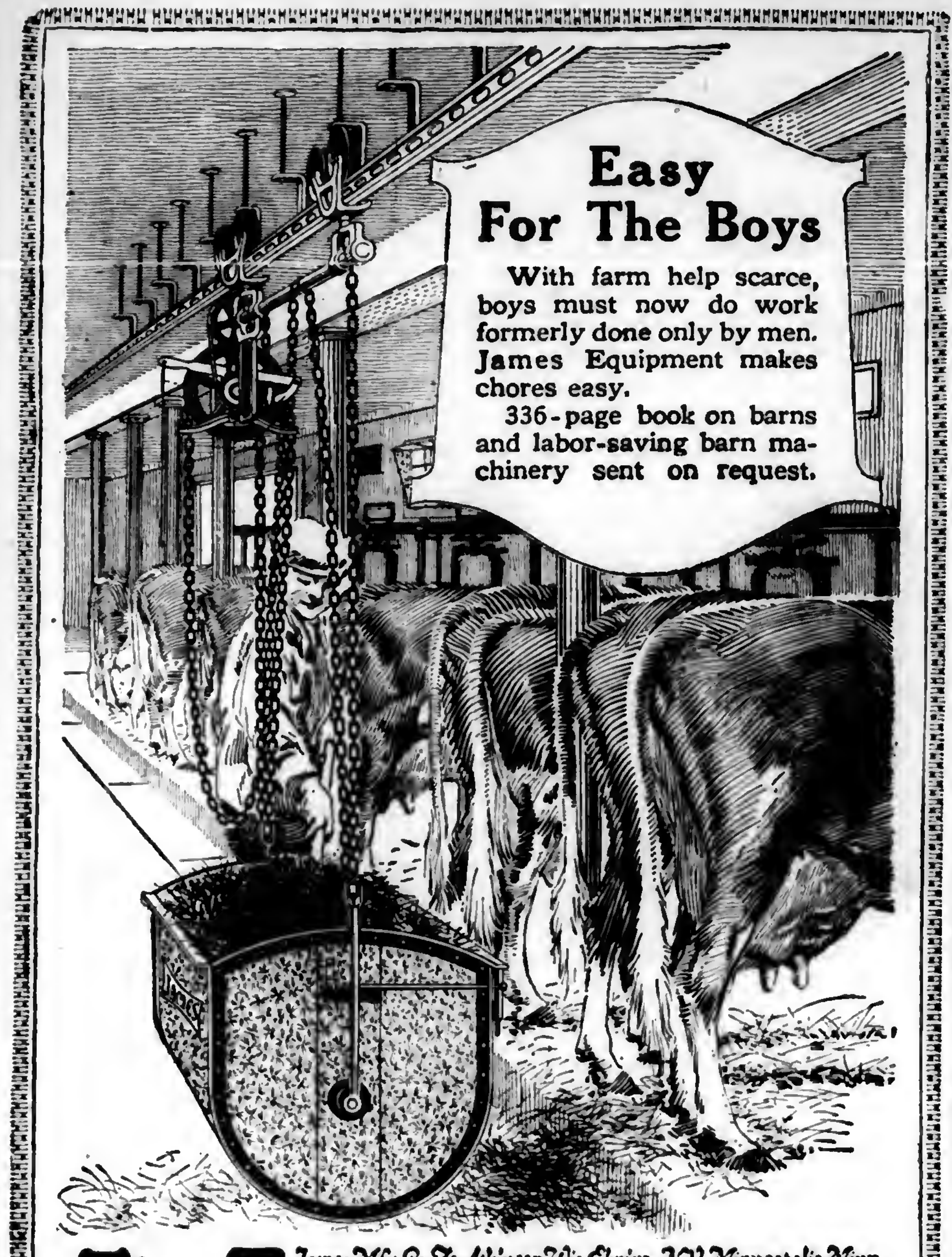

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Oh boy! Just imagine yourself whizzing down the road on a wheel like this, passing 'em all!

The Black Beauty, with its 18 exclusive features, graceful "classy" lines and powerful steel construction is the finest wheel in the world. We'll ship it at once. If you decide to keep it, make a small deposit when the wheel comes, then pay $1 a week (or $5.00 a month).

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Remember, the Black Beauty is a "top-notcher" for bike value. Among the exclusive features mentioned above are: $10 Firestone Non-skid Tires, special motor bike saddle, New Departure Coaster Brake, Diamond A. E. Spokes, etc.

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Large Type Duroc. Boars and Fall Gilts. Also some fine Spring pigs. Guaranteed to please or money refunded. B. H. SAGER, BASIL, OHIO

Duroc Pigs A few bred sows at reasonable prices. Also young pigs $6 up.
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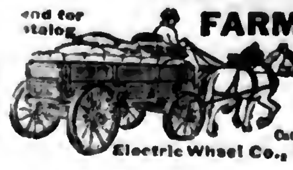

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High or low wheels—steel or wood—wide or narrow tires. Wagon parts of all kinds. Wheels to fit any running gear. Catalog illustrated in colors free.

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SOIL FERTILITY

What is the meaning of soil fertility? Most farmers think of soil fertility as the power of a soil to produce crops, while others think only of the elements of plant food a soil contains. It is true that these are important factors but the term fertility is a very broad one, and it is limited by many conditions beyond the control of the farmer.

A rich soil capable of producing larger crops may be so located that these crops are not profitable on account of great distances to shipping stations making transportation charges two large for economical production. The elevation of the land may be so great that the crops are inured by frost, or the land may contain an abundance of plant food but the climate may be so dry that crops will not grow.

Fertility is a broad term. It may be limited or influenced by a large number of factors including the food or fertility elements of the soil, the climate, season, water, wind, storms, or location in respect to markets, or even the physical condition of the soil. The farmer is primarily interested in those factors which come, at least, to some extent within his control. These are the food elements and the physical condition of the soil.

Inexpensive Maple Sugar Outfit Yields Good Returns

Food as explained in a former article is one of the fundamental factors of plant growth. In all there are ten chemical elements required by plants secured from the soil. These are nitrogen, phosphoric acid, potassium, magnesium, calcium, sulfur, sodium, iron, chlorin, and silicon. The first three are called the essential elements, because one or more of them limit the growth of plants more often than any of the others. Some of the others, however, are in some cases and on some soils very important. Alfalfa uses large quantities of calcium and often a lack of sufficient lime to correct acidity and then supply an excess of calcium is the course of failure. In the Northwest along the Pacific soils do not contain enough sulfur for alfalfa and similarly farmers of the peanut belt have found it very profitable to use gypsum which contains sulfur.

Practical fertility, or the essential elements which are in usuable forms in our soils are, therefore, dependent upon many conditions. Fortunately our country possesses it in a marked degree; that is the utility of the potential fertility, as represented by the total mineral content of our soil. Our climate and season conditions are such as to permit of their ready conversion into a wide variation of products. In spite of this general statement there are certain sections where profitable crops cannot be grown without the addition of fertilizers, and this area is rapidly increasing in size, because the soils are naturally poor or they have become exhausted of their food elements. That is, the amount that becomes available to the plant thru the growing season are not sufficient to enable the plant to reach a maximim development, tho other conditions are perfect.

Unfortunately these fertility elements constantly become less thru leaching cropping, and in the case of nitrogen thru the activity of harmful bacteria. So we must look to conservation, and at the same time to efficient use of it and any additional food elements added in the form of fertilizers, and in this the difference between a direct manure and an indirect manure should be thoroly understood. Many substances possess beside the property of supplying the essential manurial elements, a secondary function, in that they exert a favorable effect upon the condition of the soil, tend to hold the available food for plants, and prevent leaching, and help to make the mineral elements of the soil available for the plants. In other words one function is to supply plant food, and the other is to assist the growth of plants by aiding in the improvement of those already contained in the soil.

This brings us to a discussion of cropping, farm manures, and artificial fertilizers. All cropping removes plant-food from the soil. The crop, whether it is hay, grain, or some other kind of produce, carries the plant food it contains with it, whereas much of it remains on the farm if the crops are utilized on the farm for feeding purposes. In general, the more nearly finished the product is when it leaves the farm the less food it carries with it. For example, hay and grain carry away larger quantities of plant food, milk made from this hay and grain carries much less, and butter still less. For this reason, livestock feeding is becoming more general because farmers are forced to it in order to maintain the fertility of their farms.

Further, it makes considerable difference what is fed the animal in the amount of fertility returned in the manure. One purchasing feed should take this into consideration and it might well influence the system of cropping because some crops return more fertility in the manure than others.

It is probable that the use of manure might meet the demands of the staple crops because they are well adapted in many respects to this purpose but it cannot be expected that they will be sufficient to meet the annual losses from the sale of crops, much less to provide an increase, and the only other source is an artificial supply, or fertilizers.

There is much to be said regarding the care and use of manure. It is not in the province of this article to discuss at length the care of manure except to add that manure generally is low in phosphoric acid and that numerous experiments especially those conducted at the Ohio Station show that manure treated in the stables with acid phosphate spread at the rate of 50 pounds to a ton of manure increases its value about $1.00 a ton. Because these experiments were conducted prior to the war and the present prevailing prices, the increase in value today would be worth more nearly $2 a ton.

Manure is of greatest value for the food it contains rather than for its secondary function, of improving the physical condition of the soil and the condition of the plant-food

already in the soil, and for this reason it gives best results when applied to the surface and worked into the soil, or when it is used as a top-dressing, because the top-soil contains the heat, moisture, air, and other factors necessary to promote bacterial activity, so necessary in changing dormant to active forms of plant food.

ORGANIZATION OF MAPLE PRODUCTS PRODUCERS

Imperatively as agricultural organization is needed, as a whole, surely no branch of the industry is more sorely in need of organizing and systemizing than the manufacture of maple products. Maple syrup goes on the market weighing all the way from 10½ to 12½ pounds in all grades from the first run, almost crystal white, to buddy dark-colored stuff that one restaurantkeeper calls "blackstrap." The whole collection is marked indiscriminately "pure maple syrup," with no grading, no label of any kind to indicate quality or the lack of it. And the city consumer, who is often unfamiliar with the different grades, buys a can or two of about third or fourth quality with a strong; old, buddy flavor that lingers in the mouth like the odor of an ancient pipe in the atmosphere. That customer decides that "maple syrup is mighty poor stuff" and in the future he buys corn or cane syrup or whatever the dealer happens to sell.

An organization is now under way with a view to completion in time this fall to prepare for the next season's crop. It should receive the whole-hearted support of every maple syrup producer in the country—and every one with a dozen maple trees should become a syrup maker. Someone may take exception to this, but my neighbor made 2 gallons of syrup and 15 pounds of sugar this year from five trees. We made 115 gallons of syrup last year and an even hundred this year from 180 trees, with less than $50 invested in parapharnalia. We had good buckets and a good gathering tub, but we boiled in a big pan purchased at an auction for 50 cents, and the arch consisted of two big logs and a few bricks. We expect to have a better outfit housed in better quarters next year, but it isn't going to be high-priced because we can make first class syrup with small expenditure of cash. It just means lot of work. —E. M. A.

FARM BOYS STUDY AGRICULTURE

It is interesting to note that among the first year students in agricultural and allied courses at the Pennsylvania State College, there is still a good percentage who have been reared in cities and have had little practical farm experience. While figures are not available for previous years, it is generally believed that the former tendency for a large number of city boys to study agriculture is gradually giving way to the rush of boys from the farm or small country town to take advantage of the learning offered in scientific farming.

The farm boy of today is beginning to see the advisability of going to college to absorb a greater knowledge of the work that he has been associated with all his life. A majority of the Freshman agricultural students at Penn State were recently asked to fill out questionaires in which they were to give their total farm life experience. Thirty-five per cent of the 162 in the class were reared on farms; 18 per cent in a country village or town where they had opportunities to do farm work; 8 per cent were raised in suburban districts, and 39 per cent were reared in cities or large towns. Only 20 students had no farm experience before coming to college, and more than half of these are studying forestry or landscape gardening.

The School of Agriculture demands that a certain amount of actual farm work be accomplished by all students before they are graduated. Plans are now under consideration making a certain amount of farm work an entrance requirement in the belief that it will raise the efficiency of the school to a still higher plane.

Most Miles per Dollar

GOOD and PLENTY

THIS Firestone Cord Tire is of generous proportions—built to the largest standard oversize established by the industry. Built into it are mileage, safety and comfort—"good and plenty."

There is much greater air capacity than the average, much more material, and it delivers extra mileage as a natural result. The thick, heavy tread performs as good as it looks. It checks skidding, sliding or spinning of wheels.

Equip with a set of these Firestone Cords and let them demonstrate to you the value of their extra size and extra heavy tread. Through Firestone planning, resources and methods this cord tire is produced and sold at a price that gives you most miles per dollar.

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cost less; outlast three ordinary roofs. No painting or repairs. Guaranteed rot, fire, rust, lightning proof.

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Get our wonderfully low prices and free samples. We sell direct to you and save you money. Ask for Book No. 8391.

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Lowest prices on Ready-Made Fire-Proof Steel Garages. Set up any place. Send postal for Garage Book, showing styles.

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30x3	1-2	8.50	34x4	1-2	13.50
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REFLEX SLICKER will keep you going

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STRAWBERRY PLANTS

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All kinds grown from selected seed. Get our prices on plants sent by Parcels Post prepaid. Catalog free. C. E. FIELD, SEWELL, N. J.

SEED CORN TAKE NO CHANCE ON FROZEN CORN. BUY NORTHERN GROWN SEED. Four varieties, 90-100 10 rowed Kauffman's Yellow Dent, Reid's Yellow Dent, White Cap Yellow Dent, Early Minnesota. Ear tested, extra high germination. Shipped upon approval. Your money back if not satisfied. Circular and samples free. Send us postal today.
WOODFIELD'S FARM, Wycombe, Bucks Co., Pa.

Alabama Alfalfa Land
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Embraces best portion 5 counties—the real "Argentine of America." For alfalfa, grain, grass and live stock unexcelled. New comers here from 24 states—land yet cheap. Full information write C. C. CLAY ALFALFA LAND CO., DEMOPOLIS, ALABAMA.

FARM—250 Acres, 100 acres woods, 150 acres pasture and cultivated. Good house, new tobacco barn, stables, cabin, etc. Only 1 mile from village with banks, churches, schools, etc.
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Only $700 Cash
120-Acre Farm Near Town

10 acres produced 4000 bushels potatoes last year, other crops in proportion; splendid farming section, near big town; [illegible] RR town; machine worked fields, brook watered pasture, large woodlot; small orchard; [illegible] house, big barn, other buildings, bargain at [illegible], only $700 cash, balance easy terms. Details page [illegible] Strout's Spring Catalog [illegible] 33 States, copy free. E. A. STROUT FARM AGENCY, 1122 B E. Land Title Bldg., Phila., Pa.

The Best Farms for the money, all sizes $20 to $100 per acre, good buildings, Cent. Schools, good soil. List free.
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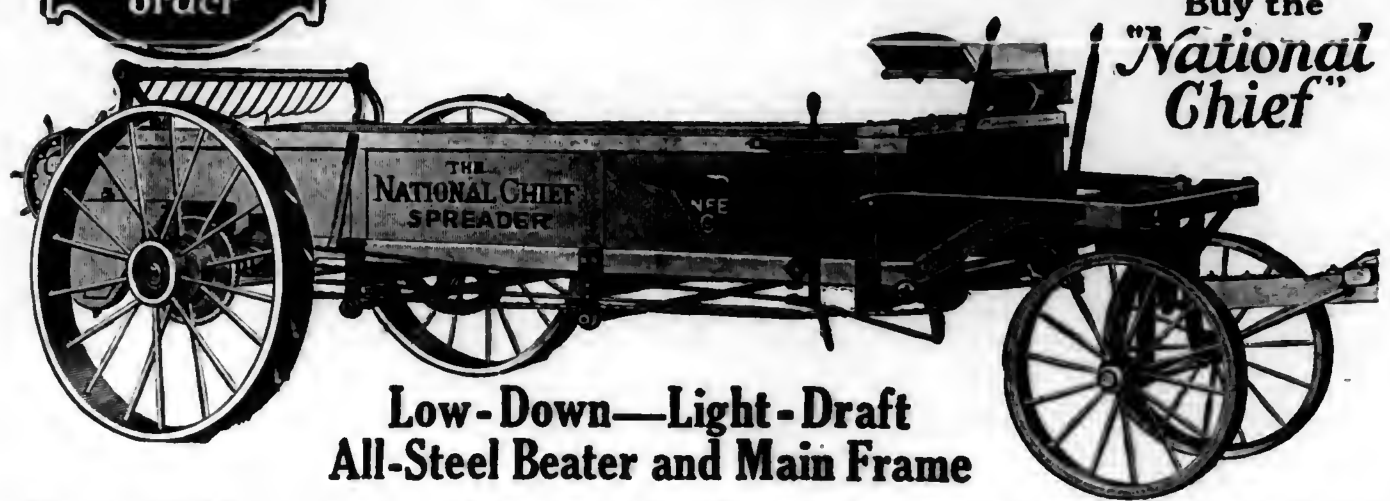


$175.00 Cash with order

Save Fifty Dollars on your Manure Spreader!

Buy the "National Chief"

Low-Down—Light-Draft All-Steel Beater and Main Frame

You don't have to pay a big price for a good spreader. You can of course—but why do so, when for $175.00 you can buy as good a spreader as any made? The "National Chief"—combines the best features of the best spreaders and in addition it has many practical improvements not found on any other make.

Based on the prices asked for other spreaders, the "National Chief" should sell for no less than $230.00. And it would be well worth the price. Yet we ask only $175—a saving to you of $50 or more, made possible by our "Short-line Between Factory and Farm."

The "National Chief", is practically indestructible. It is sturdily built with full length angle-steel truck, sills and main frame—rigidly cross-braced and trussed. This steel construction prevents warping and shrinking. It keeps moving parts always in proper alignment and prevents binding. With ordinary use this spreader will last a lifetime.

Return-type Roller Bearing Apron — Automatic Force Feed

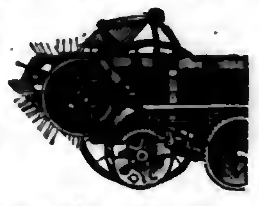
Two features — the frictionless return-type apron running on a bed of roller bearings, and the roller bearing beater—combine to make this the lightest draft spreader and the easiest on the team. Easy to load—only 42 inches to top of box *any place*.

Automatic force feed cleans box out thoroughly. Steel encased, dirt and dust-proof worm gear apron drive, runs in oil bath—noiseless, powerful, durable. Eliminates all the undesirable features of the ratchet drive.

Cut-under front trucks—spreader turns in its own tracks. Spreads 4½, 8, 11, and 11 loads per acre. Deflector type wide-spread attachment—uses no extra power—$10.00 extra. The "National Chief" pulverizes the manure and spreads evenly and economically. It will please you better than any machine costing 25% more.

30 days' field trial. Sold under our positive guarantee of "satisfaction or money refunded." If after 30 days' trial you do not feel that we have saved you at least $50.00, return it and get every cent of your money and all freight charges.

Cash price $175.00. Easy payment price $181.65—$91.85 down and $18.36 monthly. Your order and check for $91.85 will bring you this spreader. Write today for descriptive circular and our "Spring Farm Bargain Supplement".



Dust-Proof Worm Gear Apron Drive — Runs in a Bath of Oil

Write To-day for this Circular

NATIONAL CHIEF MANURE SPREADERS

If it is for the Farm, you can Buy it for Less at "Farm Implement Headquarters"

This is the trade-mark of "Farm Implement Headquarters"

This trade-mark on an implement is a positive guarantee that the quality of the tool is unsurpassed and that the price paid was a fair one.

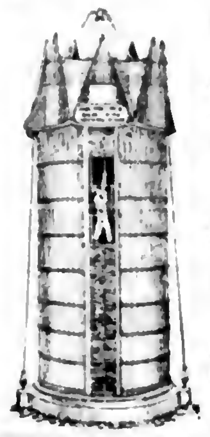
The "National Chief" Manure Spreader is only one illustration of how Farm Implement Headquarters can help you cut down the "high cost of farming." On this item alone we can save you at least $50.00. We carry over 350 items on which we can save you just as much proportionately.

The quality of every article is high: the prices which we ask are low. Our savings are possible not through lowering the quality, but through lowering the cost of getting the implements into the hands of the ultimate consumer. We do this by our "Short Line" methods of buying and selling—by establishing a Farm Implement Headquarters or central distributing point where farmers can purchase implements at prices as near as possible to actual factory cost.

That we have found a practical way to handle implements at the minimum of cost is proved by the remarkable values which we offer.

If you do not have one of our catalogues, you should get one at once. A postal will bring it.

National Farm Equipment Co.
DEPARTMENT C 98 CHAMBERS STREET NEW YORK CITY INC.



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4"x6" Posts, Bevelled Doors, Iron Ladder, selected material, strong hoops. A Real Silo. Opening Roof for a full Silo without refilling.

Ensilage Cutters, Feed Trucks, Wood Tanks.

Write for callogue and prices.

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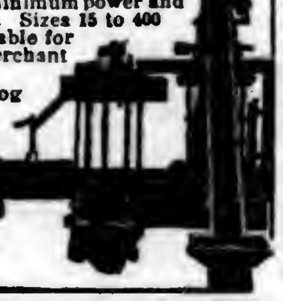
Color Sells Butter

Add a rich "June shade" to the splendid taste of your butter and get top prices. Try it! It pays!

Dandelion BRAND Butter Color

gives that even; golden shade everybody wants. *Purely vegetable*. Harmless. Meets all laws. Small bottle costs few cents at any store. Enough to color 500 lbs.



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This Hydraulic Press will work up your apple cull into profitable cider. You can also make money pressing for your neighbors.

Our high pressure construction gets all the juice with minimum power and operating expense. Sizes 15 to 400 barrels a day, suitable for individual and merchant service.

Illustrated Catalog free on request.

A. B. Farquhar Co. Ltd., Box 146, York, Pa.

We also make Engines and Boilers, Sawmills, Threshers, Implements, etc. Write for descriptions.

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Get our astonishingly low price to Granges, Equity Unions, Farm Bureaus, etc. Farmer agents wanted. Free samples.
THEO. BURT & SONS, Box 11 MELROSE, OHIO

For Sale Sweet Clover Seed, White Blossom, my own growing, purest you can buy; best rotation crop, sow with wheat or oats.
G. A. CARPENTER, Manns Choice Pa. R. 1.

LANCASTER COUNTY Sure Crop Seed Corn, germination test 94%, $3 per bu., on ear per 70 lbs. Delivered at Leaman Place P. R. R. Bags extra.
JOHN H. EBY, LEHMAN PLACE, PA.

Strawberry Plants. Klondyke $3.00 per 1000. Gandy $4 per 1000. Cash with order. F. O. B. Parsonsburg.
M. I. PARSONS, PARSONSBURG, MD.

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Test Borings and Soundings
Let Us Submit Prices
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Eureka Mulcher & Seeder
Riding and Walking Styles

A mulcher, smoothing harrow, cultivator and seeder. Flat teeth specially adapted to form dust mulch—blanket of loose soil—preventing soil crusting and moisture escaping. Increases yield of corn, potatoes, oats, wheat, etc. Kills weeds. Lever and spring controls depth of teeth. Sold with or without seeding boxes for grass seed, alfalfa, oats, etc. Teeth cover the seed to desired depth.

Walking 3 ft. type specially made for work between rows to sow cover crops. Improves texture, increases humus, saves fertilizer. Sows clover, alfalfa, rye, barley, turnip, buckwheat, etc.

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FOUR SIZES 3, 8, 10 & 12 ft. *In stock near you.*

Every farm should have a Eureka Mulcher and Seeder.

EUREKA MOWER CO.
Box 756, Utica, N.Y.

I Can Ship Your Engine

When You Want It---Save You $15 to $500. Any Style--Stationary, Portable or Saw Rig. Any Size---2, 3, 4, 6, 8, 12, 16, 22 or 30 H-P. Cash or Easy Terms. BOSCH Ignition on order. Catalog FREE.

WITTE ENGINE WORKS
2040 Oakland Ave., Kansas City, Mo.
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INSYDE TYRES

—genuine inner armor for auto tires. Double mileage; prevent punctures and blowouts. Easily applied without tools. Agents wanted. Details free.

American Accessories Company Dept. 218 Cincinnati, Ohio

A PLEA FOR MORE TREES

I cannot let this beautiful Spring time, which to me always means tree-planting time pass without putting in a plea for more trees. There is no other growing thing that I like so well as trees and I dearly love all outdoor things.

Can you conceive of a house and barn in the midst of a treeless farm on a hill? Yet such I have seen. How I pity the poor woman and the poor boys and girls who are doomed to pass their days in such a place! How intolerably hot the summer and how insufferably cold the winter must be without a single flower, shrub, vine or tree for shelter or to break the gloom.

Lately passing a treeless home I thought of how the place could be made homelike, or even beautiful, by the owners. The fields were carefully cultivated and contained good crops. The expenditure of a little time and money could transform the place so that it would hardly be recognized. An orchard with apple, peach, cherry and other trees would form the major part, while flowers, vines, shrubs and berry plants judiciously placed would work wonders.

Plant trees, dear reader, and save yourself from a joyless, unhappy lot. Do not say you cannot afford it. They will repay you an hundred fold. Or, did you say they take up too much room and their shade harms the crops. Ah! there I got you! I have been waiting right along for just this excuse. Plant trees on the south side of lanes and roads running east and west or just let the wild ones grow here. In our northern latitude most of the shade falls into the lane or road leaving the crops unharmed. School boys and girls can tell you why. The Lincoln Highway and Wilderness Road are examples of east-west roads. Plant trees.—R. I. W., Richland, Pa.

EVERBEARING STRAWBERRIES

Before I ever had owned any land I used to say if I ever had a piece as big as a horse blanket, I should most certainly have a strawberry patch but at that time I didn't know about everbearers, if I had I'd have known it wasn't at all necessary to have that much land. People used to fuss two years to get one crop of berries in June but now that we can have ripe fruit six weeks until the snow buries the garden I can't understand why anyone who cares at all for such things should do without them. One of the wettest summers we have had, about 1916 I believe, I set 100 Progressives The garden was tiled but the drains couldn't take care off half the deluge, so 35 plants drowned out. As soon as the water went down so that it was safe to venture out without a boat I had a lateral added, the remaining 65 plants survived and we ate short cake from them the rest of that season. The next year I set about 400 from the original 65 and we have eaten all we could fresh, canned all we could use, divided with our friends and neighbors, and sold lots of plants ever since. This year I shall have lots of surplus plants and I shall certainly put up a glorious supply of berries too.—E. M. A.

PLACE FOR QUINCE TREES

A reader inquires whether quince trees would do any good if planted along the banks of a little stream.

In general it may be said that quinces require about the same soil conditions as pears. That is, a heavy, retentive clay loam with good drainage of air and water is best. If the banks of the stream are fairly dry and if the location is reasonably free from frost they may do all right. But if it is wet or swampy, put them some place else. Many have the idea that quinces want a wet soil That is not the case. They need sufficient moisture but like all fruit trees will not do well if water stands in or on the soil.

Gardens this year will help lower living costs. The appeal of personal thrift should actuate this year's gardeners as strongly as the patriotic appeal or two years ago.

GOODYEAR ALL-WEATHER TREAD
HEAVY
GOODYEAR
33 X 5

Growing Greater Mileage On Desert Land

On several thousand acres in the Salt River Valley of Arizona, this company today is producing the finest variety of commercial long-staple cotton in the world.

While this accomplishment is of general interest as beginning the reclamation of an immense agricultural empire, it is primarily important to users of our tires.

Cotton is an indispensable element in modern tire construction; superior cotton enhances the strength, flexibility and endurance of the product it enters.

In converting the immemorial wastes of the desert into fertile and profitable acreage, Goodyear is really growing greater mileage on hitherto abandoned land.

Through every stage of their development Goodyear Cord Tires have benefited by work of such a character as is represented in this Arizona enterprise.

Not one element of their composition, not one principle of their construction, but has been carried steadily forward by invention, experiment and toil.

Today the harvest of such endeavor is seen in the capacity of Goodyear Cord Tires to deliver a kind of performance unapproached in any earlier type of tire.

Because Goodyear Tires and the sincere conservation service behind them afford unmatched satisfaction, more people ride on Goodyear Tires than on any other kind.

This actual photograph shows former desert land in the Salt River Valley of Arizona, now producing the finest variety of commercial long-staple cotton obtainable

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GOODYEAR CORD TIRES

The
Cheapest
Farm Help

5 H. P. Bore 4¼-in. Stroke 8-in. Flywheels 26-in. Speed 500 R.P.M. Crank shaft 1¾in. Wgt. 725 lbs. $120.00

Easy Payment Price $126
$63 Down, $12.60 Monthly for 5 Months

"National Chief" engines are cheaper and better than the cheapest hired help, more dependable than the best. They do more work in a few hours than several men can do in a day—and for less than the cost of feeding one man.

"National Chief" engines burn either gasoline or cheap kerosene without any attachments. Perfect combustion—colorless exhaust on either fuel. No excessive carbon.

Simple, Dependable and Economical
10% more than rated power. Large bore, long stroke, heavy weight type engines, with big, well proportioned flywheels. No simpler engine built—anyone can understand and operate it. Nothing to get out of order—ideal for the busy farmer.

Webster Magneto—No Starting Trouble
Rain-proof — dust-proof — trouble-proof—the really successful ignition for both kerosene and gasoline. Starts easily—rune rain or shine until shut off. A ten-year-old boy can start any "National Chief" single handed.

30 Days' Trial—Easy Payments
Satisfaction Guaranteed or Money Refunded
Try, test and compare the "National Chief" for 30 days at our risk. Satisfaction and a big saving guaranteed or your money back and freight both ways.
Prompt shipments from New York warehouse. Orders filled same day received. Write for circular describing engines, pumping, grinding and sawing outfits.

Everything for the Farm
Also, get our "Short Line" direct-from-factory prices and save 20% to 35% on implements and farm equipment. Ask for General Catalog and new "Spring Bargain Supplement," stating what you are especially interested in. Do it NOW.

National Farm Equipment Co. Write for this circular
Dept. C
98 Chambers St., New York City

NATIONAL CHIEF ENGINES

$19.95 Upward American CREAM SEPARATOR
On trial. New, well made, easy running, easily cleaned, perfect skimming separator. Skims warm or cold milk. Different from picture which shows larger capacity machines. Our guarantee protects you. Get our plan of easy
MONTHLY PAYMENTS
and handsome free catalog. Whether dairy is large or small, write today.
Western orders from Western points.
AMERICAN SEPARATOR CO.
Box 6062 Bainbridge, N. Y.

Big Large Free Catalog

THE FRONT THAT GAVE THE GRIFFIN SILO FAME
An unobstructed Continuous opening. Doors absolutely tight but will not swell. Permanent steel ladder attached to Front. Everything first class and prices right. Prices on application.
GRIFFIN LUMBER CO.
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Before You Buy Your Silo,
Investigate the reliable Green Mountain. Send for circulars describing long-life, tight construction, new Anchorage System, etc.
Creamery Package Mfg. Co., 346 West St., Rutland, Vt.
GREEN MOUNTAIN · SILOS ·

I will condition a horse or cow in twelve days.
Put flesh on its bones. Give it life and vigor. Can add 50 percent to looks and value. Satisfaction guaranteed or no pay. Send postal for free offer.
P. V. FAUST, BRYN MAWR, PA.

SILO USER AGENTS WANTED
Men wanted in every locality to own, show and sell famous Cincinnati Silos. Liberal spare-time profits. Full details free with special introductory offer.
Hauser-Stander Tank Co. Dept. F Cincinnati, Ohio

BARN PAINT $1.22 PER GALLON
Get factory prices on all paints. We guarantee quality. We pay the freight.
Franklin Color Works. Dept. 16 Franklin, Ind.

SECOND HAND SHARPLES MILKER.
3 units in good order. Bargain $110.
C. L. TAYLOR WYALUSING, PA.

PLANT ENSILAGE CORN EARLIER

Planting of ensilage corn last, instead of first, is an expensive mistake very generally made in the northern portion of the United States, according to specialists of the United States Department of Agriculture, who recommend that strong germinating seed of ensilage varieties from regions farther south be planted two or three weeks earlier than the homegrown seed which is planted for grain production. Such a planting program works to the decided benefit of dairymen and other growers of ensilage corn in the Northern States.

When large varieties of ensilage from as far south as Virginia or Missouri, for example, are planted in regions farther north late in May, they make a rapid, long-jointed, tender, succulent growth, and are so green when fall frosts come that they are heavy to handle, low in feeding value, and make ensilage which is sloppy and too sour. But when planted in April or very early May, they make a slower, hardier growth; they better withstand spring frosts and summer droughts, reach better maturity, and produce more grain than when planted later. Fall frosts, not spring frosts,, are most to be feared.

Early-maturing, home-grown varieties do not need such early planting and will not be benefited in the way that large ensilage varieties are. The latter, tho somewhat dwarfed by very early planting, make ample stalk growth and yield more and riper grain and make richer and sweeter ensilage. The early planting supplies the age necessary for maturing and reproduction. Reproduction is, in this case, grain production.

In growing ensilage crops in the North one should judge the crop by its feeding value, not by its height or weight or the amount of labor necessary to silo it.

Early cultivation pays, as it dries and warms the soil surface. If the soil remains wet, it stays cold and the young corn cannot grow, whereas stirring causes the surface to dry rapidly, after which it will absorb heat and feel warm to the hand—a condition favorable to good growth.

RAISING THE CALF

If calves are weaned they should be fed whole milk until they are one month old, when they may be changed to skim milk. They should be fed skim milk until they are six months old. While they are on milk they should be given some grain and alfalfa hay.

A good mixture for grain feed is four parts of corn or corn chop, one part of oil meal and two parts of wheat bran. After taking the calf off the milk, increase the grain gradually to two pounds a day in addition to silage and alfalfa hay.

The heifers should be bred so as to calve when from twenty-four to thirty months of age, depending upon the breed and growth of the animal. If bred so as to calve earlier than this, their growth is apt to be injured.—L. F. S.

WESTMORELAND COW-TESTING

The Westmoreland Cow-Testing Association completed its fourth month on March 11, with 293 cows on test. There are 114 cows in the association that are purebreds of either Holstein, Jersey, Guernsey or Aryshire breeding. The number of cows that have made the quality classification by producing either 1000 pounds or more of milk, or 40 or more pounds of butter fat, is 46. Of these cows 25 are purebreds, which fact goes to show that purebred animals are more reliable as milk and butterfat producers than grades.

Duchess, a three-year-old Holstein owned by G. E. Painter, Irwin, has the best record for the month with a production of 1550 pounds of milk and 55.8 pounds of butterfat. A close second is Oakdale Lavana Inka, Holstein, owned by Mathias Bros., Irwin, with a record of 1891 pounds of milk and 54.8 pound butterfat. Other cows worthy of consideration are Martha, Guernsey, milk 1184 pounds, butterfat 52.1 pounds owned by Nelson Poorbaugh, Mt. Pleasant; cow No. 4, Grade Holstein, Mathias Bros., milk 1092 pounds, butterfat 51.3 pounds. A number of other animals are above 50 pounds in butterfat production.

The lowest butterfat production was 30.1 pounds and 70.1 pounds of milk.—W. L. Treager, County Agent, Westmoreland County.

DRINKING CUPS INCREASE PRODUCTION

The following information was collected by Mr. Alvin Wardas, tester in the Loganville Cow Testing Association, showing the profits as a result of installing a system of drinking cups.

The figures show that the seven cows produced 5,954 pounds milk in December, 1919, 6,808 pounds of milk in January, 1920, making an increase of 854 pounds of milk, with an average of 122 pounds per cow, or 14 per cent increased production on the herd. This milk selling at $3.30 per 100 pounds increased Mr. Schuette's profits $28.18 for the month of January.

CIDER FOR CALF SCOURS

A New York reader writes of the great success he has had in using hard cider as a remedy for scours in calves. He had been having many losses from this trouble when a neighbor told him to try giving the afflicted calf a teacupful of hard cider. He tried it at once and the calf began to improve immediately. A second dose of half a cupful three days later completed the cure and he has used the remedy ever since with universal success. We are glad to find a legitimate use for hard cider and would recommend that it be kept and used for this purpose.—Eds.

MILKING SHORTHORN SALE

The Milking Shorthorn breeders of Bradford County will hold their Second Annual Sale at Troy, Pa., on Saturday, June 12th. On this occasion there will be offered about one hundred head of high class Milking Shorthorn cattle. This number will be made up by about twelve or fifteen consigners. Practically all of this offering will be rich in the famous Glenside breeding. This sale will offer Milking Shorthorn breeders and beginners an unusual opportunity to secure blood which probably could not otherwise be obtained. —D. K. Sloan.

NATIONAL DAIRY SHOW OF 1920

If a message might be delivered simutaneously to every man and woman in America engaged in activities fundamentally based upon the products of the dairy cow, the one I would want to deliver would be this:

Take your 1920 calendar, the largest one that hangs in your home or office, tear off the leaf covering October, and mark with the reddest ink or pencil you have, the dates October 7th to 16th, inclusive, and then hang up the leaf in the most conspicuous place in your establishment. Make the pledge that no engagement, business or social, will be allowed to interfere with your attendance upon the National Dairy Show to be held in Chicago on these dates, and that you will seek out those less favored than yourself and who do not receive this paper and ask them to mark their calendars and enter into the same obligation.

Everyone identified with the industry should feel morally obligated to take advantage of the annual opportunity for attending this Show, in his own interest first and then in the interest of this most vital industry for humanity. The 1919 National Dairy Show was pronounced by all who saw it to be the most wonderful show ever held. The 1920 Show is at this date assured of being better in every department.—W. E. Skinner, Secretary.

NOTICE

In order to relieve the present shortage of supervisors the Dairy Husbandry Department of the Pennsylvania State College will conduct special short courses in Advanced Registry testing during April for men interested in this line of work.

To qualify as supervisor of official test the applicant must have had at least two years in high school, two years of farm experience and must be at least twenty years of age.

The wage paid beginners is $3 per day and all expenses except personal items. Increase in wages will be made at the end of three months to supervisors giving good satisfaction. Reimbursement will be made to prospective supervisors for one-half their expenses while taking the special courses provided the time they remain in the employ of the Dairy Husbandry Department is not less than four months.

All communications regarding Advanced Registry test work should be addressed to Paul S. Williams, Dairy Husbandry Department State College, Pa.

HOW DAIRYMEN'S ORGANIZATION HELPS

(Continued from Page One.)

for a receiving station. The farmers were organized and a guarantee of a minimum of a 100 cans of milk a day secured. With this to work on, the Association readily found a large Philadelphia dealer willing to open a station. It was built with the help of the neighboring farmers. It has been well run and has been a great help in developing the dairy and farm industry of that section. The farmers aro now getting a Philadelphia milk price instead of a butter price for their product.

At Ridgely, Maryland, there was a receiving station run very unsatisfactorily by an irresponsible dealer. The dairyman of that section were fortunately already organized and they stepped in and bought the plant on a co-operative basis. It was rented to another Philadelphia dealer who has taken all the milk at Association price for the past six months. Our members own the plant but anyone can ship milk there, and the result again is that non-members as well as members have been benefitted.

Now this brings up the question of finances. An Association doing this kind of work must have an office, trained workers—there are lawyers' fees and traveling expenses. The proper way is for an apportionate charge to be made to each dairyman according to this volume of milk business. It does not seem just that a small proportion of men should be carrying the burden that should be rightly distributed over a whole industry. But membership is voluntary, and there are always a proportion who are ready "to let the other fellow do it."

Every day brings a host of difficulties and complaints to the attention of the officers of the Association. These are adjusted and settled to the best interests of the milk producers according to the best judgment of the officers. Sometimes the dealer is at fault and sometimes the producer. Problems arise in one section that cannot be realized or comprehended by the producers in another.

Ever try a brush for greasing pans, brushing rolls or pastry with butter, egg, or milk? A brush in which the bristles are glued cannot be used because this kind will not stand cleaning with boiling water.

EMPIRE-BALTIC
The Separator with the MILLION DOLLAR BOWL

EMPIRE-BALTIC
THE SEPARATOR WITH THE MILLION DOLLAR BOWL

HERE'S an announcement of great importance to YOU—to every farmer owning cows; for it brings to American Dairymen the latest development in Cream Separator Construction—the EMPIRE-BALTIC Cream Separator, with the MILLION DOLLAR BOWL.

Seems like a lot of money for a manufacturer to spend on a Separator Bowl, doesn't it? But when you consider what it means to cow-owners, a million dollars is only "a drop in the bucket" to what the EMPIRE Million Dollar Bowl will save each year for American Farmers.

For this wonderful bowl, the product of years of study and experiment by a score of the foremost separator engineers, sets a new standard of separator performance:

It is self-centering and self-balancing; practically no vibration; and so does not agitate the milk; it skims clean all the time; it is easy to turn, frictionless; once adjusted it is adjusted for life; its discs are interchangeable—a great convenience in cleaning and assembling. It is the last word in Bowl construction—Simple, efficient, convenient and practically everlasting.

Compare the Empire-Baltic with any other separator! And remember, in making the comparison, that your butter profits are made or lost in the bowl.

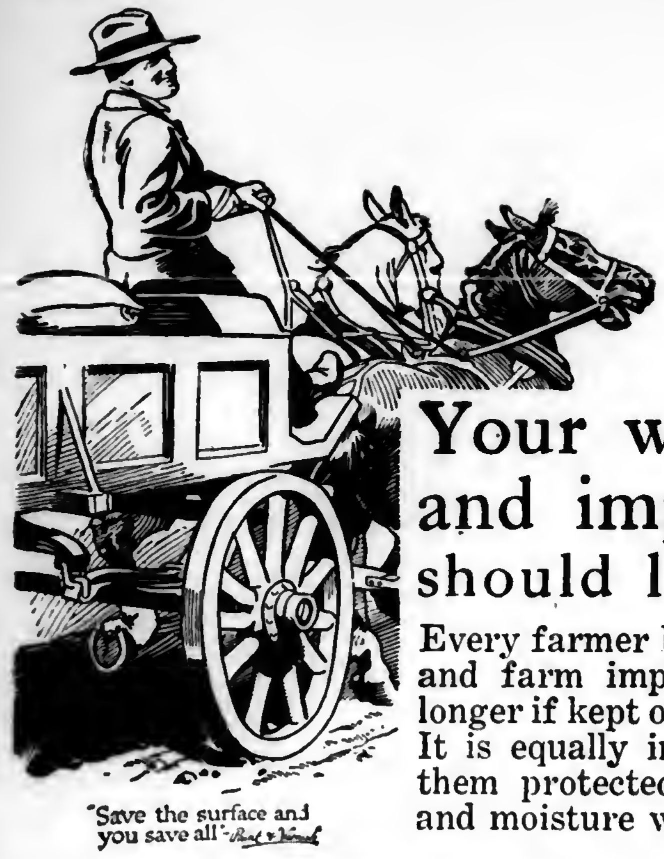
Investigate the Bowl

You'll find other Separators as good looking as the Empire-Baltic—no manufacturer has a corner on good looks. You'll find other Separators made, like the Empire-Baltic, out of the best materials obtainable—anyone can buy the best grades of materials. But you'll find only one Separator with the MILLION DOLLAR BOWL—an exclusive EMPIRE-BALTIC feature—fully covered by basic patents.

Space prohibits our telling you here all of the superior Empire-Baltic Features, but the Million Dollar Bowl alone is important enough to impel you to see the nearest Empire Dealer at once—learn all about the Empire Baltic. Or send at once for catalog No. 104-S

This trade-mark is found on the Supreme Separator. It is displayed by the Best Separator Dealers throughout the country. It is the sign of Highest Quality in materials, workmanship and service. It is the "Family Coat of Arms" of the leading line of Dairy Machinery—EMPIRE.

EMPIRE CREAM SEPARATOR CO., Bloomfield, N. J.
Manufacturers of Empire Milkers and Gasoline Engines
Chicago, Denver, Atlanta, Toledo, Syracuse, Minneapolis, San Francisco, Montreal and Toronto



"Save the surface and you save all"—Paint & Varnish

Your wagons and implements should last longer

Every farmer knows his wagons and farm implements will last longer if kept out of the weather. It is equally important to have them protected from sun, rain and moisture when in use.

DEVOE *The Guaranteed* ***Wagon and Implement Paint***

is guaranteed to give a durable and lasting finish. A gallon or two will repaint all the wagons and machinery on the average farm. This paint will save you many times its cost every year. DEVOE Wagon and Implement paint is made in yellow, blue, green, vermilion and black. All the colors are durable.

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BLUE BIRD BRAND FARM & GARDEN SEEDS

In the Legend, the Blue Bird stands for Purity, Happiness and Good Luck. In Seeds, for the Best that Grows.

Our 1920 catalog gives the Legend and tells why the Blue Bird was adopted as a trade mark for Good Seeds. It furnishes the most complete information on Red Clover, Alfalfa, Alsike, Sweet Clover, Vetches, Millets, Sudan Grass and other Farm and Garden Seeds of any free book published. It is larger and more beautifully printed than ever before. It will assist in planning your crop campaign for the coming season. A post card will bring YOUR FREE COPY.

Supplies of many seeds are very light. Order Now, Save Money and have your seed when wanted.

THE C. E. DePUY CO., Seedmen, Pontiac, Mich.

TRADE MARK REG. U.S. PAT. OFF.

GEHL

GEHL Ensilage and Alfalfa Cutters

It pays to grind your alfalfa or dry corn stalks and straw with a Gehl Cutter. Our new catalogue will give you some valuable ideas on this.

The Light Running Gehl Ensilage Cutter famous for its quality cutting, is solidly built on a triple steel frame, oversize shafts, equipped with exclusive break pin safety device, malleable knife heads and perfect and convenient knife adjustment.

Any 8-16 Tractor Runs the Gehl No. 17

Our special belting arrangement permits of adjustment of speeds to fit any tractor, eliminates all lost motion and waste of power, producing the best possible results with both cutter and tractor. *You'll be surprised to see how much your engine will do with a Gehl Cutter.*

Self Feeder Saves One Man's Time

When writing mention size of engine or tractor, size and speed of drive pulley and height of silo.

A postal brings our new 1920 catalogue and complete information. Write for it.

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129 South Water St.
WEST BEND, WIS.

Distributers
Rawlings Implement Co.
Baltimore, Md.
General Ordnance Co.
2 W. 43rd St.,
New York City

THE PREVENTION OF PLANT DISEASES—PART I

(Continued From Page 3.)

The board collected facts as to the available supplies of fungicides, urged the importance of reserve supplies, and pointed out the effectiveness of home-made preparations.

I wish to set forth a few facts to show that plant disease specialists have been very much alive to the fact that methods for combatting diseases must be practicable and economic as well as effective. During the war great stress was laid upon effort to improve or simplify methods both as to time and expense. Not in all the cases that I shall refer to were the attempts toward improvements begun during or as a result of the war, but in every case the war conditions have had a profound influence either directly or indirectly.

Seed Treatment of Cereals

One of the first problems to be attacked in a general way was the question of treatment of cereals for the prevention of smut and other diseases. Workers in about 20 states, including the more important grain growing regions, and in the U. S. Department of Agriculture, cooperated. The objects were to study the most effective methods, to simplify and standardize methods as much as possible and to study the injuries caused by treatments. It is known that injury is sometimes caused by the treatment but this may be overcome by increasing the rate of seeding as indicated by the germination test. Good seed in which germination has been injured by treatment has been shown to be desired rather than seed which shows low germination from other causes. From the latter a good healthy stand cannot be secured whereas from seed of good quality somewhat injured in treatment a full and healthy stand can be secured by making allowance for the injury by increasing the rate of seeding. The increases in yield are often more than can be accounted for on the basis of the eradication of smut. Increases of four bushels per acre have been obtained when only about 1½ bushels were destroyed in the check by smut. It is evident that some seed-borne diseases, aside from smut, are either partially or wholly controlled by seed treatment. It may be pointed out here that rust of small grain or smut of corn cannot be prevented by seed treatments.

A Simple Method for Oats

A comparatively new method of seed treatment, found to be most effective for oats, has gained favor recently and deserves mention here. It is a so-called dry or spraying method. A pint of formaldehyde is mixed with an equal amount of water and used in a small hand atomizer sprayer, such as can be had for 50 to 75 cents. The solution is sprayed on the grain as it is being shoveled over. One stroke of the sprayer is sufficient for a shovel full of grain if care is taken to hold the sprayer close and distribute the mist well. A quart of solution will treat 50 bushels. After treatment the grain is shoveled in a pile and covered with sacks or blankets for five hours. The oats may be sown immediately or, after thoro airing, may be stored until needed. This method does not swell the grain and obviates the difficulty or danger incident to drying process necessary after sprinkling or soaking methods. It is not yet to be accepted for other cereals but is satisfactory for oats in the eastern states. Methods for treating seed on a large scale in elevators by the application of formaldehyde thru a jet of vapor or steam have been devised. In this way it is possible to effect a uniform and thoro treatment and the results have been satisfactory. Some elevators in great oat-growing regions have taken up with this important work and there is room for others to follow.

(Concluded Next Week.)

After the snowy winter there is strong likelihood of mouse and rabbit damage in the orchard. Paint or wax will help the wounds, and in some cases bridge grafting may be necessary.

Free From Blight All Summer

GROWERS know that once blights get started in potatoes there is no cure. Blights must be prevented from starting.

Modified Kil-Tone

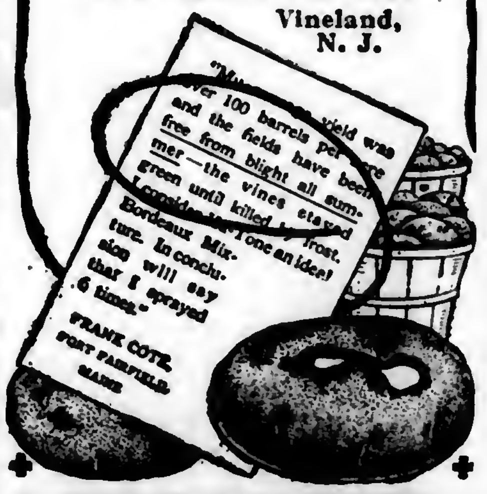
is an insecticide, a fungicide and a leaf stimulator. It is to be used as a preventive of many forms of fungous growths, and controls most diseases which attack potatoes. If used early and consistently it will "keep the fields free from blight."

Modified Kil-Tone is smooth, does not clog nozzles, choke leaf surface or burn foliage.

Ask your dealer or write for booklet.

We also manufacture **Improved Kil-Tone, Beetle Mort Powder** and other insecticides and fungicides for ground crops and fruit.

The Kil-Tone Co.
Vineland, N. J.


"My ... yield was over 100 barrels per acre and the fields have been free from blight all summer—the vines stayed green until killed by frost. I consider Kil-Tone an ideal Bordeaux Mixture. In conclusion will say that I sprayed 6 times."
FRANK COTE, FORT FAIRFIELD, MAINE

"KIL-TONE" DISTRIBUTORS IN PENNA.— Reading Bone Fertilizer Co.

Farmers in Pennsylvania are well acquainted with our line of high-grade Fertilizers. We are now Pennsylvania distributors for "Kil-Tone"—a product that we are proud to sell because we know it to be good—Farmers who have used it say so without stint.

Spray this year with Kil-Tone. Write for prices and literature, or ask any of our agents.

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Fine, Field-Grown "Frostproof" Cabbage Plants

Copenhagen Market, Wakefield, Ballhead, etc., 300 $1.25; 500 $2.00; 1,000 $3.00 postpaid. Express, $2.50 thousand; 10,000 $20.00 cash. Shipped safely anywhere, well packed.

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New York Stable Manure

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All leading varieties, including the best of Everbearing kinds. ASPARAGUS ROOTS and Tomato Seed. Quality best. Prices reasonable. Catalog free.
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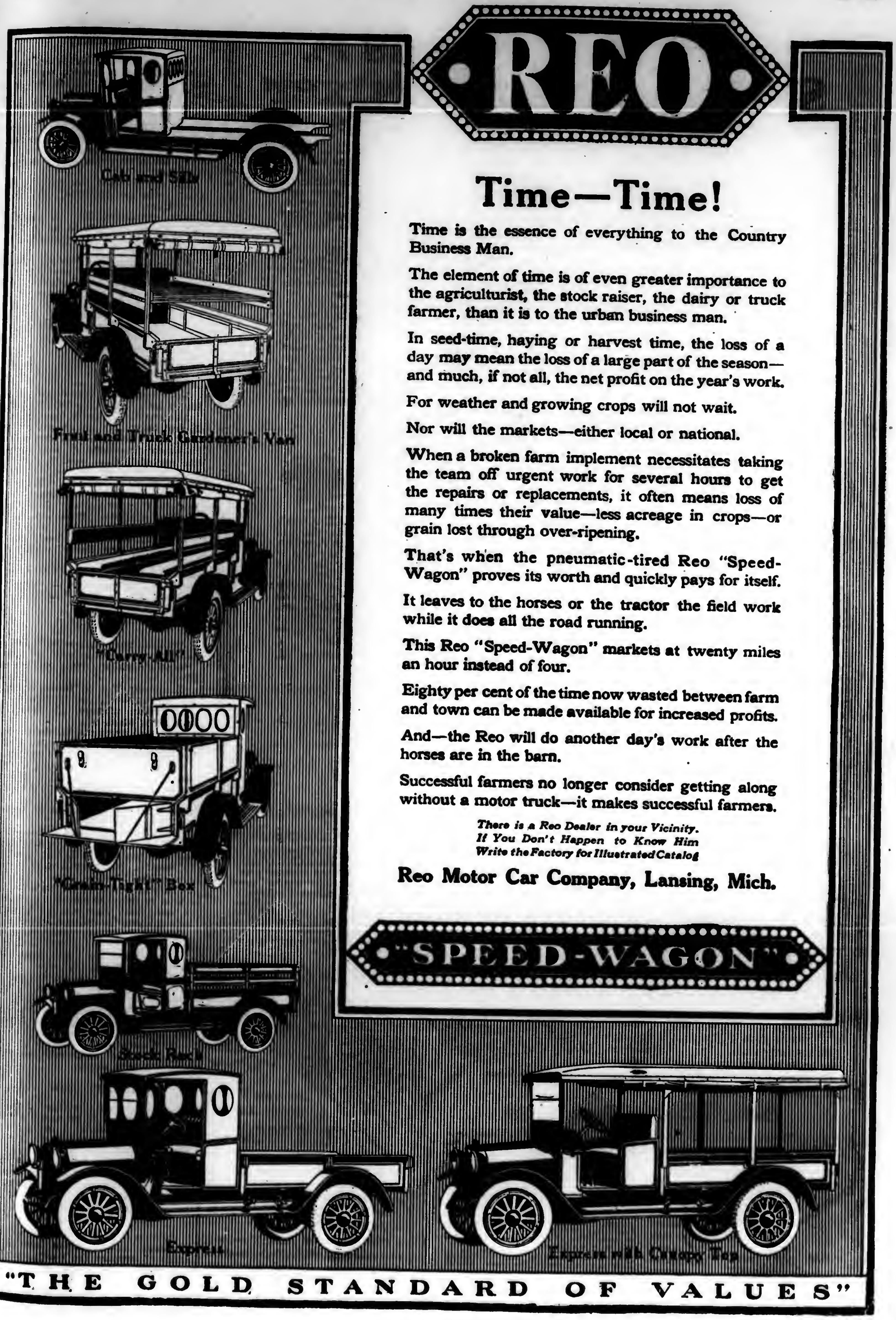


REO

Time—Time!

Time is the essence of everything to the Country Business Man.

The element of time is of even greater importance to the agriculturist, the stock raiser, the dairy or truck farmer, than it is to the urban business man.

In seed-time, haying or harvest time, the loss of a day may mean the loss of a large part of the season—and much, if not all, the net profit on the year's work.

For weather and growing crops will not wait.

Nor will the markets—either local or national.

When a broken farm implement necessitates taking the team off urgent work for several hours to get the repairs or replacements, it often means loss of many times their value—less acreage in crops—or grain lost through over-ripening.

That's when the pneumatic-tired Reo "Speed-Wagon" proves its worth and quickly pays for itself.

It leaves to the horses or the tractor the field work while it does all the road running.

This Reo "Speed-Wagon" markets at twenty miles an hour instead of four.

Eighty per cent of the time now wasted between farm and town can be made available for increased profits.

And—the Reo will do another day's work after the horses are in the barn.

Successful farmers no longer consider getting along without a motor truck—it makes successful farmers.

There is a Reo Dealer in your Vicinity.
If You Don't Happen to Know Him
Write the Factory for Illustrated Catalog

Reo Motor Car Company, Lansing, Mich.

"SPEED-WAGON"

"THE GOLD STANDARD OF VALUES"

Every Farm Needs A Sheldon Concrete Mixer

Put a Sheldon to work on your farm concreting jobs. It will save you money, time and a lot of hard work. It is as great an improvement over the old-fashioned mix-by-shovel method as the riding cultivator is over the hoe. It should be a part of your farm equipment.

Sheldon Mixers cost very little and return big value. Two men and a Sheldon can easily outwork six men with shovels, and not break their backs over the job, either. This saving of labor, alone, will pay for the mixer on the first medium-sized job.

They Deliver the Goods

The Sheldon gives a perfect mix every time. Every bit of sand and rock is thoroughly coated with cement before it leaves the mixer. This makes tough, reliable concrete that will last a lifetime. You have seen concrete crack and crumble. That is the sign of careless hand mixing.

SHELDON Concrete Mixers

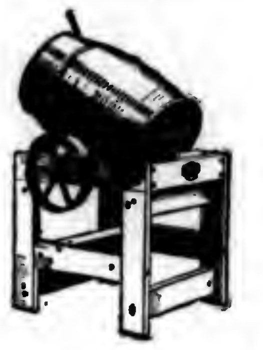
We have literally thousands of letters from Sheldon owners praising the mixer. It gives universal satisfaction. One man writes to tell us that he mixed 2,682 cubic feet of concrete in 21 hours; another, 20 sacks of cement in 3 hours. That is about fast enough to keep up with any job. Big contractors, even, have written us that they are using this farm mixer on big jobs in the city and that they have never seen a mixer for the price that could turn out the work the Sheldon does.

SEND FOR THE CATALOG

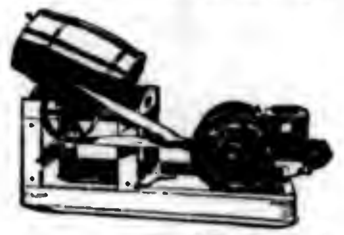
The new 48-page catalog will give you complete information on all types—hand and power, on legs, skids and trucks. There are a number of articles by the editors of the leading farm journals on the advantages of mixers over the old-fashioned mix-by-shovel method. Write for it today.

SHELDON MFG. CO.
Box 572 Nehawka, Neb.

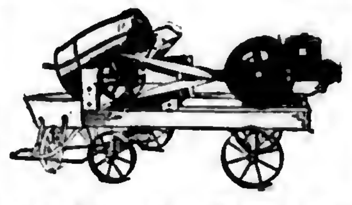
Here are three typical Sheldon models. There are eleven models in all—a style and price to suit every need. The engine equipped models are so arranged that you can use the engine to run your corn sheller, power churn, cream separator or any other power-driven machine you may have on the farm. Our 48-page Mixer Book will give you complete details. Mail the coupon today.



No. 4. This is the most popular Sheldon model—a general utility machine. It is the one you may want if you already have a gasoline engine on the farm. It costs very little and does the same high-grade work as the other models. It is light, compact and very easy to move about. Thousands are giving complete satisfaction on farms today.



No. 6X. Mounted on skids, making it easy to sled it from place to place, or load it into a wagon. Sold with or without Stover 2 H. P. engine.



No. 8X. A truck machine, the last word in complete Sheldon Mixer outfits. Equipped with Stover 2 H. P. engine. Easily pulled by hand or team. Dumps into wheelbarrow or directly into forms (all Sheldon models dump the same way). Costs *complete* less than other makes of *hand* mixers.

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Please send me your new Concrete Mixer Book and 30-day Free Trial Offer.

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State .... State or R. F. D. ....

PURE FARM SEEDS
That conform strictly to OHIO'S NEW PURE SEED LAW.
Clover, Alsike, Timothy, Alfalfa, Oats and all kinds of PURE FARM SEEDS. Direct from producer to consumer. Ask for free samples.
BE PROTECTED. BUY YOUR SEEDS IN OHIO
From
THE A. C. HOYT COMPANY
FOSTORIA, OHIO

Pedigreed Yellow Dent Seed Corn
OUR yellow dent corn is pedigreed and the finished product of careful selection and continuous breeding and has yielded as high as 102 bu. dry shelled corn per acre. Write for prices and descriptive pamphlet. Early and late varieties. Germination guaranteed. Write for circular.
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William R. Compton Co.
Government and Municipal Bonds
Over a Quarter Century in this Business
14 Wall Street, New York
St. Louis Chicago
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"ACME" TILLAGE TOOLS

Make Perfect Seed Beds

"ACME" TILLAGE TOOLS enable you to make better seed beds than you have ever made before. They provide the plants with smooth, fine, firm soil which promotes quick root growth. Crops planted in "Acme"-made seed beds yield heavier.

"ACME" Disc Harrow —10 Sizes

Better Tillage — Bigger Crops

"ACME" Disc Harrow has offset gangs which disc *all* the soil — leave no "comb" or middle ridge. The discs are specially formed so that they enter the soil with a clean cut. They lighten the draft yet pulverize thoroughly. Special ball bearings take up the end thrust. Pressure springs hold the gangs to their work — prevent skips on uneven ground.

No. 23 6 1-2 ft. Wide

"The Coulters Do the Work"— Make Perfect Seed Beds.

"ACME" Coulter Pulverizing Harrow completes the work so well begun by the "Acme" Disc. It is almost universally used on truck farms where perfect seed beds are the common thing. And it's equally valuable on fruit and general farms. Everywhere, "The Coulters Do the Work"—make perfect seed beds.

"I have used both your 'Acme' Disc and 'Acme' Coulter Harrows at the State Institute of Applied Agriculture on Long Island," writes Wm. Ryan, Inspector in Farm Management, "and find that they do excellent work. I can recommend them either with tractors or with horses."

Ask your dealer to show you "Acme" Tillage Tools. Write us for free book, "The 'Acme' Way to Crops that Pay."

DUANE H. NASH INC.
137 Elm Street, Millington, New Jersey

For Pulling Power in the Field and Belt Power at the Barn Use the FRICK TRACTOR

You can depend on the FRICK TRACTOR for all farm uses. It's convenient—has roomy platform, ample power and is built for durability. FRICK TRACTORS are delivered for shipment on their own power.

A Frick Tractor and Junior Thresher is your ideal outfit. Write for price and further information. Immediate deliveries.

FRICK COMPANY, Inc.
347 West Main Street
WAYNESBORO, PENNA.

SPRAYS FOR THE CHERRY AND GRAPE

The Cherry

(Destroy or bury leaves and mummied fruit before growth starts, to aid in controlling brown rot and leaf spot.)

1.—Dormant Spray. — Preferably when buds begin bursting.

Lime-sulphur, 32 degrees Baume, diluted 1 to 9; or any L-S concentrate diluted to a specific gravity of 1.03; for scale insects and fungous diseases.

For aphids, add tobacco extract (40% nicotine sulphate), ½ pint to 50 gallons.

For tent caterpillar or curculio, add lead arsenate as in 2.

2.—Curculio Spray.—Immediately after petals fall.

Lime-sulphur, 32 degrees, diluted 1 to 35; or any L-S concentrate diluted to 1.008; or bordeaux (3-3-50); for leaf spot and brown rot.

Lead arsenate, 2½ pounds paste or 1¼ lbs. powder to 50 gals., for curculio, slugs and red leaf beetle. If latter is serious, double the arsenate, add molasses 1 to 50, and apply thoroly as soon as beetles appear.

Add tobacco extract as in 1, if needed for aphids.

3.—Brown Rot Spray.—When the husks or calyces are being shed.

Materials and pests largely as in 2, and especially for brown rot and fruit fly or maggot. (Latter worst on late sour varieties. If very serious, use an additional coarse spray of lead arsenate, 3 lbs., and molasses 1 to 50, on lower limbs, when adult flies appear in early June, and repeat in 7 to 10 days, or immediately after a rain). If conditions are favorable for brown rot, repeat this spray (No. 3) in 2 or 3 weeks.

4. — Leaf-spot Spray. — Shortly after fruit is picked.

Lime-sulphur or bordeaux as in 2, to prevent defoliation by leaf-spot. Repeat about a month later if this disease is serious.

The Grape

Burn or bury mummied fruits, old tendrils and old leaves, to destroy winter stages of downy mildew and black rot.

1.—Early Rot or Insect Spray.—Shortly before blossoms open.

Bordeaux mixture, (3-3-50); for mildew or black rot.

Add lead arsenate, 2½ lbs. paste or 1¼ lbs. powder, in 50 gals. if flea-beetles or curculio are prevalent.

1-a. For rose-chafers, omit the bordeaux, double the arsenate, add molasses 1 gal. in 50, and apply thoroly as soon as the chafers appear. Repeat after rain or as needed to keep the pest under control.

2. 1st Berry-Moth and Root-Worm Spray. Just after fruit is set. Materials and pests as in 1, but especially to control berry-moth larvae and root-worm beetles. (Soap dissolved at rate of 2 lbs. to 50 gals. is often added to increase spreading qualities of the spray. This may be desirable, unless undue burning follows.)

If root-worm is very serious, an extra spray as in 1-a may be used.

3. 2d Berry-Moth and Root-Worm Spray.—10 to 14 days after 2.

Materials as in 2, for rot mildew, berry-moth and root-worm.

For leaf-hopper, add tobacco extract, (40% nicotine sulphate), ½ pt. to 50 gals., and apply so as to hit the young before they can fly.

4. If berry-moth, mildew or rot is serious, repeat bordeaux and arsenate in 2 or 3 weeks.

The Plum

This is much the same as for the peach except that lime-sulphur solution, at the rate of 1 to 40, is preferable to the self-boiled lime-sulphur in Sprays 3 and 4, on the European varieties only. For Japanese and American varieties of plums the same materials and times of application as indicated for the peach will be satisfactory.

It was one of America's most experienced and respected farmers who said: "I support the Grange and the Farm Bureau for one consideration—the same for which I bought War Saving Stamps and Liberty Bonds—to help in the defense of our civilization."

AMERICA'S FIRST MULE OWNED BY WASHINGTON

It was not the state of Missouri whose breezes first reverberated in America that long, weird sound so familiarly known as the bray of a mule, as has been popularly supposed. Rather those peculiar notes first broke the peaceful echoes around Mount Vernon, and the beast claimed General Washington as his master.

This long eared beast was named Royal Gift and was sent to the great American hero by the king of Spain. The mule measured 15 hands high, his ears were 14 inches long, and his vocal cords were good. His disposition was sluggish and he was rather ungrateful, so much so that General Washington remarked upon the beast's inability to appreciate "Republican enjoyment."

However much he may have lacked in appreciation of the American republic, he was given much publicity. General Washington sent him on a tour of the south, where his long ears, peculiar voice and strange appearance drew large crowds and created much excitement. The attention lavished upon Royal Gift caused the keeper to hurry him from place to place at such a pace that the poor animal, used only to a dignified walk, was reduced to such a poor condition that upon his reappearance at Mount Vernon, Washington was quite shocked at his condition.

It is said that Washington looked forward to producing a breed of mules suitable to draw the family carriage. History does not record whether the first president of the land was ever drawn thus. The jubilant sounds of these creatures in no way disturbed the Father of His Country, but he was at all times very enthusiastic over them and commented upon them in glowing terms to Arthur Young as a very excellent race of animals.

ATTEND TO THE PERENNIAL BORDER

After the snow has disappeared and the weather becomes settled, the perennial borders and plants are in need of immediate care. If by chance, strawy manure or leaves have been used as a mulch for evergreen perennials, it should be removed at once, for such material will rot the plants. A little fertilizer, such as ground bone, tankage, dried blood or sheep manure, might be added to advantage. If an old bed has not been limed within five years, two pounds to every one-hundred square feet should be scattered. Lime is also essential in a new bed. If the soil has not been prepared in the fall, thoro spading should be done as soon as possible.

As soon as growth appears, plant division should take place. Early blooming perennials should be divided in the fall, and those that are late bloomers can be attended to in the spring. Plants with heavy, fibrous roots should be divided every few years to prevent the clumps from becoming hollow and woody. This includes pyrethrum, delphinium, phlox, aster, Achillea the Pearl, and a host of others. Many of these plants require deep planting and cultivation to preserve moisture during the hot months. The best rule to follow in planting perennials is to place them one-half their height apart, when the plants are two feet or more in height. Dwarf edgers are planted eight to twelve inches apart.

The cause for winter-killing is not the severe winters which prevail in central and northern Pennsylvania, but is a lack of drainage of the soil and suffocation by snow and ice.

Flowers are grown for their beauty. Remember this in ordering seeds and plants for the spring. Buy no mixtures of colors but purchase named varieties and distinct colors. Do not be content to have "just asters" or "just gladioli."

"John, I hear you are ingenious in a mechanical way. Can't you fix Tommy's horn?"

"What's the matter with it?"

"Nothing. I want you to fix it so it won't blow."—Louisville Courier-Journal.

Champion
Dependable Spark Plugs

Factory Equipment on Ford Cars Since 1911

A LONG time ago, in 1911, the Ford Motor Company chose Champion Spark Plugs as best adapted to the requirements of the Ford Car.

The judgment of Ford engineers is summed up in the Ford Motor Company's instruction book as follows:

"There is nothing to be gained by experimenting with different makes of plugs. The make of plugs with which Ford engines are equipped when they leave the factory are best adapted to the requirements of the motor."

There is a Champion Spark Plug for every type of motor car, truck, tractor, motorcycle and stationary engine. Order a set from your dealer today.

Be sure the name Champion is on the Insulator and the World Trade Mark on the box

Champion Spark Plug Company, Toledo, Ohio

SLIDEWELL SOFT COLLARS

Made in all the leading models and types of fabric by Troy's Master Craftsmen

Ask for SLIDEWELL

Hall, Hartwell & Co., *Makers*, Troy, N. Y.

LIGHTNING RODS
BIG PROFITS AND QUICK SALES TO LIVE DEALERS SELLING "DIDDIE'S UNIVERSAL RODS" Our copper tests 99.96% pure. Prices are right. Get our agency. L. L. Diddie Co., Marshfield, Wis.

Agricultural Gypsum

increases growth of alfalfa and clover up to 300 or 400 per cent, depending on the need of the soil for sulphur. Gypsum supplies a combination of sulphate sulphur and calcium in the most available plant food form—Calcium Sulphate.

High cost of alfalfa and clover seed makes the application of AGRICULTURAL GYPSUM (Land Plaster) at the recommended rate of 400 to 500 pounds an acre a real economy. Gypsum is a preservative of barnyard manure. It prevents escape of ammonia from the manure, and and every dollar's worth used saves $2 worth of NITROGEN.

A Gypsum Test Strip on Your Fields Will Prove Its Worth in Legume Yields

Prove the value of AGRICULTURAL GYPSUM on your farm. Go to your local building supply dealer and purchase enough Agricultural Gypsum to make a test strip on your clover, alfalfa or other legumes in rotation. The test should prove conclusively that Agricultural Gypsum is greatly needed on YOUR soil.

Send us your name and address and get our free book telling all about the value and use of Gypsum as a permanent soil builder. Book free on request.

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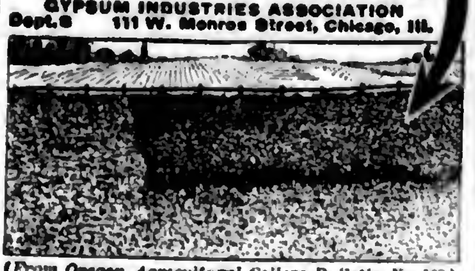

(From Oregon Agricultural College Bulletin No. 163.) Illustration shows result of Gypsum application on four-year-old field of alfalfa on Bernat Ranch, Oregon. Light spot shows unfertilized plots; dark spot shows luxuriant growth where Gypsum was applied.

PIPE second hand. Large stock all sizes furnished with new threads & couplings. Prompt shipment. J. F. Griffith, 416 Moyer St., Phila

THE BEST LINIMENT
OR PAIN KILLER FOR THE HUMAN BODY
Gombault's
Caustic Balsam
IT HAS NO EQUAL

For the Human Body —It is penetrating, soothing and healing, and for all Old Sores, Bruises or Wounds, Felons, Boils, Corns and Bunions. CAUSTIC BALSAM has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

A Perfectly Safe and Reliable Remedy for
Sore Throat
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Lumbago
and
all Stiff Joints

REMOVES THE SORENESS—STRENGTHENS MUSCLES

Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than $120.00 paid in doctor's bills." OTTO A. BEYER.

Price $1.75 per bottle. Sold by druggists or sent by us express prepaid. Write for booklet R.
The LAWRENCE-WILLIAMS COMPANY, Cleveland, O.

For Sale Cow Peas, Soy Beans, Crimson Clover Seed, Cracked Peas
JOSEPH E. HOLLAND, MILFORD, DEL.

Almost Blind from poor light at home!

WHO is to blame? Whose fault is it when children's eyes are so weak that they need glasses? Who is responsible if the child goes blind and spends the remainder of its burdensome days in total darkness?

Ask any oculist. He'll tell you that 90% of the weak eyes and 60% of other eye troubles can be avoided by good lighting. And good lighting costs less than doctor's care, hospital bills or an operation.

COLT

Carbide Lighting and Cooking Plants

have been supplying users with ideal, eye-sight-preserving light for twenty years. The light from the gas generated by a Colt Plant is the nearest approach to sunlight—clear, white, mellow and restful.

With a Colt Carbide Lighting and Cooking Plant on your farm you can have convenient light in every room in the house at a snap of the finger, in your barn and other outbuildings—no matches needed. The farmwife can have gas for cooking—convenient, cool in summer and always ready to be used.

More Colt Carbide Lighting and Cooking Plants are in satisfactory service to-day than ever before. More than 300,000 homeowners are enjoying the comforts and convenience of carbide lighting.

Easy to instal, economical to maintain, needing very little attention of any kind and no expert attention whatsoever. Colt Carbide Lighting and Cooking Plants often are used for years and years without requiring one cent's worth of repairs.

Consider better lighting for your home. Investigate why Colt Carbide Lighting and Cooking Plants have continued to increase in the number used. Learn why they are more popular to-day than ever, even with owners who have had them for years. Do this and you will determine to instal a tried and tested system of lighting instead of an expensive experiment.

J. B. COLT COMPANY
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STUDIES IN NUTRITION—No. 5

By Pearl MacDonald, Penna. State College

The Starches

Starch, if examined under the microscope is found to be in the form of tiny particles or grains, or granules as we call them. These ganules vary in sizes and shape according to the food in which they are found. For example, the starch grains as found in the potato are larger than those in rice. Starch, as you know, is opaque. If a tablespoon of cornstarch is mixed with a cup of cold water and allowed to stand a few minutes, the starch settles to the bottom of the cup. This shows that starch does not dissolve in water. But if this mixture is heated, it becomes thick and clear. What actually takes place when heat is applied to the moist starch is that the starch grains are broken up. If the boiling be continued long enough, and if it be carried on in a vacuum so that the mixture will not burn, eventually it becomes thick and syrupy, and has a sweet taste, tho not as sweet as cane sugar. If a small amount of acid, such as hydrochloric acid (which is the kind of acid secreted by the stomach in the process of digestion), be added to the mixture of starch and water, the change from starch to a syrupy substance takes place much more quickly. The syrup made from starch is a form of sugar called glucose. Large quantities of glucose are made from the starch of corn, and it is known commercially as corn syrup. It is perfectly wholesome and all right to use, but is not so sweet as cane or maple syrup or sugar.

Statue of General Wayne at Valley Forge

Just as starch does not dissolve in water, so in the body starch cannot be absorbed and used as food until in the process of digestion it is changed from starch to glucose. In the form of glucose it can be absorbed into the blood stream and carried to the different parts of the body where it is needed for fuel. If there is more glucose than is needed at any one time for fuel, the body has the power to change it over into what is sometimes called animal starch. In this form it is stored in the liver and muscles. When the body needs this reserve starch it can change it back into glucose.

Since starch cannot be used in the body without being changed into glucose, it is very important that starchy foods should be thoroly chewed (since the digestion of starches is begun in the mouth when the food material is mixed with the saliva.) The digestion of starch is completed in the small intestine.

While recent experiments seem to prove that raw starch can be digested, yet consideing all the factors involved, such as food habits, improved flavor of cooked starchy foods, etc., it seems desirable to continue our practice of cooking starchy foods thoroly well.

Foods that are the main source of supply for starch are the grains, from which we get our flours and meals for breadstuffs, also dried peas and beans, tapioca, nuts (mainly the chestnuts,) the potato among the vegetables and the banana among fruits. The use of these foods will be discussed in a latter article.

Sugars

There are different kinds of sugar, but they all have certain general characteristics. They differ from starch in that they dissolve in water, and are sweet to the taste. Some are sweeter than others.

Sugars are quickly digested, and therefore are spoken of as quick fuel foods.

Cane sugar, commonly spoken of as granulated sugar, and derived from sugar cane is just the same chemically as beet sugar, and both can be used with equal success, contrary to the notion of some people. If results in the use of beet sugar have not been satisfactory, it is due solely to imperfections in the refining process.

Malt sugar is developed in the process of fermenting grains, and has been used in the liquor business. Methods are now being perfected for producing malt sugar on a larger commercial scale. It is a wholesome sweet, and may be used in the dietary in the place of cane sugar.

Milk sugar is that found in milk. It is less sweet to the taste than cane sugar, and less likely to ferment in the digestive tract. For this reason it is better to use in infant feeding than cane sugar. It is more expensive because of the labor and cost involved in extracting it from the milk.

Maple sugar owes it delightful, distinctive flavor to certain flavoring substances in the sap of the tree.

Honey is a very pleasing sweet, and is frequently recommended as a more desirable sweet for children than cane sugar.

What is known as fruit sugar gives the characteristic sweet taste to fruits. All fruits have a considerable amount of sugar. But dates, figs and raisins contain the largest amount, about three-fourths of their total energy value being in the form of sugar.

The leading authorities in nutrition recommend that we eat generously of fruits, for thus we shall need little cane or other sugars. It is especially desirable to do this in the case of children. Because sugar digests so easily it quickly satisfies the appetite. If eaten between meals or just before a meal the child at meal time will not eat milk, vegetables, fruits, cereals, and the foods which he should have, and so his body is not sufficiently nourished. Then there is the chance of upsetting the digestive tract due to excessive fermentation when a large amount of sweet is taken. For children, and adults as well, it is better to have candy or sweets at the end of a meal, and then only ocasionally as a treat and in small amounts.

Experience has shown that many digestive and other ills in childhood and later life are the result of eating too much sweets, such as candy, cakes and preserves, etc.

There are other forms of sugar, the names of which are less familiar to us than the above-mentioned, but they serve the same purpose in the nutrition of the body.

The next article of this series will discuss the fats, and their work in the body.

MARBLES SMALL BOY CAN MAKE FOR ALMOST NOTHING

My 12-year-old nephew has just asked me again for my recipe for making salt beads, because, he says, it makes such good marbles. When I first told him how to do it for this purpose, I was a bit skeptical about how they would stand the hard usage that a lively lad would give them, but he says "they do fine."

So perhaps your boy may want to try the recipe. It is as follows:

There should be two parts of cornstarch per three parts of the finest salt that you can get. The reason that some salt beads crumble is that the salt was too coarse, or else too much cornstarch was used.

Heat the salt in an agate piepan until it crackles. Have the cornstarch ready in another and deeper agate pan, stirred up to a smooth cream consistency with cold water. When the salt crackles, stir it into the corn starch mixture, and beat and work it until cool enough to hold in the hands, when it should be rolled between the palms and worked until as smooth as possible.

To color the marbles as many colors as the small boy may desire, the tube paints such as artists use are the best for this dough. Indian red makes a good practical marble shade. Geranium lake and cobalt blue give very gay colors. Combine them and you get mauve; used singly in varying amounts, you obtain any shade of blue or pink that you desire. Only a very little paint is needed for making a hundred or so beads, and as two tablespoons of cornstarch and three of salt will make several strings of beads, I judge that this amount will make as many marbles as a boy will want to manufacture at a time.

The dough will be crumbly if the cornstarch and water mixture is too thick. But if too thin, heating the dough in the deeper agate pan over the fire will cook it to the right consistency. It is much better to have it too thin than too thick. A few experiments will show you how to get it just right.

If dye is used instead of paint, it should be dissolved first in the amount of water called for to make the dough. I think soap dyes will answer for this mixture, because a little soap jelly worked successfully for making some salt beads when these were so popular; it seemed to make the dough a very fine grain.

As the hot salt helps materially to cook the cornstarch, it is necessary that it be piping hot as indicated by the crackling.

Several of you boys might club together in buying the coloring stuffs to bring the individual expense down to the minimum. Mrs. Nina Wallace, Broome Co., N. Y.

RESPECT FOR THE CHILD'S POSSESSIONS

It is no wonder that during infancy and early childhood life's lessons are so difficult for the small beginner when the laws which govern them must seem to him just or unjust, consistent or inconsistent, according to the knowledge or the caprice of the adult administering them.

One of the first lessons which the little child should learn is the proper care of his own possessions and respect for those of others, and a mother has the first opportunity to inculcate this important life lesson.

Since one of the strongest instincts of the child is to imitate, there seems no more logical way to teach this lesson than by example. If a mother teachers her child not to touch the articles on her desk or dressing table without her permission, then has she the right to dispose of his toys without his permission?

The writer recalls an instance where a mother secretly put away a doll which had been given to her little girl, and, for no reason except that the child already had a number of dolls and this particular one was "too beautifully dressed to be played with until the child was older."

Another common way of disregarding children's rights is to force

them to give up some new or much-prized possession. For example, a little girl of six, who was delighted with the gift of a doll's fan, was obliged by her mother to hand it to her screaming baby in order to quiet him. In his excitement he soon crushed the tiny toy, his screams increased, and his little sister was broken-hearted! Now had the unjust and short-sighted mother "saved the scene" which she had hoped to avert.

In each of these cases the child should have been consulted and her permission given before the mother disposed of the plaything. In this way the mother could have explained the reasons for her own action, and the child, in her turn, would have had an opportunity of expressing herself, a habit which should be encouraged. Then, too, personal responsibility for her possessions and the recognition of the right of ownership would have emphasized the difference between "mine" and "thine."

There is no better way to create habits of orderliness and a sense of responsibility than by giving the child a place for keeping his playthings and then allowing him full control of these possessions.

Show him how to use his books, how to take care of his toys, how to protect his pets, and then see to it that he has a shelf or a small bookcase for his books, a play corner for his toys, and an appropriate home for his pets.

After playtime require him to put away whatever he has been using, and let him understand the necessity for regular attenion to his pets. Such training will of necessity react upon his character since possession entails responsibility. Ownership also teaches generosity, for without possessions how can a child learn to share?

It may not be out of place in advising parents to respect their children's possessions to add a warning on behalf of the children. Do not surround them with numberless ready-made toys. Give them blocks, boards, nails, a few tools, hammers, saws, planes, spools, scissors, thread, cloth, dolls, paper, crayons, clay, sand, and books. They will get more happiness from these possessions of constructive possibilities than from all the finished toys of the biggest toy shops in the land.

"Childhood has its own way of seeing, thinking, and feeling, and nothing is more foolish than to try to substitute our own for them."

Respect your child's right to his possessions and he will learn to respect the rights of others, and, with such recognition, there will be no fear for the outcome of his place in society. Help to reach all the parents of the country by cutting this out and passing it on to a friend.—Helena Wilson.

LIGHT, POWER AND CONVENIENCES

Light and power means efficiency on the farm, especially in the farm home. A lighting system supplies not only illumination but power for the house, barn and dairy. Its possibilities are unlimited because of the variety of uses to which it can be put.

The water system including the disposal of the water costs from $150 to $200; the heating system, $120 to $500; the lighting system from $250 to $500; laundry equipment, $120; summer range—gasoline, oil or alcohol, $15 to $25; fireless cooker, $6 to $21; refrigerator, $15; vacuum cleaner, $25 to $60; kitchen cabinet, $25; alcohol, gas, carbon or electric iron, $3; a dumb waiter and barred window cooler may be home made.

Farmers and farmers' wives are coming to realize the time and labor saving value of conveniences. The expense is merely nominal when the economic value is considered.—L. F. Strickler.

When cake batter is put into the pan, if the batter is brought up against the pan so that the center of the cake is lower than the sides, the cake will not be likely to rise so high in the center that it cracks open.

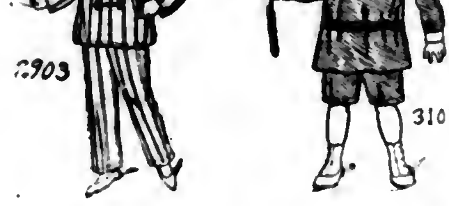
PLANTATION PROBLEMS

Moses in de bulrush—
  Dar dat boy wuz foun;
Moses in de bulrush;
  'Spose he had er drown?
Oh, dem Ten Comman'mints
  Moses handed down!
Whar'd dem Ten Comman'mints be
  Ef Moses had er drown?
Daniel in de lion den
  (Oh, dat bitter cup);
Daniel in de lion den;
  'Spose dey'd chawed 'im up?
Oh, Belshazzar,
  Beaver hat en gown,
How'd you read dat writin
  Ef Daniel out er town?
—Atlanta Constitution.

PENNSYLVANIA FARMER PATTERNS

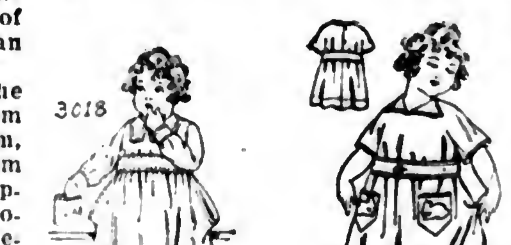
Give figures and letters of each pattern exactly as printed at beginning of each description or we will not be responsible for correct filling of orders. Give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261 S. Third Street, Philadelphia, Pa.

2903.—Boys Pajamas.—This model is very comfortable. It is suitable for madras, outing flannel, gingham or seersucker. The pattern is cut in 7 sizes: 4, 6, 8, 10, 12, 14 and 16 years. The medium size requires 4½ yards of 36-inch material. Pattern, 10 cents.



3103.—Suit for Small Boy.—Pattern is cut in 4 sizes: 2, 3, 4 and 5 years. Sergé, cheviot, broadcloth, velvet, corduroy, linen, gingham, chambrey or drill could be used. Size 4 will require 2⅜ yards of 40-inch material. Pattern, 10 cents.

3018.—Dress of Unbleached Muslin. Do you know that this makes a very good dress material. This one was cross stitched in blue and red. One may also make it of checked gingham with a plain collaer, or of a neat pattern of percale with pique or drill for collar, cuffs and belt. The pockets are the smart feature of this dress, and every little girl will like the dress for that reason. This pattern is cut in 4 sizes: 2, 3, 4 and 5 years. Size 3 will require 2¼ yards of 27-inch material. Pattern, 10 cents.



2669.—Child's Play Dress.—This pretty model is just the thing for romping and playing. It makes an ideal, simple dress. The style is suitable for khaki, drill, seersucker, gingham, poplin, lawn or percale. Unbleached muslin finished with blanket stitching and with belt and bunny in some contrasting color, would be very attractive.

The pattern is cut in 5 sizes: 2, 4, 6, 8 and 10 years. Size 6 requires 2 yards of 36-inch material. Pattern, 10 cents.

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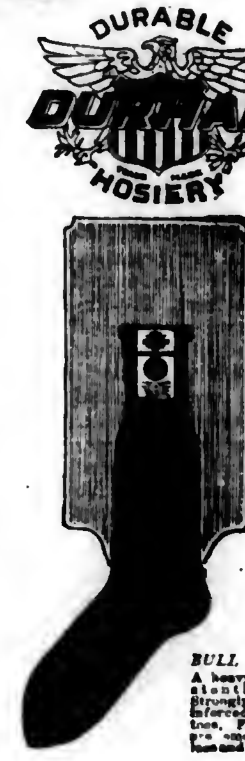

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It analyzes 15% protein, 3% fat, 6% fibre, 10% ash.

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POULTRY

Rearing Strong, Healthy Chicks

Probably the most difficult part of poultry keeping is the successful raising of chicks into strong, healthy, vigorous egg producers. The quality and vitality of the parent stock, the manner in which the incubators and brooders have been run and the feeding system are the most important factors to consider in the reproduction of the flock. Of these different factors, the quality and vitality of the parent stock and the feeding system are of prime importance.

Vitality Essential

No doubt many chick troubles have their beginning before hatching. Hens of low vitality mated with males of poor constitutional vigor do not produce vigorous offspring. No hen that has been seriously sick should ever be allowed in the breeding pen. Yet it would not be a hard proposition to find many flocks that have in their breeding pens hens that have had the roup or some other serious disease. I know that it is the most natural thing in the world to breed from hens that have been good layers. But if those hens have ever had any serious disease, if they do not have the vitality that you want their offspring to have, keep them out of the breeding pen. Other things being equal, vitality in the parent stock means vitality in the offspring.

What about the quality of the hens from which you expect to raise your young stock? Is there anything at all in breeding for increased egg production? Can it be done? In talking with a successful poultryman in this state this year, he made this remark, "I thought I could take any hen and by giving her a comfortable home, feeding her well and giving her the care and attention she deserved, make her lay. I have found out, after years of experience, that I was mistaken. Breeding certainly does count."

The following results from the Oregon Experiment Station will tend to prove this point. A male of unknown ancestry was mated to poor layers and produced daughters that averaged 117 eggs each. When this same bird was mated to good layers, the daughters averaged 179 eggs each. In another case, where the dams laid in their first year an averae of 226 eggs when mated to a male whose dam laid 229 eggs in her pullet year, 32 daughters from this mating averaged 215 eggs. This shows the value of proper selection and mating. It naturally follows that some of the offspring will not be as good as "either side of the house." But we are concerned more with averages and the average production of the 32 daughters referred to above was exceptionally good.

Chick Feeds and Method of Feeding

After one has hatched good chicks the next big problem is to feed them. The method of feeding and the rations which are given have been used by many poultrymen thruout this state during the past few years with excellent results.

One of the big causes of loss in chicks is overfeeding. Chicks should not be fed before they are 60 to 72 hours old. The unabsorbed yolk furnishes nourishment during this time. If the chicks are fed before this yolk is assimilated, diarrhea very often results. The chicks paste up behind, become listless, lose their appetite and finally die.

It will pay well to have sour milk or buttermilk before the chicks all the time until they are at least six weeks of age. They act as a tonic and help to keep the chicks in good condition.

The first drink of milk should be given when the chicks are put into the brooders. This, of course, is when they are 60 to 70 hours old. Along with milk, sand or fine grit should be fed to prepare the gizzard for grinding the grain food which is to be fed later. Rolled oats may be fed on boards, so that the birds can easily see to pick it up.

From two days to two weeks of age, the following ration is fed:

Scratch Feed—3 pounds cracked corn; 2 pounds cracked wheat; 2 pounds rolled oats or pinhead oats.

Dry Mash—2 pounds wheat bran; 1 pound cornmeal, 1 pound wheat middlings, 1 pound rolled oats, ½ pound bonemeal.

The feeding system during this time is simple:

6.00 A. M.—Scratch Feed.

9.00 to 10.30 A. M.—Place dry mash before chicks in hoppers.

12.00 noon—Scratch feed.

3 to 4 P. M.—Dry mash in hoppers before birds.

6 P. M.—Scratch feed.

From two to eight weeks of age, the ration is changed. During this period two pounds of cracked corn and one pound of cracked wheat is fed as a scratch feed. The dry mash consists of the following:

2 pounds bran, 1 pound cornmeal, 1 pound middlings, and ½ pound of scrap.

The mash is placed in hoppers before the birds all day. The cracked grain is fed three times a day, morning, noon and night.

From eight weeks to maturity, the following rations are fed:

Scratch Feed.—2 pounds cracked corn, and one pound wheat.

Dry Mash. — 100 pounds corn meal, 100 pounds middlings, 100 bran, 100 pounds ground oats, 100 pounds beef scrap.

The dry mash should be available to the birds at any time during the day, while the scratch feed is fed in the morning and evening.

In addition to the above, charcoal, grit and plenty of fresh water should be always available. A good supply of green food is necessary for vigorous growth. The tops of sprouted oats, clover, or alfalfa cut short make excellent green feeds.

While chicks may be successfully grown under restricted conditions, plenty of free range is desirable. The chicks are made to get out and hustle for part of their living and in doing this they get the exercise they so much need. An orchard makes a most desirable range for growing stock. Brooding chicks in an apple orchard for the past five years has been practiced by the Pennsylvania State College with excellent results. The trees furnish shade for the chicks while they are young. In the fall they serve as splendid roosting quarters for the growing stock.

The successful poultryman endeavors to keep the young stock growing uniformly until they reach the productive stage, when they are usually transferred to the laying quarters sometime during October. If he is not to be disappointed in the number and quality of his pullets, he must consider carefully the vitality and quality of the parent stock and the method of feeding and rearing the young stock.—H. Clyde Knandel, Pennsylvania State College, State College, Pa.

FEEDING BROODER CHICKS

1.—Give no feed during the first 36 to 48 hours after hatching. During this time leave the chicks in the incubator to dry off and get strong.

2.—Give sour milk in shallow covered pans and grit in the litter just as soon as the chicks are moved to the brooder. The best time for moving the chicks is early afternoon.

3.—Begin the next day with five feedings of any good chick scratch ration, feeding it at first on a board so that the birds can find it and after one or two feedings they will

scratch it out of shallow litter. An excellent home-mixed chick scratch ration can be made by mixing the following:

100 pounds of fine cracked corn.
100 pounds of cracked wheat.
100 pounds of steel cut or pinhead oats.

4.—At the beginning of the second week omit the noon feeding of scratch and place wheat bran in shallow troughs or small hoppera before the birds for two or three hours each day. After two or three days or until they get used to the bran, it can be left before them all the time. Continue four feedings of chick scratch, feeding small quantities at a time. Give green food in form of lettuce sprouted oat tops or chopped roots morning and night from this time on.

5.—At the beginning of the third week substitute the following dry mash for the wheat bran, keeping it before the chicks all the time until they reach maturity.

Growing Mash

300 pounds of wheat bran.
100 pounds of wheat middlings.
100 pounds ground oats.
100 pounds corn meal.
100 pounds meat scrap.
100 pounds dry buttermilk powder.

Buttermilk powder may be omitted in the above when liquid milk is fed as a beverage. It will be noted that the above mash can be quickly mixed by adding 200 pounds of wheat bran and 100 pounds of dried buttermilk to the standard laying mash.

6.—During the third week omit one feeding of the scratch ration, making three feedings, morning, noon and night, from now on until the chicks are put on the range. Substitute a grain ration of equal parts of cracked corn and wheat for the chick scratch when the chicks are 6 weeks old.

HOW EGGS ARE LOST.

A high growth of weeds in the poultry yards or on the range furnishes places for hidden nests. It is better to mow the weeds and have the range covered with a good growth of clover. Keep the hens out of the barn or examine the hay mow frequently to see if the hens are laying there.

A tumble-down straw stack furnishes many places for hidden nests and then the other birds may scratch straw over them and the eggs are never found. A well built straw stack not only saves the straw but prevents the loss of many eggs if the stack is on the poultry range.

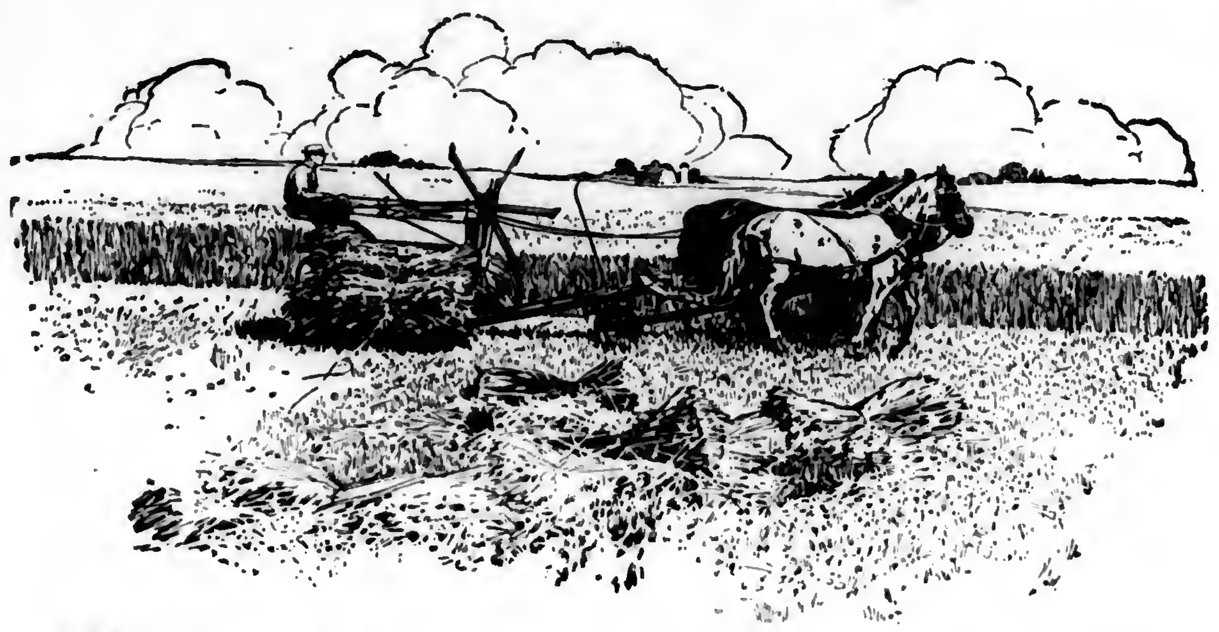
Cleaning up the brush piles reduces the chances of lost eggs. A hen likes a depression in the grass protected by a mass of dead orchard brush. If good nests are furnished in the poultry house and the yard is kept free from secluded places, there will be few lost eggs and no wasted time from setting hens remaining on large clutches of eggs which are often infertile.

Another place for hidden nests is in the straw under the dropping boards. This can be largely prevented by breaking up the nests when they are first found so that the hens will not form the habit of laying in the lose straw.

Many eggs are lost from being laid under buildings like corn cribs and tool sheds. On some farms, the loss from this cause is so large that it would pay to keep the birds on a fenced range. An orchard makes a fine fenced poultry range as the land can produce two crops. The birds help the trees and the trees shade the birds and there is no place for stolen nests on a smooth green sod in an orchard.—K.

A gentleman in the engraving business on Broadway, New York, was greatly annoyed by the tardiness of one of his skilled engravers. Calling him into the office one morning he said: "Mr. Brown, I get here at 8.30 every morning and look over my mail; at 9 o'clock I look out the window and see Mr. Rockefeller on his way to the office; at 9.30 Mr. J. P. Morgan passes on his way to the bank; at 10 I see Mr. Vanderbilt going by; at 10.30 Mr. Taft passes on the way to his office; at 11 you come in. Who the ——— are you?"

Make Short Work of Short or Long Grain



WHEN some of your grain comes up short and stunted, especially on dry, gravelly knolls, and some of it grows tall and heavy, so that it lodges and tangles—*then* you have a harvesting problem—unless you own a **McCormick, Deering,** or **Milwaukee Grain Binder.**

With these binders it is possible to cut 1¾-inch stubble—get right down close to the ground. The curve of the guards and wide range of platform adjustment permits doing this. And the reel is designed to handle grain in any condition. It can be lowered, raised, swung forward or thrown back almost instantly to accommodate short, long or tangled grain. The binding attachment can be adjusted quickly for short or tall grain, and has a band-placing range of from 10 to 24 inches from the butt of the bundle.

The names **McCormick** and **Deering** and **Milwaukee** are favorably known wherever there is agriculture. They are guarantees of high quality and operating efficiency. Almost 90 years of harvesting machine development and satisfactory service in the fields of the world stand behind them.

See your nearby International dealer **now** in regard to your binder for early delivery. Place your reliance also on **McCormick, Deering,** or **International high-quality twine.** Meanwhile, may we send you a descriptive catalog showing latest improvements and features in the world-standard harvesting machines?

INTERNATIONAL HARVESTER COMPANY
CHICAGO OF AMERICA (INCORPORATED) USA

BLACK FLAG

15c
40c
75c
Except West of Rockies

Saves Young Chicks

Lice and mites kill chicks. Black Flag will save them. Blow into feathers of setting hens and down of chicks to kill head and body lice; blow into cracks in coops and nests to kill mites. Use powder gun. Kills insects by inhalation. Bugs don't eat it—they breathe it, and die. Destroys ants, flies, fleas, mosquitoes, bedbugs, roaches, some moths, and lice on animals, birds and plants. Harmless to people and animals. Look for BLACK FLAG trademark and red-and-yellow wrapper. At drug, department, grocery and hardware stores, or direct by mail on receipt of price.

U. S. Gov't (Bulletin 771, Agri. Dept.) shows glass containers keep insect powder freshest. Buy Black Flag in SEALED GLASS BOTTLES instead of "insect powder" in paper bags or boxes.

BLACK FLAG
Baltimore, Md.

EUREKA
Colony Brooder

Use it 30 days at our expense. You take no risk. Burns coal or natural gas. Easy to operate. *Write for booklet and prices.*

J. R. WOTHERSPOON
248 N. Front Street
Philadelphia, Pa.

$30 Profit per Hive

made by beekeepers. You, too, can make big money by keeping bees as a side line. Little work required. Bees supply own food. Men, women and older children can learn quickly. We buy spare honey at highest market price. Our productive Italian Bees now ready for May delivery. Write today for catalogue. Beekeepers send for latest bee lists. No obligations attached.

The Griggs Bros. Co.
Dept. 30 Toledo, Ohio.

CHICKS
WHITE LEGHORN RHODE ISLAND RED
BLACK MINORCA

Increased incubator capacity enables us to fill your order for Pratt's "Superior" chicks. Three varieties bred for highest combination of practical qualities and standard requirements. A farm—not a hatchery. Booklet

PRATT'S POULTRY EXPERIMENT FARM
Morton, Delaware County, Pa.

BABY CHICKS

Three millions for 1920, delivered anywhere by Parcel Post. Catalog free.

Barred Rocks
White Rocks
Buff Rocks
Brown Leghorns
White Leghorns
Buff Leghorns
White Wyandottes
Rhode Island Reds
Black Minorcas
Anconas
Buff Orpingtons
Assorted

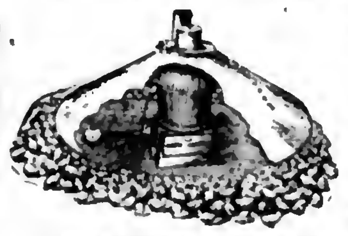
SMITH HATCHERIES, Dept 8.
1629 Chestnut St., Phila., Pa.

One Turn Crank Turns Every Egg

Best construction.
Simplest to operate.
60, 100, 150, 200 egg sizes

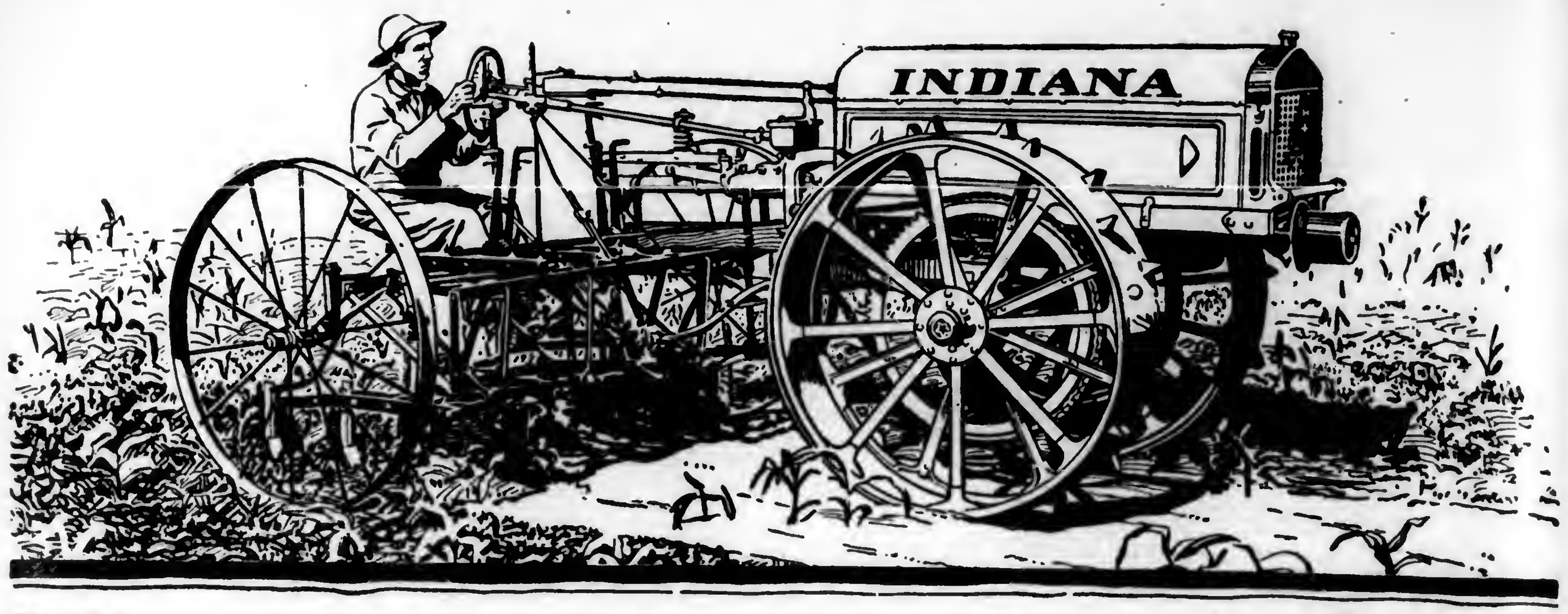
WRITE FOR CATALOG
ROLLER TRAY INCUBATOR CO.
302 Grant Avenue Nutley, New Jersey

THE MAGIC BROODER

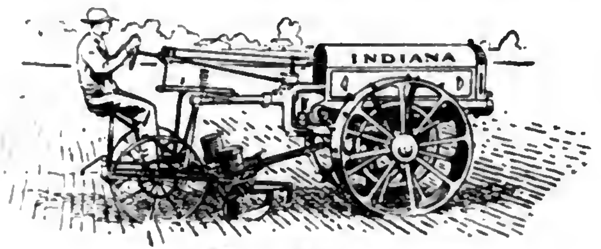


Self-regulating; dependable; gas-proof; fire-proof and chill-proof. Broods chicks better than a hen. Fully guaranteed or mone refunded. Write for free catalog describing the world's best brooder, together with plans of colony and laying houses. AGENTS WANTED.

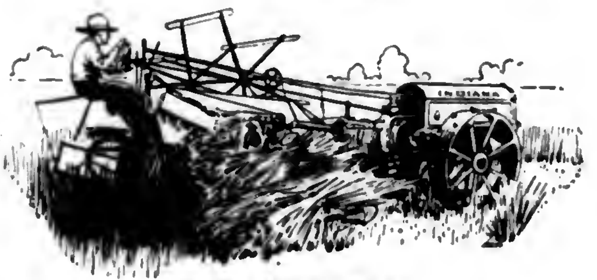
UNITED BROODER CO.
302 Pennington Avenue Trenton, N. J.



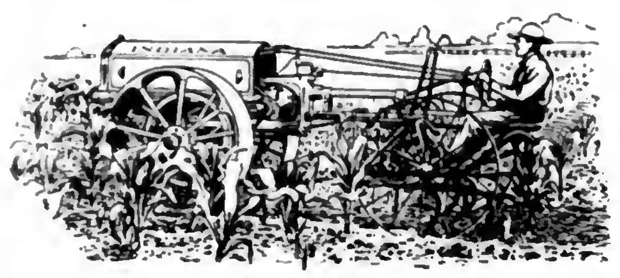
Why two men and two teams? Get an Indiana now and one man will do!



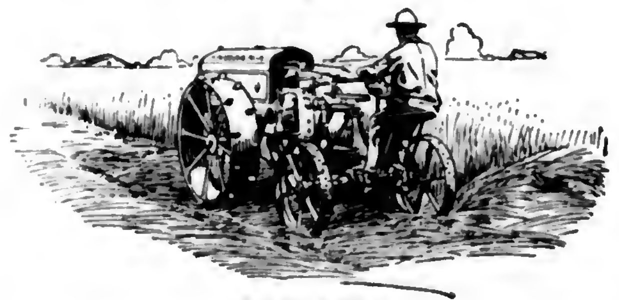
Planting Corn



In the Wheat Field



In Big Corn



Cutting Hay

ON MOST farms one team is all you can use the year around. Extra horses work only during the crop year of 90 to 100 days. The rest of the season you are working for them.

The Indiana Tractor will do the work of four horses and do everything they do. The owner of an Indiana only uses his team during the busy time and for odd jobs and hauling. The Indiana will save the care and expense of your extra horses and the labor of one man. It will give you an hour or two more in the field every day. It is light enough to go on the ground any time horses should go.

Plowing is but 15% of what a tractor must do to replace horses. The Indiana plows more than two teams and attaches to all makes of harrows, discs, planters, one or two row cultivators, mowers, binders, corn-binders, rollers, drills, culti-packers, potato-diggers, and all orchard and vineyard tools.

The implements you already have are standard in all row cultivation and cannot be changed. You do not have to buy new equipment in order to use the Indiana Tractor. The hitches are simple and inexpensive. In many operations the tractor will do the work of six or eight horses. The driver rides the implement. It is the all-round single-unit one-man tractor.

Frederick C. Christiansen, Juneau County, Wisconsin, says: "I have 321 acres on my farm, all under cultivation except 40 acres. I have no horses and do all my work with one Indiana Tractor."

An Indiana Tractor will work every day. You can buy one for less than the price of the horses it replaces and the cost of keeping them a year. It is so simple that any boy, capable of handling the implement, can operate it and do the work of two men and two teams.

W. N. Marble, Vermillion County, Illinois, who has lost his right hand, uses his Indiana with all his regular farm implements and cut over 80 acres of wheat at a gasoline and oil cost of 10 cents an acre. He finds it much cheaper in every field operation than feeding horses on high-priced feed. He also uses it for belt work.

Quit working for your horses and work for yourself. You can get an Indiana Tractor promptly from any of our branches. Hundreds of users have testified to their satisfaction with this tractor in the last four years. They help us sell Indianas to their neighbors.

For almost twenty years the Indiana Silo and Tractor Company products have signified quality and dependability. The experience of over 75,000 Indiana Silo customers should be sufficient for you.

Mail the coupon for book of pictures showing the Indiana Tractor actually doing all the work that horses do; and book of letters from users. If you need a silo, we have one for you. We are the largest silo manufacturers in the world.

DEALERS—This is the biggest tractor proposition ever offered. Write for territory.

THE INDIANA SILO & TRACTOR COMPANY

34 Union Building........................Anderson, Indiana
34 Indiana Building........................Des Moines, Iowa
34 Silo Building........................Kansas City, Mo.
34 Live Stock Exchange Bldg.............Fort Worth, Texas

INDIANA
ALL-ROUND
TRACTOR
"The World's Tractor"

INDIANA
TRACTOR
INDIANA SILO

THE INDIANA SILO & TRACTOR CO. 34

Please send complete descriptive matter on the Indiana Tractor, and letters from users.

Name..

Address..

P. O.......................................State..............................

PASSING EVENTS IN PICTURES

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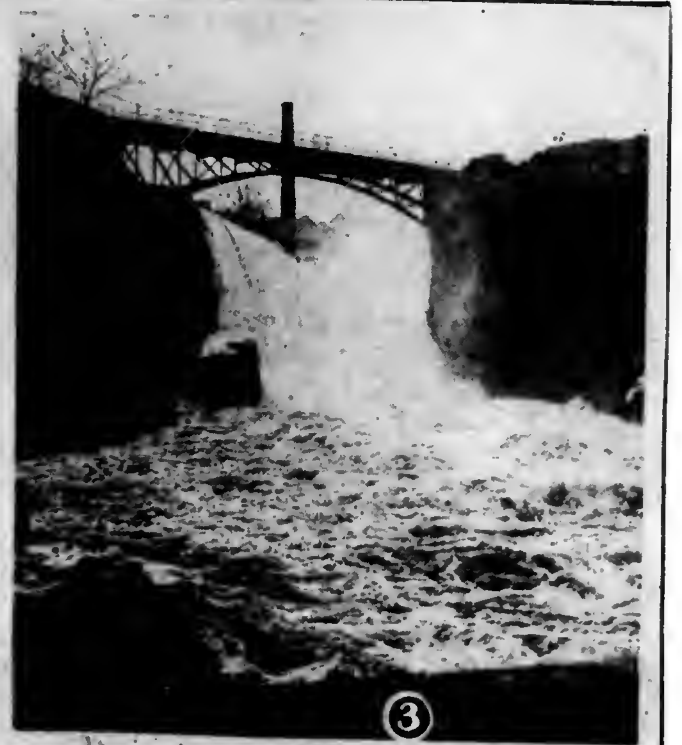

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US Army Transport in Vladivostok

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(Photo. Copyright by Underwood & Underwood)

1.—First Prize Exhibit at International Flower Show Recently Held at New York.

2.—Mrs. Maud Woods Parks, Chairman National League of Women Voters.

3.—The Big Floods and the Ice make Passaic Falls Look Like Niagara.

4.—A Late Photograph of the "First Lady of the Land," Mrs. Woodrow Wilson.

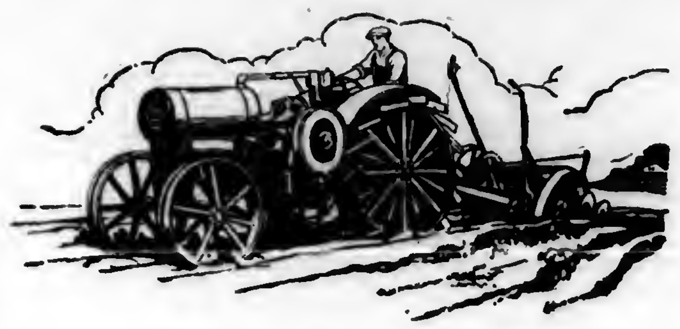
5.—Three of the Jamaica High School Rifle Team. Shooting Was Adopted There.

6.—Members of Company "B," Texas State Ranger Force, Ready For Service.

7.—Windur Sze, Whose Father is a Member of the Chinese Educational Mission.

8.—The U. S. Army Transport "Thomas" at Vladivostok, Siberia, will bring men home.

9.—The Titanic Electric Locomotive, the Heaviest and Most Powerful in the world.



Spark Plugs and Plowing

WHILE plowing, you don't want to be held up for an hour or more in the field because of a poor spark plug in your tractor. Those delays pile up costs and cut down yield.

Guard against such delays by using only Bethlehem Spark Plugs—the plugs that have met the severest tests of tractor operation.

Bethlehem plugs "pull you through." They don't go dead and leave you stranded in the field. The International Harvester Company thinks so much of Bethlehem plugs that it has adopted them as standard equipment for tractors and trucks.

Bethlehem Automobile and Truck plugs are just as trustworthy as the famous Tractor plugs. Studebaker, Marmon and 48 other manufacturers have chosen Bethlehems as standard equipment. To help you get the right plug for every purpose, we have prepared a little booklet, "Hit or Miss?", which we will send you free on request.

BETHLEHEM SPARK PLUG CORPORATION
E. H. Schwab, *President*
Bethlehem, Pa.

Bethlehem SPARK PLUGS

"They Pull You Through"

Guarantees Crows Will Not Pull Your Corn

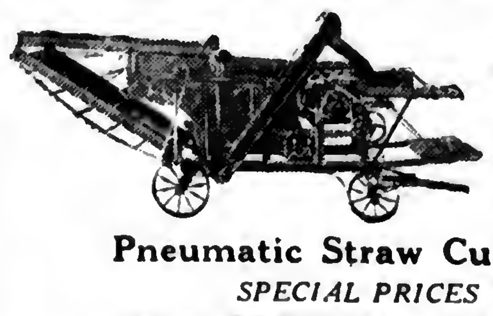
One dollar buys enough to treat one bushel of shelled corn

GUARANTEES
CROWS
will not
pull your
CORN
KRO-ENEMY

References:
Greenville State Bank
Greenville Commercial Bank

KRO-ENEMY is a compound made by a farmer to prevent crows from pulling up the growing corn. It is easily applied to seed corn and is ready for use twenty-four hours after treatment of seed. The corn can be used in any style planter and has been used successfully for the past three years.
If KRO-ENEMY is as good as we say it is you cannot afford to be without it.
If KRO-ENEMY would not do what we say it will, we could not afford to guarantee it.
Treat your corn as directed and if you are dissatisfied with results before June 25th, 1920, return the empty can and your money will be refunded.

KRO-ENEMY COMPANY, GREENVILLE, MICHIGAN.



Junior America Grain Threshers For the Farmer

Pneumatic Straw Cutter Attachments

SPECIAL PRICES THIS MONTH

DOYLESTOWN AGRICULTURAL CO.
ESTABLISHED 1851 DOYLESTOWN, PA.

Our Feed Market Letter

Developments in feedstuffs markets of the United States in recent weeks were not of an encouraging character from the standpoint of consuming interests. Bearish sentiment, which in earlier weeks pervaded the trade, gave way to a rather buoyant tone. Advances were recorded on some of the most important commodities, with bran and shorts, which experienced a skyrocketing market, leading in the upward tendency of prices. The feed grains, including corn and oats, strengthened in price, and a firmer tone developed in the forage market, despite the advance of the spring season and the use of pastures in the more Southern grazing districts. The high protein concentrates did not follow the other feedstuffs, a further easing of prices on both bottonseed and linseed cake and meal narrowing the premium commanded by these products.

Often on an advancing market there is a tendency to buy in larger quantities than would normally be taken. This has been apparent in the bran and shorts trade, but it is not a wise policy for feeders to accumulate large stocks at current price levels, which are practically the highest in history. The upturn in millfeed was not entirely due to actual consumptive demand and supply conditions, operations of speculative interests having been a significant factor. Jobbers and other rehandlers on markets sold enormous quantities of bran for March delivery, expecting to enter the market and "cover," or repurchase the feed at a lower level than the sales were previously contracted. However, the market continued soaring in price, and efforts of the speculative interests to cover on their enormous short interest merely caused a further tightening. Flour mills over practically the entire country are operating on a greatly reduced scale, owing to the absence of demand for flour, and, without a normal supply of offal, the dealers who had sold short in the hope of realizing a profit were placed in a serious position. Technically, it was a squeeze or a corner.

Offerings of bran available for market were extremely light. A good local demand absorbed much of the output of interior millers of the winter and spring wheat sections, and eagerness of mills to dispose of flour by offering a quantity of feed in mixed cars further reduced the market surplus. Pennsylvania and surrounding states of the East have been conspicuous as buyers of bran in the Northwest, Southwest and Central States, but this trade has recently fallen off. Dairymen claim they are unable to feed bran at currant price levels, and reduced buying on this account is being felt more or less.

Bran on the Minneapolis market is selling around $48 to $49 a ton for spot or prompt shipment; in Chicago the market is around $50 a ton; Kansas City is quoting up to $50 a ton for spot offerings and around $45 to $46 for delivery any time in April. The St. Louis market is around $51 to $53 a ton, while in Philadelphia values range from $55 to $58 a ton, sacked, for carlots. Whether or not the market will recede from these extraordinary levels is doubtful, and depends in a large measure upon the extent of the short interest for April. The outlook for improvement in the floor market is bright, and production of the offal is increasing. Without an important short interest, the probability is for a lower market. April witnesses almost general use of pastures in the West, and, with the warmer weather there is a sharp curtailment in demand.

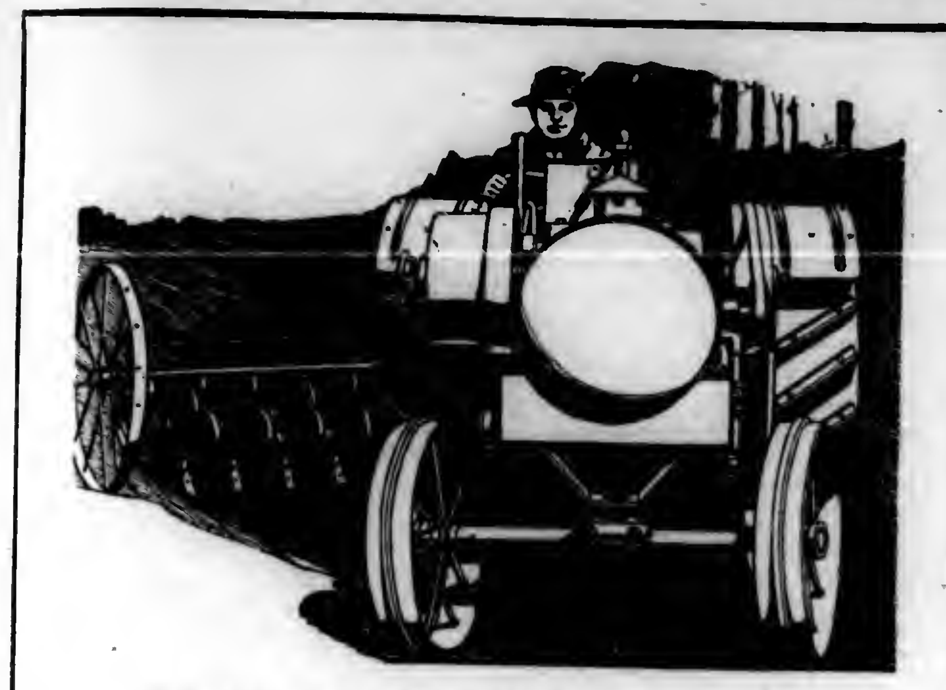
While bran prices should tend downward, heavy consumption incident to feeding of spring pigs should stimulate demand for shorts, the heavier offal, and a widening margin between the two mill feeds is anticipated. Gray shorts are quoted up to $60 a ton in Minneapolis, and around $54 to $55 in Kansas City, with the Eastern markets asking $63 to $75 for the heavier feed. Any sharp depression in bran would be felt in the shorts trade, but the latter feed will not decline as rapidly; in fact, an upturn would not be surprising.

Linseed feed is in probably the easiest position as regards prices. A decline of $8 to $9 a ton occurred within the past month, but even at the reduced level demand is lagging. Crushers of the Northwest and East are receiving a fairly liberal supply of flaxseed from the Argentine, and tho the movement of domestic seed is extremely light, the imported product is permitting operations on a moderate scale. Feeders are absorbing linseed cake and meal for prompt shipment, but offerings on markets are increasing, and handlers are willing to sell for thirty day shipment at a discount of around $2 a ton. Spot offerings are available at this writing at $70 a ton, sacked, for carlots, basis Minneapolis. The absence of export business in cake is diverting much linseed feed into domestic channels, and, without a broad consumptive outlet, prices are working lower. Consumption of linseed feed usually falls off in the spring months, owing to more general use of grass and the warmer weather.

Buy alfalfa and other varieties of hay sparingly. While the market displays firmness at the present time a decline or readjustment of prices to a new crop basis is almost generally expected to develop within the next month. Dairymen and other feeders in the East should not have more than a month's supply of hay on hand at this writing and for probably two months purchases on a small scale, merely sufficient for current requirements, are advisable. The new crop movement of alfalfa is expected to open about the middle of May, and some weeks usually elapse before prices reach a fully readjusted level. Before the close of April alfalfa will be offered from the irrigated sections of New Mexico, Arizone, and other far Southwestern states. While this hay seldom moves to the East or to Northern markets—enjoying a broad outlet in the South—the offerings have a depressing effect upon the general trade. New alfalfa matures in Kansas in May.

The cheapest grades of alfalfa are selling down to $15 a ton, with the best offerings at a top of $36 a ton in Kansas City, the leading hay market, from which the East draws the bulk of its supplies. Shipments of hay from Colorado, Kansas, Nebraska and other large producing states continue of enormous volume, with the better quality hay becoming more scarce. Planting operations in the South are stimulating demand from that section. Tame hay scored an advance of about $3 a ton the past month, the inability of Eastern producing sections to supply Southern and far Eastern demand turning many orders to the Kansas City market. Timothy is selling up to $33. Clover, which is extremely scarce, is bringing around $36 a ton in St. Louis.

Corn and oats occupy a conspicuous position in the general feed trade. The coarse grains advanced rather sharply in price, with corn selling above $1.60 a bushel for the better grades at Chicago and other Middle West markets. Oats sold at a new record level of $1 a bushel, the first time in history this figure has been reached in Chicago. Marketing of corn continues of a light volume, and with spring planting activity advancing northward, farmers will have little time for loading the grain and receipts will doubtless fall off further. Improvement in foreign exchange rates, particularly the British pound sterling, is a strong bullish factor in the corn market, the broadened foreign demand for pork products resulting from the high exchange quotations favorably affecting corn. Feeders of hogs in the important producing areas are allowing enormous quantities of corn to move marketward "on the hoof," and this is further restricting the movement in the raw form. Sentiment in market circles inclines to the belief that corn may advance to the levels witnessed a year ago.—Sosland.



HARROWING deep conserves the fertility of the soil—makes a loose, rich seed bed—and provides a mulch to prevent loss of moisture through evaporation. But, harrowing can be done quicker, better, and cheaper by the Reliable Tractor than by horses.

Each day we receive letters from farmers everywhere telling us that they are doing more and better work at less cost with their Reliable Tractor than they ever did with horses.

They tell us that they have never seen plowing as good and uniform as that done by the Reliable. They tell about plowing in hot, dry soil, heavy sod, gumbo, and corn, oat and grain stubbles and having power to spare.

Also, they tell us that the Reliable Tractor is all that its name implies. And that it has been a money-making investment for them.

Moreover, these farmers tell us that the Reliable appeals to them because it is easy to understand and to operate—sturdy in construction—and is built to stand hard work.

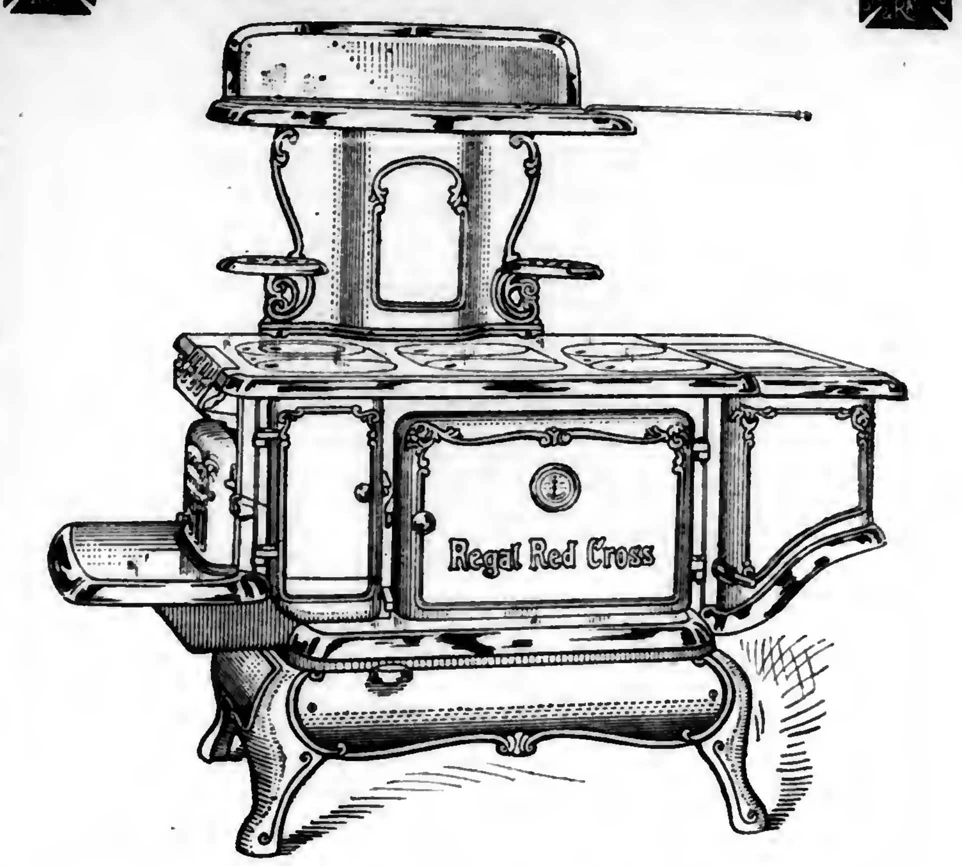
Write for our catalog and farm survey before you decide

Reliable Tractor & Engine Company
106 Spring Lane Street, Portsmouth, Ohio

RELIABLE TRACTOR

Fills Every Farm Need

Regal Red Cross



Constructed with sheet steel oven back and bottom plates that never warp or crack---which means a quick heating oven; large firebox; draw-out hearth; removable nickel borders; oven door foot lever; automatic lift cover and a polished top that never requires blacking. Can be had with or without High Closet or Reservoir.

An excellent range---at a moderate price.

Fifty-two years of successful stove, range and heater manufacturing stand back of it. Write us for name of nearest dealer and descriptive booklet.

CO-OPERATIVE FOUNDRY COMPANY
ROCHESTER, N. Y.
Manufacturers of the Celebrated Line of
Red Cross Stoves, Ranges and Furnaces

Cost of running Car
-March-
Gasoline
Tires
Oil
Spark Plugs?

Are spark plugs an item of YOUR car up-keep?

VEXATIOUS delays, due to bad spark plugs, cost you more than the price of the plugs. Whether on the road or in the field, whether it be a truck, car, tractor or stationary engine, each delay adds to your operating costs.

The Splitdorf Spark Plug—"The Plug with the Green Jacket"—is break-proof as well as leak-proof. It insures you against delays due to the breakage of inferior plugs.

East India Ruby Mica exclusively is used for the insulation of Splitdorf Green Jacket Spark Plugs. It never chips, breaks or cracks—there's no porcelain to break to put your plug out of commission. Splitdorf Green Jacket Spark Plugs cost no more than porcelain plugs—once installed you say "Good-bye" to spark plug troubles. And Splitdorf Green Jacket Spark Plugs are absolutely guaranteed against breakage.

Send for booklet showing the correct plug for your engine. There is a type of Splitdorf Green Jacket Spark Plug best suited for *your* engine.

SPLITDORF ELECTRICAL COMPANY
97 Warren Street Newark, N. J.

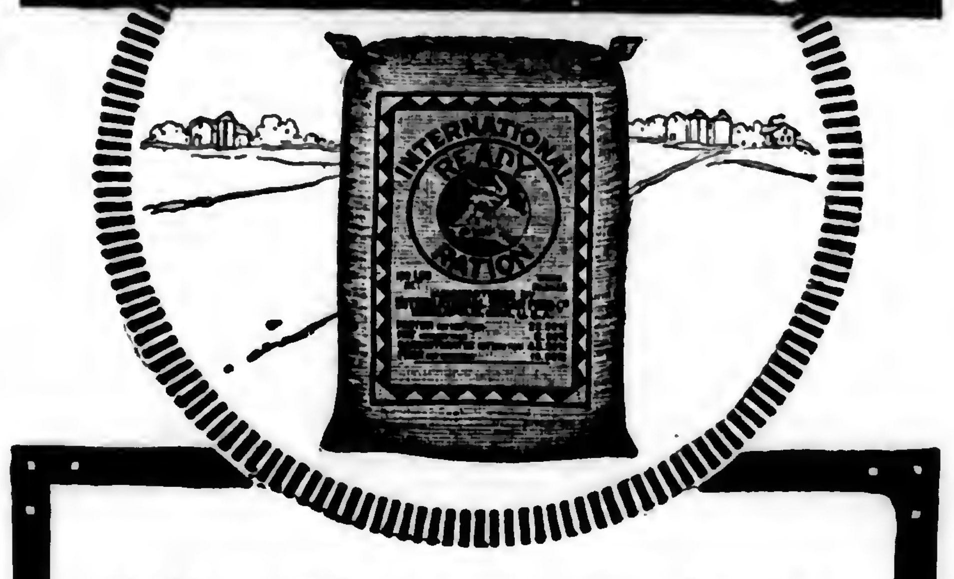
SPLITDORF
SPLITDORF

The plug with the Green Jacket

TRADE **SPLITDORF** MARK

Established 1858

Take the Worry and Loss of Time out of Spring Feeding



SAVE your time this spring for more important things than feed mixing. Prevent a slump in milk production due to early grass feeding. Feed International Ready Ration.

International Ready Ration is a proved milk producer and herd conditioner. It comes to you ready-mixed, ready to feed.

International Ready Ration is *guaranteed* to produce more milk. It has the right percentage of protein content, carbohydrates and fat. Get the most out of your cows and time this spring by feeding this ready-to-feed ration.

Order a ton today from your dealer If he hasn't it, write or *wire* us and we will see you are supplied at once.

International Sugar Feed Co.

Live Salesmen Wanted MINNEAPOLIS, MINN. *Mills at Minneapolis and Memphis*

OUR STORY PAGE

LOVE AMONG THE BLACKBOARD

An organized government requires a cabinet, and, during the first weeks of her reign over Room 18, Miss Bailey set about providing herself with aides and advisors. She made, naturally, some fatal and expensive mistakes, as when she entrusted the class pencils to the care of one of the Konowsky twins who, promptly falling ill of scarlet fever and imparting it to his brother, reduced the First-Reader Class to writing with coloured chalks.

But gradually from the rank and file of candidates, from the well-meaning but clumsy; from the competent but dishonest; from the lazy and from the rash, she selected three loyal and devoted men to share her task of ruling. They were Morris Mogilewsky, Prime Minister and Monitor of the Gold-Fish Bowl; Nathan Spiderwitz, Councellor of the Exchequer and Monitor of Window Boxes; and Patrick Brennan, Commander-in-Chief of the Forces and Leader of the Line.

The members of this cabinet, finding themselves raised to such high places by the pleasure of their sovereign, kept watchful eyes upon her. For full well they knew that cruelest of all the laws of the Board of Education, which decrees: "That the marriage of a female teacher shall constitute resignation." This ruling had deprived them of a Kindergarten teacher of transcendent charm and had made them as watchful of Miss Bailey as a bevy of maiden aunts could have been. Losing her they would lose love and power, and love and power are sweet.

Morris was the first to discover definite grounds for uneasiness. He met his cherished Miss Bailey walking across Grand Street on a rainy morning, and the umbrella which was protecting her beloved head was held by a tall stranger in a long and baggy coat. After circling incredulously about this tableau, Morris dashed off to report to his colleagues. He found Patrick and Nathan in the midst of an exciting game of craps, but his pattering feet warned them of danger, so they pocketed their dice and turned to hear his news.

"Say," he panted; "I seen Teacher mit a man."

"No!" said Patrick, aghast.

"It's a lie!" cried Nathan; "it's a lie!"

"No; it's no lie," said Morris, with a sob half of breathlessness and half of sorrow; "I seen her for sure. Und the man carries umbrellas over her mit loving looks."

"Ah, g'wan," drawled Patrick; "you're crazy. You don't know what you're talking about."

"Sure do I," cried Morris. "I had once a auntie what was loving mit a awful stylish salesman—he's now floorwalkers—und I see how they makes."

"Well," said Patrick, "I had a sister Mary and she married the milkman, so I know, too. But umbrellas doesn't mean much."

"But the loving looks," Morris insisted. "My auntie makes such looks on the salesman—he's now floorwalkers—und sooner she marries mit him."

"Say, Patrick," suggested Nathan; "I'll tell you what to do. You ask her if she's goin' to get married."

"Naw," said Patrick. "Let Morris ask her. She's tell him before she'd tell any of us. She's been soft on him ever since Christmas. Say, Morris, do you hear? You've got to ask Teacher if she's going to get married."

"Oo-o-oh! I dassent. It ain't polite how you says," cried Morris in his shocked little voice. "It ain't polite you asks like that. It's fierce."

"Well, you've got to it, anyway," said Patrick darkly, "you've got to do it soon, and you've got to let us hear you."

"It's fierce," protested Morris, but he was overruled by the dominant spirit of Patrick Brennan, that grandson of the kings of Munster and son of the policeman on the beat. His opportunity found him on the very next morning. Isidore Wishnewsky, the gentlest of gentle children, came to school wearing his accustomed air of melancholy shot across with a tender pride. His subdued "Good morning" was accompanied with much strenuous exertion directed apparently, to the removal and exhibition of a portion of his spine. After much wriggling he paused long enough to say:

"Teacher, what you think? I'm got a present for you," and then recommenced his search in another layer of his many flannels. His efforts being at length crowned with success, he drew forth and spread before Teacher's admiring eyes a Japanese paper napkin.

"My sister," he explained. "She gets it to a weddinge."

"Oh, Isidore," cried the flattered Teacher; "it's very pretty, isn't it?"

"Teacher—yiss ma'an," gurgled Isidore. "It's stylish. You could to look on how stands birds on it and flowers. Mine sister she gives it to me and I gives it to you. I don't need it. She gives me all times something the while shes got such a kind feelin' over me. She goes all times on weddinges. Most all her younge lady friends gettin' married; ain't it funny?"

At the fateful word "married," the uneasy cabinet closed in about Teacher. Their three pairs of eyes clung to her face as Isidore repeated:

"All gettin' married. Ain't it funny?"

"Well, no, dear," answered Teacher musingly. "You know nearly all young ladies do it."

Patrick took a pin from Teacher's desk and kneeled to tie his shoestring. When he rose the point of the pin projected half an inch beyond the frayed toe of his shoe, and he was armed. Morris was most evidently losing courage—he was indeed trying to steal away when Patrick pressed close beside him and held him to his post.

"Teacher," said Isidore suddenly, as a dreadful thought struck him, "be you a lady or be you a girl?"

And Teacher, being of Hibernian ancestry, answered one question with another:

"Which do you think, Isidore?"

"Well," Isidore answered, "I don't know be you a forsure lady or be you a forsure girl. You wears your hair so tucked up und your dress so long down like you was a lady, but you laffs und tells us stores like you was a girl. I don't know."

Clearly this was Morris's opening. Patrick pierced his soul with a glance of scorn and simultaneously buried the pin in his quaking leg. Thus encouraged, Morris rushed blindly into the conversation with:

"Say, Teacher, Miss Bailey, be you goin' to get married?" and then dropped limply against her shoulder.

The question was not quite new to Teacher and, as she bestowed Morris more comfortably on her knee, she pondered once again. She knew that, for the present, her lines had fallen in very pleasant places, and she felt no desire to change to pastures new. And yet—and yet—. The average female life is long, and a Board, however thoughtful as to salary and pension, is an impersonal lord and master, and remote withal. So she answered quite simply, with her cheek against the boy's:

Well, perhaps so, Morris. Perhaps I shall some day."

"Teacher, no ma'an, Miss Bailey!" wailed the Monitor of the Gold-Fish. "Don't you go and get married mit nobody. So you do you couldn't be Teacher by us no more, and you're awful nice teacher by little boys. You ain't too big. Und say, we'd feel terrible bad the while you goes and gets married mit somebody—terrible bad."

"Should you really, now?" asked Teacher, really pleased. "Well, dear I too should be lonely without you."

Here Isidore Wishnewsky, who considered this conversation as his cherished own, and saw it being torn from his, determined to outdo the favoured Morris as a squire of dames.

"Teacher, yiss ma'am," he broke in. "We'd all feel terrible the while we ain't got you by teacher. All the boys und all the girls they says like this—it's the word in the yard—we ain't never had a teacher smells so nice like you."

While Teacher was in the lenient mood, resulting from this astounding tribute, Nathan forged yet another chain for her securing.

"Teacher," said he, "you wouldn't never go and get married mit nobody 'out saying nothing to somebody, would you?"

"Indeed, no, my dear," Miss Bailey assured him. "When I marry, you and Patrick and Morris shall be ushers—monitors, you know. Now are you happy, you funny little chaps?"

"Teacher, yiss ma'am," Morris sighed, as the bell rang sharply, and the aloof and formal exercise of the assembly room began.

Some days later Teacher arranged to go to a reception, and as she did not care to return to her home between work and play, she appeared at school in rather festive array. Room 18 was delighted with its transformed ruler, but to the board of monitors this glory of raiment brought nothing but misery. Every twist in the neat coiffue, every fold of the dretty dress, every rustle of the invisible silk, every click of the high heels, meant the coming abdication of Teacher and the disbanding of her cabinet. Just so had Patrick's sister Mary looked on the day she wed the milkman. Just such had been the outward aspect of Morris's auntie on the day of her union to the promising young salesman who was now a floorwalker and Morris's Uncle Ikey.

Momentarily they expected some word of farewell—perhaps even an ice-cream party—but Teacher made no sign. They decided that she was reserving her last words for their private ear and were greatly disconcerted to find themselves turned out with the common herd at three o'clock. With heavy hearts they followed the example of Mary's little lamb and waited patiently about till Teacher did appear. When she came she was more wonderful than ever, in a long and billowy boa and a wide and billowy hat. She had seemed in a breathless hurry while up in Room 18, but now she stood quite placidly in a group of her small adherents on the highest of the school-house steps. And the cabinet, waiting gloomily apart, only muttered, "I told ye so," and "It must be a awful kind feeling," when the tall stranger came swinging upon the scene. When Teacher's eyes fell upon him she began to force her way thru her clinging court, and when he was half way up the steps she was half way down. As they met he drew from his pocket a hand and the violets it held and Teacher was still adjusting the flowers in her jacket when she passed her lurking staff.

"I didn't expect you at all," she was saying. "You know it was not a early definite arrangement, and men hate receptions."

A big voice replied in a phrase which Morris identified as having been prominent in the repertoire of the enamoured salesman—now a floorwalker—and Teacher with her companion turned to cross the street. Her heels clicked for yet a moment and the deserted cabinet knew that all was over.

The gloom obscuring Patrick's spirit on that evening was of so deep a dye that Mrs. Brennan diagnosed it as the first stage of 'a consumption." She administered simple remedies and warm baths with perseverance, but without effect. And more potent to cure than bath or bottle was the sight of Teacher on the next morning in her accustomed clothes and place.

The Board of Monitors had hardly recovered from this panic when another alarming symptom appeared. Miss Bailey began to watch for letters, and large envelopes began to reward her watchfulness. Daily was Patrick sent to the powers that were to demand a letter, and daily he carried one, and a sorely heavy heart, back to his sovereign. In exactly the same sweetly insistent way had he been sent many a time and oft to seek tidings of the laggard milkman. His colleagues, when he laid these facts before them, were of the opinion that things looked very dark for Teacher. Said Nathan:

"You know how she says we should be monitors on her wedding? Well, it could to be lies. She marries maybe already."

Patrick promptly knocked the Monitor of Window Boxes down upon the rough asphalt of the yard and kicked him.

"Miss Bailey's no sneak," he cried othly. "If she was married she'd just as lief go and tell."

"Well," Morris began, "I had once a auntie—"

"Your auntie makes me sick," snapped Patrick. But Morris went on quite undisturbedly:

"I had once a auntie und she had awful kind feelings over a stylish floorwalker, und he was loving her. So-o-oh! They marries! Und they don't say nothings to nobody. On'y the stylish floorwalker he writes on my auntie whole bunches of lovin' letters."

"She ain't married," Patrick reiterated. "She ain't."

"Well, she will be," muttered Nathan vindictively. "Und the new teacher will lick you the while you fights. It's fierce how you make me biles on my bones. Think shame."

When the ruffled Monitor of the Window Boxes had been soothed by the peaceful Guardian of the Gold-Fish, the cabinet held council. Nathan suggested that it might be possible to bribe the interloper. They would give him their combined wealth and urge him to turn his eyes upon Miss Blake, whose room was across the hall. She was very big and would do excellently well for him, whereas she was entirely too long and too wide for them.

Morris maintained that Teacher might be held by gratitude. A list should be made out, and, each in turn, a child a day, should give her a present.

Patrick listened to these ideas in deep and restive disgust. He urged instant and copious bloodshed. His big brother's gang could "let daylight into the dude" with enjoyment and despatch. They would watch him ceaselessly and they would track him down.

The watching was an easy matter, for Teacher, in common with the majority of rulers, lived much in the public eye. The stranger was often detected prowling in her vicinity. He even began to bring her to school in the mornings, and on these occasions there were always violets in her coat. He used to appear at luncheon time and vanish with her. He used to come in the afternoon and have tea in Room 18 with two other teachers and with Teacher. The antagonism of the Monitor of Gold Fish became so marked that Miss Bailey was forced to remonstrate.

"Morris, dear," she began one afternoon, when they were alone together, "you were very rude to Doctor Ingraham yesterday. I can't allow you to stay here with me if you're going to behave so badly. You sulked horribly and you slammed the door against his foot. Of course it was an accident, but how would you feel, Morris, if you had hurt him?"

"Glad," said the Monitor of the Gold-Fish savagely. "Glad."

"Morris! What do you mean by saying such a thing? I'm ashamed of you. Why should you want to hurt a friend of mine?"

"Don't you be friends mit him!" cried Morris, deserting his fish and throwing himself upon his teacher. "Don't you do it. Teacher Missis Bailey. He ain't no friends for a lady." And then, in answer to Teacher's stare of blank surprise, he went on:

"My mamma she seen him by your side und she says—I got to tell you in whispering how she says."

Teacher bent her head and Morris whispered in an awe-struck voice:

"My mamma says, she like that: 'He could to be a Krisht,'" and then drew back to study Teacher's consternation. But she seemed quite calm. Perhaps she had already faced the devastating fact, for she said:

"Yes, I know he's a Christian. I'm not afraid of them. Are you?"

"Teacher, no ma'an, Missis Bailey, I ain't got no scare over Krishts, on'y they ain't no friends for ladies. My papa says like that on my auntie, und my auntie she's married now mit a stylish floorwalker. We'm got a Krisht in our house for boarder, so I know. But you couldn't to know 'bout Krishts."

"Yes, I do. They're very nice people."

"No ma'an," said Morris gently. And then still more courteously: "It's a lie. You couldn't to know about Krishts."

"But I do know all about them, Morris dear. I'm a Christian."

Again Morris remembered his manners. Again he replied in his courtly phrase:

"It's a lie." As he said it, with a bewitching rising inflection, it was almost a caress. 'It's a lie. Teacher fools. You couldn't to be no Krisht. You ain't got no looks off of Krishts."

Teacher was mildly surprised. She was as Irish as Patrick Brennan and, in her own way, she looked it. Truly her eyes were brown, but the face and the faith of her fathers were still strongly hers. Morris, meanwhile, examined his sovereign with admiring eyes. He could well understand the heart of that Krisht, for Teacher was very beautiful and of splendid array. Her jumper was red, with golden buttons, and her collar was white, and her hair was soft, with combs. And she had a light face and a little bit of nose and teeth. Her apron was from silk with red ribbons and red flowers, and she had like man's-shoes and a watch. This vision of feminine perfection was bestowing time and smiles on him. She was actually appealing to his judgment.

"Not look like a Christian?" she was saying. "Well, then, Morris, what do I look like?"

And Morris, ever going straight to the point, replied: "You looks like a stylish Sheeny," and waited for this intoxicating praise to bring blushes to the light face he loved. It brought the blushes, but they were even redder and hotter than he had expected. There was also a gasp on which he had not counted and a queer flash in the brown eyes.

"Morris," said Teacher, "Morris, did you ever see a Sheeny with a nose like mine?"

Morris raised his head from the red jumper, climbed off the from-silk apron and solemnly contemplated the little bit of nose. The truth broke over him in sickening waves. The star of his life had set; his doll was stuffed with sawdust; his idol had feet of clay; his light-faced lady was a Christian. And yet she was his teacher and greatly to be loved, so he bore the knowledge, for her dear sake, as bravely as he could. He returned to the from-silk apron, wound a short arm round the white collar, and sobbed:

"Teacher, yiss ma'an, you'm got a Krisht nose. But don't you care, no one couldn't never to know like you ain't a forsure Sheeny the while you got such terrible Sheeny eyes. Oh, but they couldn't never to think you're a Krisht. Und say, don't you have a frightened. I wouldn't never to tell nobody. Never. I makes a swear over it. I kiss up to God. I hope I drops down if I tells."

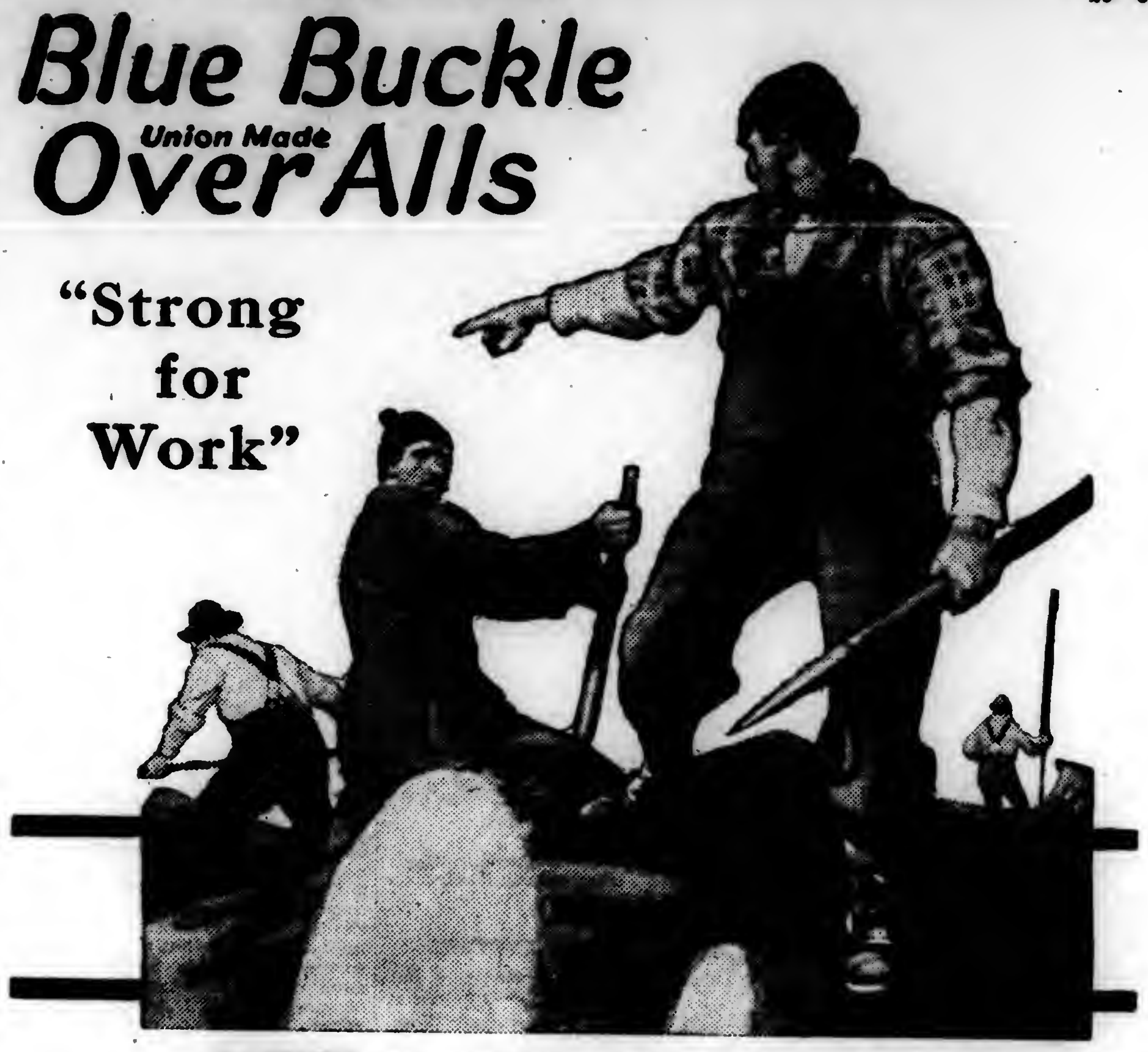
At the end of a month the high heels and the festive raiment appeared again, and the staff knew that the time for action had really come. They must bring the Krisht to terms before he should see Teacher in her present and irresistible array. He was always first at the trysting place, and there they would have speech with him. They arranged to escape from Room 18 before three o'clock. The Commander-in-Chief feigned a nose-bleed, the Prime Minister developed an inward agony, and the Chancellor of the Exchequer, after some moments of indecision, boldly plucked out a tottering tooth and followed—bloody but triumphant—in their wake. They found the enemy just as they had expected, and Morris, being again elected spokesman, stepped forward and took him by his dastard hand. The adversary yielded, thinking that Teacher had been forced to greater caution. The Commander-in-Chief and the Chancellor followed close behind, they having consented, in view of the enormous issues involved, to act as scouts. Around the corner they went into a dark and narrow alley, and, when they had reached a secluded spot between the high wall of the school and the blank windows of a recently burned tenement house, Morris began:

"Teacher don't want to go on the party mit you the while she ain't got no more than kind feeling over you."

"What?" cried the astonished Doctor Ingraham.

"She don't wants to be married mit you."

(Concluded Next Week.)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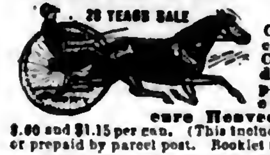

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Improving the Market Lamb

The sheep industry depends for its returns upon the lambs and wool produced from the flock. The meat side of the industry is of great importance and bears a direct relation to the profits from the flock. A desirable lamb carcass must first be the result of good breeding; second, the result of proper feeding, and third, the result of castration and docking of the lamb. The most desirable and thus the most profitable lamb carcass can not be produced from lambs which have not been docked and castrated. Agencies interested in the sheep business, such as county agents and the Bureau of Markets, are making an effort to educate the American public to eat more lamb. If this effort is to be a marked success, the lambs must be properly bred, properly fed, and the carcass of a desirable character. The competitive prices of beef, pork and lamb are on equal footing, and thus the larger consumption of lamb depends upon its being as palatable and tender when served on the table as beef or pork. The farmer does not market his bull calves as bulls, nor his boar pigs as boars. Why should he market his lambs as ram lambs, rather than wethers. The correction of this neglect with regard to the docking and castration of lambs, is vital, and upon a more general practice of docking and castration in the farm states hinges better profits and more general success.

Large Percentage of Lambs not Docked or Castrated

If the industry is to be made to yield satisfactory returns, the docking of lambs and castation of males not intended to be kept for breeding purposes should be attended to without fail at the proper time.

It is conservatively estimated that 80 per cent of the native lambs, those produced in farm states, which reach the markets, come to the market undocked and uncastrated. The percentage of ram lambs among the offerings during the last year has been as large as ever before.

The custom of docking all lambs and the castration of males is almost universal in the West, and to this, in large measure, may be attributed the fact that lambs produce on our western ranges outsell native lambs at the market on the average of 1.00 to $1.50 more per cwt. Uniform breeding is a factor in favor of the western lambs. It is certain that had the western flockmaster not found castration and docking of lambs highly profitable, these operations would not be so universally practiced in that great lamb producing section.

Buyers Discriminate Against Inferior Lambs.

The market discrimination shown by buyers against strong weight and heavy ram lambs and the harmful influence on consumptive demand accruing from the slaughter of such great quantities of stock, that cannot make a satisfactory food product cannot be fully realized by the producers. It is urgent that vigorous efforts be made to improve the situation on the part of those directly interested in the welfare of our sheep industry.

Big coarse ram lambs produce by no means the best meat, neither do the thousands of thin, untrimmed cull native lambs that have to be slaughtered because the feeder will not buy them. It is not surprising that the cusumer balks at such meat and refuses to eat it. With our markets flooded with low grade lamb, the average consumer, a poor judge of meat on the block, has little chance of escaping frequent disappointment in purchasing this meat and instinctively turns to other meats, in the purchase of which he feels he has more chance of getting a palatable food product.

In the fall of 1919, the Chicago market received large supplies of native lambs. During this period (and the condition reported is but the repetition of conditions prevailing in the summer, fall and winter months of preceding years) the discrimination against ram lambs, especially those carrying weight, has been very marked. Packer buyers have demanded the throwing out of heavy ram lambs from loads, buying the bulk of such stock during September and October at $4.00 to $5.00 per cwt. below the price paid for the top end of the load. Farmers and shippers state that they receive as much for their bucky lambs as they get for their ewe or wether lambs. The salesmen at the central market, when very busy, do not sort out the bucky lambs from a shipment and sell them separate, but they take into account their presence in the load and make a proportionate less return to the producer. The bucky lambs mixed in with the ewes lambs makes a less attractive offering and the farmer suffers the penalty, because he failed to dock and castrate. When the offering of lambs is small on the market, the poorly bred, mixed loads suffer less penalty, because they have not been properly docked and castrated than when the supply is heavy. Nevertheless, a penalty is always made and the producer is the looser. The killers know from experience that the bucky stuff won't procure the best carcass, and they take this into consideration when buying. Thousands of these heavy ram lambs have sold at $10.00 to $12.00 on a market absorbing the general run of fat handy weight native lambs at $14.00 to $15.00. The occasional straight load of well-conditioned ewe and wether native lambs arriving, has commanded premiums of 25 to 75c per cwt. over the highest sales of fat and handy but bucky lambs recorded on the same sessions of the market. Buyers assert that the finished load of native ewe and wether lambs, comparatively uniform in weight and quality, are intrinsically worth the premium such stock commands over loads of bucky stuff or heavy ram lambs. This fact is well substantiated by the avidity with which they have searched out and bought up the first named kind and by their frequent neglect of the bucky stuff, even at the discount price.

Two Outlets for Lambs Docked and Castrated.

In addition to the added market value to killers or ewe and wether lambs over the bucky kinds, the producer who docks and castrates his lambs has a product, that if not in good condition invites competition from feeder buyers, consequently increasing their sale value. The country competition is entirely lacking on ram lambs.

In September, 1918, a well known packer in Chicago received a load of ewe and wether native lambs direct from Louisville, where the stock was purchased at $18.50 per cwt. At that time $17.00 was considered practically the top of that market for good lambs, as the trade usually considers them, while "seconds" were then selling there at $13.00 and "thirds" down to $10.00. This load of lambs, altho costing on foot more per cwt. than any native lambs were bringing in Chicago at that time, and far above the general top at Louisville, was pronounced by the head buyer for the concern for which they were purchased as being as well worth the money as any lambs his houses had slaughtered for some time. He attributes this to the fact that the lambs were docked and castrated, uniform and well finished.—G. H. Bedell.

HORSE COLLAR TROUBLES

It is true I think that a good bit of the trouble we farmers have with horses that want to balk is caused by collars. I have in mind a case of supposed balkiness that seemed to be just the ordinary refusal to pull but which proved to be caused by a little "sticking" nail left in the face of the collar by the manufacturer. It stuck into almost the point of the shoulder and was about a half inch long. No wonder the horse refused to pull.

I know of another rather light horse that was used on the farm and he would refuse a big load but I know now and soon found out then that his collar was too light. A heavy draft harness collar that gave him a little purchase against the load made a different horse out of him and I don't remember that he ever refused to pull afterwards tho there were loads tried on him that he didn't have the weight to handle.

Another point that I have observed about a "balking" horse is that a good many of our farm horses will balk if tried out on too much of a load while not being used to pulling anything heavy. While most horses will pull or try to if they are used to it every day or so. It is a case of lost confidence possibly but it is true. I saw a big team of greys some time ago that were in just this condition. They had stood in the barn except for some light work for 2 or 3 weeks and then threshing time and a big load of grain to take out of an incline and onto the road. They tried a little and quit. Ordinarily they would have hauled that load easily. They were not started easily but rammed into the load just as one would hustle a tractor or a piece of machinery. It didn't work with that team and it won't usually with most others.—Rogers.

RECORD PRICES FOR DRAFT HORSES

The highest prices ever paid for draft horses bought in the open market at Chicago have just been placed on record. A firm in Maine recently sent two men who spent 2 weeks at the Union Stock Yards, Chicago, purchasing a consignment for shipment to the potato fields of Maine. Their selections were deep-bodied, powerfully built drafters, averaging over 1800 pounds each in weight and costing more than $450 each f. o. b. Chicago. One pair sold for considerably over $1,000. Good judges consider this to be the best carload of draft horses ever bought on the Chicago market.

The United States census for 1910 revealed 19,833,000 horses and 4,210,000 mules on farms; and the Department of Agriculture estimates for January 1, 1920 show 21,109,000 horses and 4,995,000 mules on farms or an increase of 1,276,000 horses and 785,000 mules in the last decade. Besides this we exported during the nine years ending June 30, 1919, 1,149,763 horses and 376,836 mules.

The rise in prices for good draft horses and mules in spite of the existence of more than twenty-one million horses and almost five million mules on farms indicates how agricultural and transportation needs are growing. Good authorities predict a steady rise in prices of horses and mules for the next three years.

FARM BUREAU ARRANGES SALE OF WOOL

Twenty-three thousand pounds of wool were pooled and marketed at prices ranging from 49 cents to 54 cents a pound by farmers of Day County, South Dakota. These prices represented advances of from 9 to 12 cents over local quotations.

The Day County Farm Bureau, thru the county agent and a representative of the State Bureau of markets, assisted a committee of farmers in organizing the pool and selling the wool to the highest bidder.

This cooperative effort promises to have a permanent effect thru the stimulation of meetings and demonstrations in the care, feeding, and handling of the products of sheep.

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Doubleday-Hill Electric Co., 719 Liberty Avenue, Pittsburgh
Electric Repair Shop, Howard Ave. & Railroad St., Pottsville
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Sharon Auto Electric Service, 43 Vine St., Sharon
Chas. R. Scott Co., 119 Franklin Ave., Scranton
Tri-State Garage Co., 70-76 E. Fayette St., Uniontown
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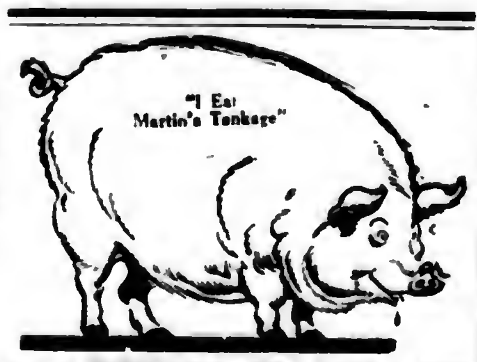

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WESTERN CANADA Farm Lands at Low Prices The Wheat Belt of America

Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., April 12, 1920

Owing to the strike of freight workers, switchmen, and other railroad employees, the market on all fruits and vegetables is in a very uncertain and excited condition. Embargoes have been placed in some instances on perishable freight shipments, and some railroad centers and express company stations were badly congested, and deliveries can not be made. The market today on old potatoes was very excited and sales were made all the way from $7@7.50 per cwt., with some receivers asking $8 per cwt. Sweet potatoes, however, seem to be selling at about the same prices as last week as they are a commodity that has to be moved promptly at this season of the year, and sales are still being made around $2.50@5.50 per barrel, with No. 1 hamper stock at $2.25@2.50, and No. 2s at 90c@$1.25. The nearby New Jersey sweet potatoes in ⅝-baskets range all the way from $1.40@1.90 on No. 1s as to quality and 65c@$1.25 on No. 2s.

Vegetables

Owing to the unsettled condition we do not feel justified in making any comments upon the market conditions on the various commodities, and for that reason we are simply giving the range of prices at which the various commodities are selling at this writing.

Asparagus, Western, $4.50@9 per dozen bunches, Southern $3.50@7.50 per dozen bunches. Artichokes, $5@6 per box; Beans, green per hamper, $4@9; wax beans, $4@8 per hamper. Beets, new southern, bunch, 8@10c beets old nearby per barrel, $1.50@3; Cabbage, new southern per crate, $1@1.75; new southern cabbage per barrel crate, $2@3. Nearby carrots, $5@6.25 per barrel. Cauliflower western crate, $3.25@3.50. Celery, southern, per crate, $2@5; cucumbers, Florida hamper, fancy, $7@8.50, choice, $5@5.50; hothouse cucumbers per box, $13.50@14.50. Egg plants, southern crate, $3.50@7.50; Endive, New Orleans, per barrel, $3; Escarole, $3.50 per barrel; horseradish, $20@25 per cwt. Norfolk kale, $1.50@2.50 per barrel; Southern lettuce, $3@6.50 per hamper; Western lettuce, $8.50@9 per box; lima beans, $9 per hamper; old onions, $8@9.50 per cwt.; New onions, $4.50@6 per crate. Mushrooms, $1.25@1.75 per 3-lb. basket; parsley, $7@7.50 per barrel; peas, $4@6 per hamper or $10 per drum; peppers, $4@8 per crate; romaine, $2.50@3.50 per hamper; hot house rhubarb, 75c@$1.25 per bundle; hot house radishes, 7@8c per bunch; nearby scullions, very plentiful at $1.50@2 per 100 bunches; tomatoes, $1.75@4.50 per crate; parsnips, wide range, $1@4.50 per barrel, some very poor. Norfolk spinach, $1.25@2 per barrel. Nearby white turnips, 20@65c per ⅝-basket; nearby yellow turnips, $1@1.25 per ⅝-basket; turnip top greens, 75c@$2 per hamper; rutabagas, $2.25@2.50 per cwt.; yams, $2@4.50 per barrel; watercress, 3@4c per bunch; dried beans, $10.50 per cwt. for marrow and $7@7.50 per cwt. for pea and medium.

Fruits

Apples: Baldwins, $4.50@8.50; Ben Davis, $4.50@6.50; Greenings, $5@8; Winesaps, $6@8; Russets, $4.50@7; Pippins, $5@8. Strawberries, 50@85c per quart; pineapples, $4.50@9 per crate; oranges, $2.65@9 per box; grape fruit, 75c@$3.50 per box.

Poultry

Live fowls, 48@50c per pound for fancy heavy, and 42@47c per pound for inferior and poor. Broiling chickens from nearby points, 65@70c per pound; old roosters, 25@32c per pound; ducks, 30@45c per lb.

Eggs

Nearby current receipts, 44½c per dozen, nearby firsts, 45c per dozen; Western firsts, 44c, and Western extra firsts at 44½c; southern eggs, 41½@42c per dozen.

LANCASTER PRODUCE MARKET

Lancaster, Pa., April 12, 1920

Another extremely busy session of market today failed to bring any material changes in the price of produce, altho eggs declined to 40 cents and efforts to obtain more were futile. One of the biggest businesses of the year was reported today. It was also announced that the Southern Market Company had planned to operate every Tuesday morning to handle business left free by the sale of the Eastern Market House. The quotations:

Butter and Eggs.—Creamery butter, 80c per lb.; country butter, 70@75c per lb.; fresh eggs, 40c per dozen; duck eggs, 50c per dozen; goose eggs, 6@7c each.

Poultry.—Dressed old chickens, $2.25@2.50 each; dressed young chickens, $1.75@2.10 each.

Vegetables.—Spinach, 40c per half peck; turnips, 20@25c per half peck; potatoes, 45c per half peck; do., $3.50@4 per bu.; sweet potatoes, 35c per half peck; cabbage, 25@60c per head; cauliflower, 35@40c per head; lettuce, 15@35c per head; lima beans, 20c per pint; oyster plant, 15@@20c per bunch. Apples, 30@40c per half peck.

YORK PRODUCE MARKETS

York, Pa., April 12, 1920

The interest in the different markets was not as good as usual. Many of the stands were vacant and this condition will continue even to a greater extent as the spring advances. It is the latest spring we have seen for two years. The latter part of the week developed severely cold weather so that all thoughts of planting had to be put off. One thing is good, the cold weather has kept the fruit buds back so that there is little danger of freezing. Potatoes are still advancing, tho they were slower in starting to go up here than many other places. Eggs have dropped off severely since Easter, also the demand seems to be less. Butter is scheduled for a big drop.

Eggs.—38@43c per dozen.

Butter.—Country, 60@65c pound; separator, 65@80c pound; milk, 12c quart.

Poultry.—Hens, 36@40c pound; dressed, $1.50@3 each.

Vegetables—Potatoes, $1.75@3 per bu.; 30@45c ½ peck; cabbage, 8@10c pound; lettuce, 5@20c head; beets, 5c box; radishes, 5c bunch; onions, 5c bunch; 25@35c ½ peck; lima beans, 35@40c quart; soup beans, 25@35c quart; celery, 5@15c stalk; turnips, 20c ½ peck; apple butter, 25@50c quart; sausage, 34@38c; pudding, 30c pound.

Fruit.—Apples, 25@40c ½ peck.

Retail Grain Market.—Wheat, $2.60; corn, $2; oats, $1.25; rye, $1.75; bran, $3 per cwt.; middlings, $3.50 per cwt.

Wholesale Grain Market—Wheat, $2.60; corn, $1.55; rye, $1.60; oats, 95c; bran, $58 per ton; middlings, $65 per ton.

BALTIMORE PRODUCE

Baltimore, Md., April 12, 1920

Butter.—Creamery, Western separator, extras, 69c; do., firsts, 67@68c; Western, prints, ½ pound, extras, 69@70c; do., firsts, 68@69c; Western prints, 1 pound, extras, 69@70c; do., firsts, 68@69c; nearby creamery, extras, 67@68c; do., firsts, 65@66c; dairy prints, Maryland, Pennsylvania and Virginia, extras, 45@46c; do., 43@44c; storepacked firsts, 38c; rolls, West Virginia, extras, 41@42c; do., Ohio, extras, 43@44c; do., Maryland and Pennsylvania, extras, 43@44c.

Eggs.—Western, Maryland and Pennsylvania, nearby, firsts, 41c; Eastern Shore, Maryland and Virginia, firsts, 41c; Western (Ohio), firsts, 41c; West Virginia, firsts, 40c; Southern (North Carolina), firsts, 39c.

Live Poultry.—Chickens, large, young, smooth, pound, 45@50c; do., winter, under 2 pounds, pound, 55@60c; do., rough and staggy, pound, 35@40c; do, old roosters, pound, 23@25c; do., old hens, over four pounds, pound, 43@44c; do., small, pound, 43@44c; do., White Leghorn hens, pound, 43@44c. Ducks, Muscovy and mongrel, pound, 35@36c; do., White Pekins, pound, 40@42c; do., puddle, 4 pounds and over, pound, 38@40c; do., small, poor, pound, 35@36c. Pigeons, old, pair, 30@35c; do., young, pair, 30@35c. Guinea fowl, young, 1¾ to 2 pounds, 75c.; do., old, 30c.

NEW YORK PRODUCE

New York City, April 12, 1920

Butter, strong; receipts, 635 tubs; creamery, higher than extras, 75½@76c; creamery, extras, (92 score), 74½@75c; firsts, (88 to 91 score), 66@73½c; packing stock, current make, No. 2, 40@41c.

Eggs.—Firm; receipts, 7,568 cases; fresh-gathered, extra firsts, 47@47½c; firsts, 45@46½c; state, Pennsylvania and nearby western hennery whites, firsts to extras, 50@55c; state, Pennsylvania and nearby hennery browns, extras, 50c; do., gathered browns and mixed colors, firsts to extras, 46@49c.

Cheese.—Firm; receipts, 234 boxes; state, whole-milk flats, held, specials, 29¾@31c; do., average run, 28@29c; state, whole-milk twins, held, specials, 28½@30c; do., average run, 27@28c.

Live Poultry.—Steady; chickens, 43c; fowls 40c; roosters, 30c; turkeys, 40@45c; Dressed steady; broilers, frozen, 35@51c; stags, fresh, 26@32c; frozen, 36@42c; fowls, fresh, 32@42c; frozen, 41c; old roosters, fresh, 28@29c; turkeys, frozen, 51@55c.

Vegetables. — Potatoes, old, $12.50@14; Long Island, $14 per 165-pound. Beets, $3@4.50 per barrel. Carrots, $3@4; onions, $2@6 per 100-pound bag.

PITTSBURGH PRODUCE

Pittsburgh, Pa., April 12, 1920

Butter.—Prints, 69@69½c Tubs, 68@68½c; cooking, 54½@55½c; Ohio, 63@63½c.

Cheese.—New York full cream, 35@36c, Ohio, 34@35c; Wisconsin Swiss, 60@61c; Philadelphia cream, $1.00 per dozen.

Eggs.—Fresh, select, 45@46c; at mark, 40@41c.

Potatoes.—Round, $11 per 150-pound sacks. Onion, $6.50@7 sack. Cabbage, Texas, 5@6c head. Sweet potatoes, $2.75@3.15 hamper. Turnips, $2.25@2.50 bushel.

Fruit.—Apples, $3@5 box.

GENERAL MARKET REVIEW

Washington, D. C., April 2 to 8, 1920

Markets Irregular

While apples, onions and sweet potatoes showed little change during the week and cabbage made some declines, celery and tomatoes were slightly higher and potato prices advanced rapidly. Movement of perishables is being seriously affected by the railroad strike situation in some cities, chiefly New York, Chicago, Kansas City and St. Louis.

Potatoes Make Big Advances

Potato markets became much stronger and more active during the past week. At shipping points in Michigan and Minnesota prices advanced within a range of $6@7 in Minnesota, sacked per cwt., closing, $6.70@7 f. o. b. Northern stock also advanced steadily in Middlewestern markets within a range of $5.85@6.85 and closed at $6.50@7. Indianapolis, St. Louis and Kansas City were higher than the other markets during the week at $6.15@7 and jumped at the close to $7@7.40 sacked per cwt. Carlots in Chicago advanced $1.15 to $7@7.25 sacked per cwt. Eastern consuming markets were 15@40c higher at $5.65@6.40. Maine Green Mountains were strong and active in producing sections, gaining 10@50c to $4.60@5.10, bulk per cwt., f. o. b. A similar advance was made in New York, ranging $5.55@6.40; closing $6.10@6.40. Potato shipments were somewhat lighter during the past week, the rate of movement decreasing to approximately 825 375 cars per day, as compared with last week's daily movement of 400-500 cars.

Cabbage Slightly Weaker

There was slower movement of Florida Wakefields at f. o. b. shipping points and prices were about 50c lower at $1.25@1.50 per 1¼ bushel hamper. Cabbage was available in more liberal supply in all of the consuming markets which was the result chiefly of the increased movement from Texas producing sections. Florida Charleston Wakefields in one and one-half bushel hampers ranged 25c@$1 lower in Eastern markets at $1.50@1.75. The Texas stock held fairly steady in Eastern markets at $80@100 per ton bulk. However a few Middlewestern markets were quite weak. Indianapolis dropped to $75 bulk per ton early in the week. In St. Louis prices recovered about $10 from last week's severe decline, but heavy supplies made this gain temporary and they soon weakened to last week's closing range of $50@65.

Onions Steady

Movement continued slow. Prices covered a wide range notwithstanding the dull markets, due to the variation in quality and condition. Eastern Yellow varieties sacked per cwt., ranged $5@6.75 in Eastern markets. Middlewestern Yellow varieties showed a similar wide range in Eastern and Middlewestern markets at $5.50@7. Cincinnati was 50c above the other markets at $7@7.50.

Apple Markets Steady

In Eastern and Middlewestern consuming markets New York A 2½ Baldwins continued to move slowly with prices steady at $8@9. Cleveland and Detroit were slightly higher than the other markets at $8.50@9.25 per barrel. Middlewestern markets were slightly more active than those of the East and Ben Davis No. 1 strengthened 25c to $7.50@8. Minneapolis and St. Paul were higher than the other markets at $8.50 per barrel. Northwestern boxed Winesaps extra fancy, medium to large sizes, held at $3.50@4 with demand slow to moderate. Some large size sold higher in New York at $4.25@4.50. Daily shipments of barreled and boxed stock continued to move at the rate of approximately 100 cars.

Other Fruits and Vegetables

Sweet potato markets were slow and steady with supplies plentiful in most of them. New Jersey and Delaware yellow varieties in Eastern cities were 15@25c lower at $1.75@2.85 per bushel hamper. There were some sales in New York as high as $3. Tennessee Nancy Halls in bushel hamper sold unchanged at $1.50@2.25. Celery haulings continued moderate and movement slow at Florida shipping points. Prices of 10-inch crates of 4@6 dozen bunches were quite steady, ranging slightly lower at $3@3.50. Consuming markets were generally 25c higher than last week at $4@5. Tomatoes strengthened at Florida shipping points with the demand more active, but consuming markets continued dull. Prices advanced 25c to $3@3.25 for Globes, fancy sixes, f. o. b., usual terms, and some sales high as $4 at the close, cash track. Good stock was steady in Eastern cities at $3@4.

PHILADELPHIA LIVE STOCK

Philadelphia, Pa., April 12, 1920

Receipts of live stock for week ending April 12, were as follows:

	Beef Cattle	Sheep and Lambs	Hogs
Total for Week	..2,461	6,446	9,159
Previous Week	...2,279	6,809	9,157

Calves.—Receipts of calves last week were 2,013 head against 2,573 head week previous.

Beef Cattle.—Offerings of desirable stock were light and values were well maintained, with prices of veal slightly higher. We quote: Steers, fair to good, $13@14.50; common to fair, $10.75@13.00; cows, per lb., good to choice, corn fed, 8@9½c; fair to good, 6@8c; common to fair, 4@6c; calves, extra to choice, $20@21; do., heavy to good, $16@18; do., common, $12@15; do., heavy and rough, $8.50@11.50. Tennessee, $16@18; other southern, $9.50@14.50.

Sheep and Lambs.—The market for sheep and lambs of desirable quality ruled firm, with demand absorbing the offerings of this description. We quote; Sheared, sheep, wethers, extra, $13@13.25; do., good to choice, $11@12; do., medium, $8@9; do., common, $6@7; ewes, heavy fat, $9.50@$11 lambs, spring choice, $18.50@19; do., medium grades, $15@16; do., culls and common, $11@13.

Hogs.—The market ruled steady under moderate supplies and a fair demand for fine stock. We quote: Best western, $18@18.50 per 100 lbs.; hogs, nearby, good, $17@17.50.

PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., April 12, 1920

Baled Hay.—Receipts, 276 tons of hay and three cars of straw. We quote:

Timothy Hay, No. 2, $40@41; No. 3, $37@38; sample, $32@33, No grades, $28@30.

Straw.—No. 1 straight rye, $20; No. 2, do., $18@19; No. 1 tangled rye, $18@18.50; No. 2 do., $17@17.50; No. 1 wheat straw, $17@17.50; No. 2, do., $15@15.50; No. 1 oat straw, $17@17.50; No. 2, do., $15@15.50.

Bran.—Firmly held. We quote car-lots, to arrive including sacks. Soft winter bran, Western, in 160-lb. sacks per ton, $58.50@59 spring bran, in 100-lb. sacks, per ton, $57.50@58.

Corn.—No. 2 Yellow, $1.72@1.83.

Oats.—No. 2 white, $1.17@1.18; No. 3, white, $1.15½@1.16½; No. 4, white, $1.14@1.15.

NEW YORK HAY AND GRAIN

New York City, April 12, 1920

Hay and Straw.—Hay, Monday, 165 tons. Straw, Monday, 10 tons.

There has been no hay unloaded at 33rd Street shed since Friday and the only cars free to be sold are those held in the hands of speculators. Nominal values ranging from, say, $50 up to $58, possibly even higher, one car of No. 1 in big bales reported selling in Brooklyn at the latter figure. There is nothing in the Erie or Pennsylvania yards in Manhattan and scarcely anything available at Brooklyn points because of strike conditions. A Catskill Line boat arrived on Friday with a little hay and straw, but receiver had to force this out within twenty-four hours time and the sales were naturally below market values. Another boat is due today or tomorrow. The little rye straw here is held at $35 and some oat straw is offering at $30, with wheat held at the same figure.

PITTSBURGH HAY AND GRAIN

Pittsburgh, Pa., April 12, 1920

Hay.—Receipts of hay are exceptionally light, while the demand is bordering on the urgent. This applies to the better grades of Timothy and Mixed Hay only. The poorer grades are difficult to sell. We are informed of a switchman's strike on the Penna. lines, west which will enhance values.

No. 1 Timothy, $40@40.50; Standard Timothy, 39@39.50; No. 2 Timothy, $37.50@38.50; No. 3 Timothy, $35@36; No. 1 Light Clover Mixed, $39@39.50; No. 1 Clover Mixed, $39@39.50; No. 2 Clover Mixed, $34.50@35.50; No. 1 Clover, $38.50@39.50; No. 2 Clover, $31@33.

Straw.—Little or no straw arriving. Demand exceptionally active. Market strong and looking higher.

No. 1 oat, $16@16.50; No. 2 oat, $15.50@16; No. 1 Wheat, $15.50@16; No. 2 Wheat, $15@15.50; No. 1 Rye, $16@16.50, No. 2 rye, $15.50@16.

Ear Corn.—Receipts and demand light. No. 2 Yellow, selling at $1.73@1.74.

Oats.—Arrivals light, demand good. Market advancing. No 2 White selling at $1.11½@1.12.

PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., April 12, 1920

Butter.—Receipts, 1,973 tubs. As usual on Saturday there was not much wholesale trading, but the market was very firm under light receipts and strong outside advices and prices advanced ½c on solid packed creamery and 1 cent on prints. We quote the following prices: Fresh, solid-packed creamery, fancy, high-scoring goods, 74@76c; the latter for jobbing sales; extra, 73c; do., firsts, 70@72c; firsts, 64@68c; seconds, 58@62c; fair to good, 59@74c; ladle-packed, as to quality, 42@45c; packing stock, 38@41c; fancy brands of nearby prime jobbing at 81@83c; good to choice, 73@80c; fair, 70@72c.

Cheese.—Firmly held. We quote: New York, whole milk flats, held, fancy, 30½@31c; specials higher; ordinary to good, 25@29c; current make nominal, jobbing sales of fancy held goods, 32@33c.

NEW YORK MILK MARKET

New York City, April 12, 1920

The supply last week was about normal but owing to the labor troubles on the railroads empty cans are not going back to the shippers, and unless conditions are much improved next week a serious shortage will result. April rate in 200-mile zone for 3 percent milk is $2.55 per 100 lbs.; add 4c per 100 lbs. for each one-tenth of one percent extra butterfat.

Receipts of milk and cream in 40-quart cans for the week ending April 10, 1920, were as follows:

Railroad	Milk	Cream
Erie	42,324	[illegible]
Susquehanna	9,195	121
West Shore	16,110	[illegible]
Lackawanna	60,423	1,290
N. Y. Central (long haul)	.171,428	[illegible]
Ontario	44,120	2,414
Lehigh Valley	52,504	1,298
New Haven	7,200	[illegible]
Pennsylvania	12,115	414
Other Sources	6,400	[illegible]
Totals	.421,819	[illegible]
Same week last year	.368,407	13,518

INTERSTATE MILK PRICES

The basic price for 3 percent milk within 10 miles of Philadelphia is $3.28 per 100 pounds, and one cent per hundred less for each 10 miles distant. Four cents per 100 pounds is paid for each one-tenth of one percent fat above 3 percent. These are prices for the basic quantity or less. Amounts exceeding the basic quantity are paid for at a less price.

CLOVERSEED

Toledo, O., April 12, 1920

Cloverseed.—Prime, cash and April, $29.50; October, $23.75.

Alsike.—Prime cash, and April, $31.00.

Timothy.—Prime cash, 1917, and 1918, $5.70; 1919, $5.75; April, and May, $5.75; September, $6.10; October, $6; December, $5.87½.

Note.—It is well to remember that these are wholesale prices per bushel paid by jobbers.

TOBACCO MARKET

No sales were reported during the week. The market situation being confined to many belated deliveries in nearly all localities. As heretofore there was much favorable comment as to quality of product which seems to be wholly satisfactory to sellers. It has been noted that the friction which in former years often arose between sellers and buyers at delivery time has almost completely disappeared, the result no doubt of a better understanding.

Abnormally cold weather for the time of year delayed somewhat the sowing of seed for the crop of the present year. Many have sprouted their seed indoors to make it grow more promptly when sown. Others will make up lost time by sowing in warm beds underlaid with manure and still others will try the costly experiment of covering at least a part of their beds with hot bed sash. Despite the belief that agricultural production as a whole will be decreased this year by several percent there is nothing to indicate that any of this reduction will be in the tobacco crop. Excepting a few localities not experienced in tobacco growing and a few others engaged in growing export tobacco it would seem nothing but an adverse season can preclude an average production. Seeking to aid growers of the state the Department of Agriculture soon will issue a handbook of tobacco raising which will give more or less complete information in regard to the cultivation, acreage, value.

WHAT A SINGLE CORN TEST SHOWS

Six varieties were tested on two Tioga County, New York soils under very different conditions and treatment. One field was a river flat soil, previously eight years in alfalfa, a naturally rich soil and one holding water well. It was a natural corn soil, dark, mellow and very deep. The other field was on a hill side with a light sand soil, poor and very subject to drouth. To make the natural conditions worse, the river flat soil was plowed early in April and harrowed often enough thru April and May to hold the rains which fell abundantly up to the middle of May. The sandy hill soil was planted by a tenant farmer after his own crops were planted and consequently not plowed until nearly the last of May, after it had time to dry out in the long drouth which began the middle of the month.

The varieties planted were of two types. One was the Cornell 11, a very early variety. This is usually ripe soon after September 1st, grows a small stalk and is strictly a grain producer. The other five varieties were all much later in ripening, all much larger in stalk, and seed all came from some distance.

Bushel to the Acre

	River Flat Soil	Sandy Hill Soil	
Cornell 11	42.6	42.6	Ripe
West Branch	88.1	39.2	Hard dough
Silver King	77.8	35.7	Glaze
Gold Nugget	75.2	31.7	Hard dough
Sure Crop	89.9	26.5	Dough
Cornell 12	102.0	25.0	Milk

The corn was cut September 15th and the varieties are given in order of ripening from top to bottom. The great lesson of the test is that poor and dry sandy soil ripened the earliest variety for a fair yield for the good corn season, but the five later and larger varieties were poorer in yield in proportion to their lateness and size. The yield was measured after thoro drying, but not shelling, and the proportion of cob and light grain was high in the big varieties. On the other hand, the river flat soil, rich and well handled, furnished a larger yield from every one of the five late varieties than from Cornell 11.—Daniel Dean, Tioga County, N. Y.

(Note:—This table is given primarily to show the nature of the work being done with corn in New York State. It is only one of hundreds of tests. It shows that Cornell 11 matured sound corn on two types of soil on Mr. Dean's farm in 1919. It does not follow that it will do the same every year or on every farm.—Editors.)

COW A NATIONAL ASSET

The farm cow that gives milk for human food stands first, with a total value of $2,022,000,000, as compared with other classes of farm animals for January 1, 1920, by the Bureau of Crop Estimates of the United States Department of Agriculture. Not even the total value of all other cattle is equal to the value of the dairy cow.

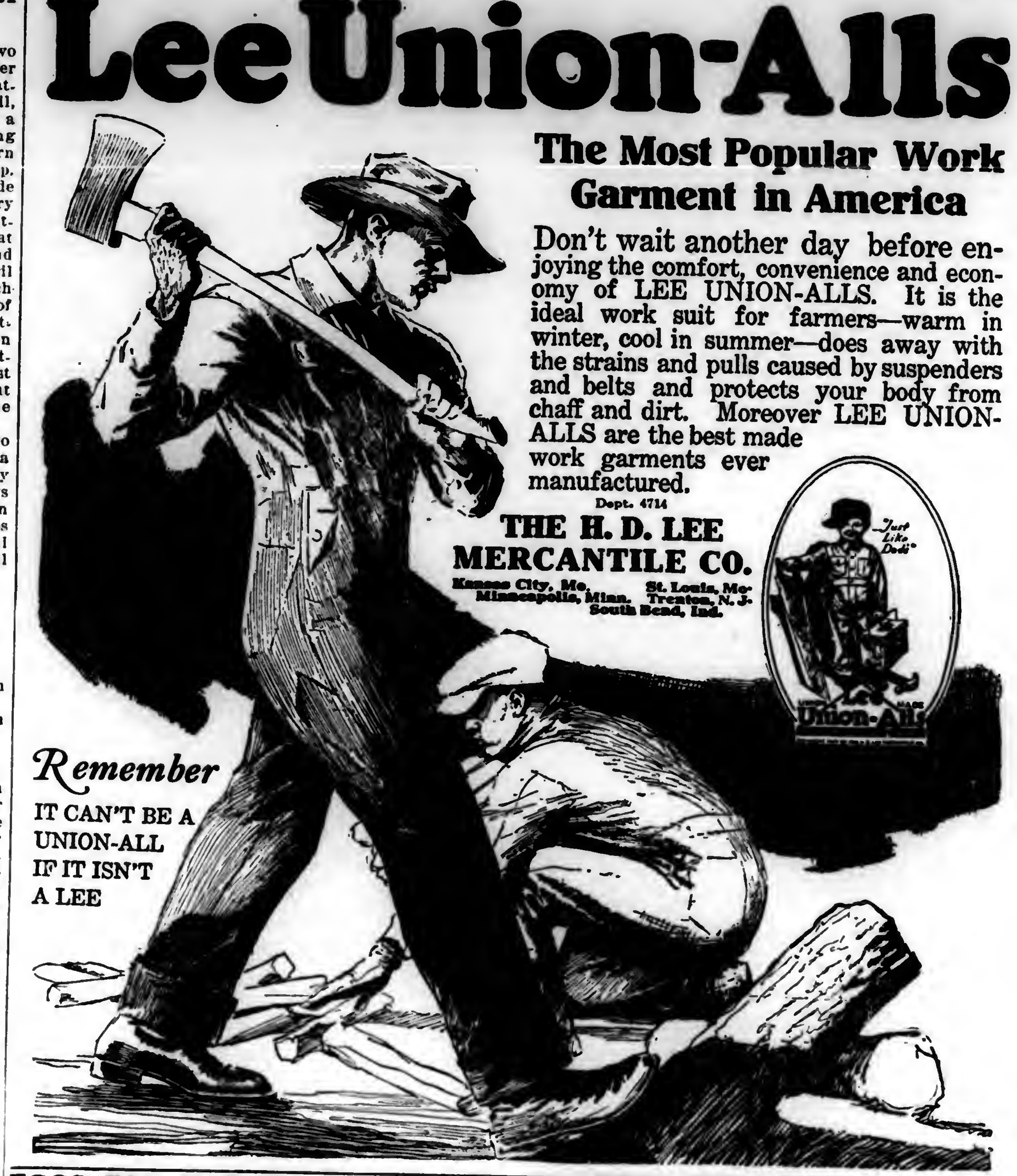
The average price per head of milk cows in this country has increased from $58.25, since January 1, 1915, to $91.95, the average for 1919, or a gain of 58 percent in five years, according to the bureau.

POWDERED MILK EXPORTS

The exports of powdered milk from the United States to foreign countries increased from 674,825 pounds in January to 942,649 pounds in February. The increase was about 40 percent.

Vices aplenty our country may have acquired during the last twenty years, but at least we are learning what to eat. Eight percent less meat, eight percent more of both dairy products and fruit and 4 percent more of vegetables have helped to build up the health of our nation during the last two decades.

As you plant so you reap; careless seed selection costs much in wasted time and profits lost.



Lee Union-Alls

The Most Popular Work Garment in America

Don't wait another day before enjoying the comfort, convenience and economy of LEE UNION-ALLS. It is the ideal work suit for farmers—warm in winter, cool in summer—does away with the strains and pulls caused by suspenders and belts and protects your body from chaff and dirt. Moreover LEE UNION-ALLS are the best made work garments ever manufactured.

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THE H. D. LEE MERCANTILE CO.

Kansas City, Mo. Minneapolis, Minn. St. Louis, Mo. Trenton, N. J. South Bend, Ind.

Remember IT CAN'T BE A UNION-ALL IF IT ISN'T A LEE

EGGS FOR HATCHING

NONE SUCH WHITE LEGHORNS. For 18 years NONE SUCH WHITE LEGHORNS have been trapnested and bred to lay more eggs. FERRIS WHITE strain, mated to Grandsons of Prince Eglatine, a son of the world's famous Lady Eglatine. Fertility GUARANTEED. Hatching eggs and day old chicks.

April Prices

300 egg strain, hatching eggs 15, $3.00 100, $15.00
300 egg strain, day old chicks 25, 8.75 100, 35.00

The H. M. Spahr Breeding Estate, Dept. C, Woodsboro, Md.

BIG STURDY BABY CHICKS AND HATCHING EGGS from high egg producing strains of quality. Martin's Dorcas White Wyandottes, Ringlet Barred Rocks, Shepard Anconas, Eglantine White Leghorns, S. C. R. I. Reds. Hatches every week after February 15th. Catalog free. SUNNY SIDE POULTRY FARM, COOPER HILL, N. J.

LOOK: BABY CHICKS AND DUCKS 10 breeds of chicks, 4 breeds of ducks. Utility and Exhibition grades. Postage paid and live delivery guaranteed. Capacity 100,000 weekly. Catalog free. Stamps appreciated. NABOB HATCHERIES, Gambier, Ohio

LOOK! Barron Pedigreed 300 Egg Strain S. C. White Leghorn baby chicks. Big, husky, pepful chicks that live, grow, pay and lay. $18 per 100, $85 per 500. June 14th delivery by prepaid parcel post. Highly fertile hatching eggs, $9 per hundred delivered. LEONARD STRICKLER, Sheridan, Pa.

HATCHING EGGS

A specialty, from the leading varieties of poultry. Prices very reasonable. Meadow Brook Poultry and Stock Farm, Gardenville, Pa.

Ducklings Tiffany's Superior Mammoth Pekin, Giant Rouen, Everlay Indian Runner (all varieties) Eggs. ALOHAM POULTRY FARM, R 39, PHOENIXVILLE, PA.

Baby Chicks and hatching eggs from our high-egg-laying strain. White Leghorn baby chicks $20.00 hundred. Hatching eggs $10.00 hundred. Safe delivery guaranteed. We invite your inspection of our birds, if possible. TENACRE POULTRY FARM, Princeton, N. J.

Hampton's Black Leghorn Chicks. Get my free circular before you order chicks. Tells why the Black Leghorn is the greatest layer and most profitable breed on earth. Write today. A. E. Hampton, Box F, Pittstown, N. J.

Baby Chicks. Eleven leading varieties, bred from show-stock, to produce eggs, at utility prices. Send for illus. catalog and price-list. Ohio Poultry Yard & Hatcheries, Dept. B, Marion, O.

Chicks Better Produced Day-Old Chicks are the kind you want—17 leading breeds at reas. prices. Send for free catalog today. Springfield Hatcheries & Poultry Farm, Box H, Springfield, Ohio.

Leader's Leghorn Chicks have the confidence of the folks at home. York Co. Poultry Growers bought our entire output, 2,400 to 3,000 weekly, in Feb. March and April. These men KNOW GOOD LEGHORNS and come to our plant for their chicks. Many of them each succeeding year. Book your order now for May and June delivery of the same quality chicks at $17 per 100. LEADER'S POULTRY FARM, R2, YORK, PA.

BABY CHICKS

Strong, free range, pure bred stock, 18 cents up. Shipments every week. Send for price list and catalog. POULTRY FARMS CO., Allentown, Pa. Desk F.

CHICKS from large, pure white, two-year-old hens, Wyckoff strain, 18 cts. Extra fine, Brown Leghorns, 20 cents. White Rocks, Barred Rocks, Orpingtons, R. I. Reds, Black Minorcas, 25 cents. Postpaid. Eggs; Half price of chicks. J. NEVIN STROUP, MIDDLEBURG, PA.

Chicks

White Leghorns	$20—100
Barred Rocks	25—100
R. I. Reds	25—100
White Wyandottes	30—100

Tappan Poultry Farm, Tappan, N. Y.

AMERICAN POULTRY ALMANAC Our 1920 catalog FREE. How we breed the 300-egg hen. Scientific facts plainly told. Each month's routine. Feeding for winter eggs. How We Win Medals at the Egg Laying Contests. HOPEWELL FARMS, Box 65, Hopewell, N. J.

BABY CHICKS White and Barred Rocks, White Wyandottes, Reds, Anconas, White and Brown Leghorns and Broiler Chicks. Send for Free Catalog and prices before ordering elsewhere. Trial convinces. NEW WASHINGTON HATCHERY, NEW WASHINGTON, OHIO. DEPT. N.

200,000 Chicks Reds, Rocks, Leghorns, Minorcas and Broilers at low prices. Shipped by Parcels Post, charges prepaid. Safe delivery guaranteed. Our 11th year. Fine catalog free. THE KEYSTONE HATCHERY, Dept. 5. RICHFIELD, PA.

S. C. Rhode Island Red and White Leghorn Eggs, $12.00 per 100, from free range stock. I. R. TANGER, YORK SPRINGS, PA.

Hatching Eggs.—Thorobred S. C. Rhode Island Reds, $1.50 for 15, $8.00 hundred. Bourbon Red Turkey Eggs $4.50 for 9. White Pekin Duck Eggs, $1.85 for 11. Prepaid. Mrs. L. J. Killian, Lebanon, Pa. R. 6.

WHEN IT PAYS

All through the blustry winter months, our WHITE WYANDOTTES lay eggs, and lots of them. We offer a limited number of carefully selected eggs from this flock at $15 per 100, $8 per 50, $2.50 per sitting of 15. Also chicks at 40c each. We advise the purchase of this stock for those who want the best from our high production, trapnested birds. Terms—cash with order. Eggs and chicks forwarded parcel post prepaid. We know you will be pleased with our stock. Book your order early. J. V. RITNER, GORDONVILLE, Lancaster Co., Pa.

ENGLISH WHITE WYANDOTTE & MAMMOTH PEKIN DUCK EGGS for hatching, from the very best stock. Wyandotte eggs, 15 for $2.50. Ducks eggs, 11 for $2.50. All carefully packed and delivered. A. R. LOGUE, WOODBURY, BEDFORD CO., PA.

BABY CHICKS GULDIN'S WHITE LEGHORNS Bred for size, vigor and high flock average egg yield. PAUL R. GULDIN, Yellow House, Pa.

BABY CHIX EGGS KENDEL'S SUPERIOR STRAINS Famous for High Standard, Utility Quality, 35 varieties. Leghorns, Rocks, Reds, Wyandottes, Anconas, Minorcas, Brahmas, Langshams, Orpingtons and Ducks. Circular free. A. C. Kendel, 224 Prospect Ave., Cleveland, O.

Baby Chicks S. C. Rhode Island Reds and White Leghorns. Improve your flock by buying chicks from these heavy laying strains. Bred for twelve years for heavy egg production. Write for delivered prices. A. FELL, Route No. 1, Bethesda, Md.

Eggs $1 Setting Parcel Post paid. Purebred, Barred, White and Buff Rocks; White and Brown Leghorns; Reds, White Wyandottes, Buff Minorcas; Black Langshans; Buff Orpingtons. Philip Condon, Box 118, West Chester, O.

Selby Service Satisfies Ship us your produce, poultry and eggs. Penna. Potatoes a specialty. Returns day goods are sold. Ask for our market letter. SELBY PRODUCE CO., PHILADELPHIA

CHAMPION LAYERS S. C. White Leghorn Eggs $1.50 per setting. Winners of all prizes at the Jefferson Co. Fair. EDWIN BOVAIRD, Brockwayville, Pa. R. 1.

White Leghorn Day-Old Chicks and hatching eggs from our own tested breeders. Can still supply some chicks for April and May delivery. Stanmith Poultry Farm, Lansdale, Pa.

CHICKS that bring bigger CHECKS

Order Hillpot Quality Chicks—just the number you need. Four big hatches weekly.

	100	50	25
White Leghorns	$20.00	$10.00	$6.00
Barred Rocks	28.00	14.00	7.50
R. I. Reds	30.00	15.00	8.00

Safe delivery anywhere in U. S. A. guaranteed. Postpaid. W. F. HILLPOT Box 28 FRENCHTOWN, N. J.

HILLPOT QUALITY CHICKS

BETTER APPLES
BIGGER PROFITS

Control insect and fungous pests properly and you will harvest perfect fruit and truck crops.

PANTOX
(Registered U. S. Patent Office)

A scientifically accurate Bordeaux-Lead containing a high percentage of Arsenic Oxide and Copper in its most active form, which invigorates the trees, destroys insect pests and prevents scab, rust, rots and spots in fruit.

Write for folder and booklet. We manufacture a spray for every purpose.

STANDARD CHEMICAL WORKS
READING, PA.

M&P HEALTHY HOLSTEINS
FEDERAL TUBERCULIN TESTED HERD

Young bull about ready for light service. Healthy, well grown, practically all white in color and an excellent individual. Sire's ten nearest dams average 29 lbs. butter in seven days. Dam has a seven-day record of 543.7 lbs. of milk, 24.43 lbs. of butter and is a most persistent producer.

Price $250.00

Markham & Puffer, Avon, N. Y.

MAPLE LAWN HOLSTEINS

BEST in High grades and Registered Holsteins. Elegant high grade calves $25 each. With ten calves will give choice registered bull free. Will accept Liberty Bonds and W. S. S. at par. Guarantee safe arrival and gladly ship C. O. D. Write your wants. C. W. ELLIS, JR., Cortland, N. Y.

For Sale Registered May Rose
Guernsey Bull Calf, price $150. Sired by Brookmeads Royal Master of Riverview, who is brother to the Great Bull, Langwater Stars and Stripes 2nd and grandson of the famous Imp King of the May, who has 26 A. R. daughters who exceed an average of 600 lbs. fat and is also sire of Dolly Dimples May King of Langwater. RIVERVIEW FARMS, SWARTHMORE, Del. Co., Pa. (Suburb of Phila.)

King Cornucopia Dekol Paul No. 204356
First prize 2-year-old bull N. Y. State Fair 1919. Dam gave 743 lbs. milk in 7 days, as a 3-year-old world record when made. Two nearest dams average 30.01 lbs. butter, 721.75 lbs. milk in 7 days. Bull and heifer calves for sale at all times. Postal brings full information. Write me before buying a bull calf for your herd. E. G. DORAN, PREBLE, N. Y.

Guernsey Bull 5 mos. old, 9 May Rose crosses, close kin to Nelly Jay 4th, 1011 lbs. fat, $100.
LOCUST LAWN FARM, Bird-in-Hand, Box P, Pa.

POLLED HOLSTEINS
registered in the Herd Books of the Holstein Friesian Association of America. Herd sire out of world's record senior four-year-old.
KEYSTONE BEAUTY PLUM JOHANNA
No. 181646
At 4-10-20, 365 days—25787.5 milk; (4.02%) 1294.7 butter
At 3- 3-23, 365 days—22496.6 milk; (3.94%) 1108.9 butter
2 years under full age—48284.1 milk; 2403.6 butter. The youngest cow in the world to have two consecutive records averaging over 24,000 lbs. of 4% milk in a year.
Bull calves $100.00 and up. GEORGE E. STEVENSON & SONS, Clarks Summit, Pa.

Registered and High Grade Holsteins:
30 reg. heifers, bred to freshen in fall, 10 reg. heifer calves 3 mths. old, 18 reg. bulls, 2 to 15 mths. old, 60 reg. cows, fresh & springers, 60 high grade Holstein springers, federal tuberculin tested. 25 high grade heifers part of them bred. ⅞ Holstein heifer calves $20 to $25 each. The Spot to buy Holsteins worth the money.
J. C. Reagan, Tully, N. Y.

REAL BARGAIN
Pure Bred Ayrshire Bull Calves. We offer four handsome bull calves, large, heavy-boned and of show caliber. Big A. R. Records on both sides or now in the making. We can refer you to our satisfied customers. It will pay to get our prices.
CRESTMONT FARM, SUNBURY, PA.

STEVENS' HOLSTEIN FARM
OF CORTLAND, N. Y.
King Korndyke Sadie Vale Jr., No. 20391, two nearest dams averaging 38 pounds of butter in 7 days, heads my herd. Butter records from 17 pounds two-year-olds to 34 pounds at full age. Also high grade Holstein calves, either sex, $15.00 each. Write your wants. PAUL H. STEVENS, Prop.

Reg. Jersey Bull and Heifer Calves for sale. Our entire crop of calves from dams with official and testing association records. Priced from $50 up. Chas. A. Leonard, Troy, Pa.

BRADFORD COUNTY, PA. "A LAND OF GOOD LIVESTOCK"
10,000 Cow Testing Association records are available to show the quality of Bradford County Livestock. Special prices now on young registered Jersey, Holstein, Guernsey, Ayrshire and Milking Shorthorn bulls.
D. K. SLOAN, Secretary, BRADFORD COUNTY LIVESTOCK BREEDERS' ASS'N.
Office with County Farm Bureau, Towanda, Pa.

Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Sore Shoulders in Horses.—If you can prescribe a remedy that will prevent my horses from being troubled with sore shoulders I would be very thankful. The horses have been idle all winter, but soon as they as they are put to work their shoulders get sore. . G. Clayton, N. J. It is rather unfair to expect soft mushy fleshy horses to go into hard work without any preliminary preparation and escape certain ailments, such as you mention. Dissolve ½ lb. acetate of lead, 6 ounces sulphate of zinc, 3 ounces tannic acid in one gallon of cold water and apply to shoulders 3 or 4 times a day. It is perhaps needless for me to say the collar should fit and be kept clean.

Saddle Abscess.—About 6 weeks ago the saddle bruised back of my 7-year-old horse, causing a boil which opened, I applied iodin, it seemingly healed, but now there is a hard bunch. R. T. B., Girdletree, Md. The fibrous bunch you refer to should be cut out; then apply one part iodoform and 6 parts boric acid twice daily. Work him without saddle.

Torpidity of Kidneys.—Can you give me a remedy for horse that has kidney trouble? He is old, but has good life and I might add done no work during the past winter. H. E. B., Lewistown, Pa. Change his feed, give him a teaspoonful acetate of potash in feed or in drinking water as often as necessary to stimulate greater kidney action.

Chronic Lameness.—Our 15-year-old driving mare, with track record of 2.17 has been lame in hind leg fo a long time. When walking she scarcely shows any lameness, but when trotted she is very lame. This lameness is worse in winter. Our local veterinary fails to locate the trouble. Rest has failed to help her. She is in fine health. E. W., Harrington, Del. Certain horses that have been subjected to severe training on race track and go lame never fully recover. In this case one or more of the articulating surface of the bones of joint are involved, making the lameness quite obscure. Of course, a critical examination made by an expert should locate the trouble, then painting the joint with tincture of iodin three times a week might reduce the lameness. Don't drive faster than a walk.

Bunch on Face.—One of my cows has a hard bunch under eye about the size of duck egg, which when pressed is painful. Doubtless one of the other cows hooked her. First noticed it in early part of December, 1919. M. J. E., Sicklerville, N. J. Apply one part red iodide of mercury and eight parts lard to bunch every six days. When bunch softens open it and swab out pocket with tincture of iodin.

Garget.—Two of my cows are troubled with caked udder and are now giving less than ½ as much milk as they should give. R. B., Coudersport, Pa. Apply one part tincture of iodin and two parts camphorated oil to part of udder affected. Gently hand-rub udder 2 or 3 times daily. Give each cow half an ounce of fluidextract of phytolacca at a dose in feed or in drinking water 3 times a day.

Warbles.—What can be done for cattle that are troubled with what we farmers call "Ox weevil?" These cattle have small holes in the hide along the back, but strange to say none of them seem to be sick. S. E. M., Mt. Avy, Md. The common parasites known as grubs, warbles, bots, etc., found under the skin of the backs of cattle, are the larva of a fly known as the heel fly, or warble fly. If the grubs have reached a late stage of development, pressure properly applied will cause the grubs to "pop out." If not, cut thru skin with penknife then dislodge grub. Be sure and crush each one. Apply one part iodoform and nine parts boric acid to sores daily until healed.

Facts in BLACK & WHITE

Purebred Holstein Cows Lead

After a 6-year study of dairy operations on over 20 farms in three different parts of Minnesota, Prof. Cooper of the State Experiment Station finds that dairying is most profitable in the "Holstein Section" of the state.

In 1905 the average profit per cow was only $10.10. In 1909, it had increased to $38.45 per cow, or 43 per cent, on capital invested. Increase was due to improved herds, purebred Holsteins having been substituted for grade beef breeds. As soon as dairying is put on a systematic basis, the Holstein cow comes to the front. If facts and figures mean anything to you, send for our illustrated literature.

THE HOLSTEIN-FRIESIAN ASSOCIATION
218 Hudson Street
Brattleboro, Vermont

2 Registered HOLSTEIN BULLS, 2 and 1 years old, sired by King Cornucopia Pride DeKol No. 175003. These bulls are quiet and right in every way. Dr. John H. Gibbs, Providence Road, 2 Miles W. of Media, Pa.

Registered Holstein and Guernsey bulls from calves to serviceable age. 250 animals in the herd. BONNYMEADS FARMS, R. D. 1, Harrisburg, Pa.

Registered Holstein Friesian Cattle Sons of the great Finderne Sir Valdessa, a 37 lb. bull, for sale. MILLARD E. BASEHOAR, Littlestown, Pa.

Jerseys For Sale. Herd bulls. Champion Torono's Nepos and Sophie 19th Tormentor 39th. Blood breeding. GEO. P. BEVAN, Towanda, Pa. R. 2

Reg. Holstein Heifer Calves, from officially tested dams and a 30 lb. sire. Write for prices, pictures and peds. Walter M. Cruttenden, Forty Fort, Pa.

Ayrshire Bull Calves From high record A. R. Dams
ROBERT TEMPLETON & SON, ULSTER, PA

MILKING SHORTHORN BULL CALVES of the best breeding. Also a few females for sale. C. M. KENNEDY & SONS, ULSTER, PA

Miscellaneous

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wanted at market prices. Also poultry and all kinds of farm produce.
GIBBS & BRO.
325 North Front Street, Philadelphia
Established 1844.

Penns Valley Stock Farm. Percherons, Belgians, Berkshires. Special offering in fresh cows and heifers; bull calves, grandsons of King of the Pontiacs; bred boars, with size, breeding and quality; pigs, either sex. W. F. RISHEL, Centre Hall, Pa.

Sicilian Buttercups
Farm range, prize winning Buttercups. Investigate this wonderful variety. Write for circular.
MAPLE LAWN FARMS, CORTLAND, N. Y.

E. NEWLIN BROWN
Livestock Auctioneer
WYCOMBE, PA.

HATCHING EGGS from free farm range Poultry. Rocks, Reds, Wyandottes, Leghorns, Minorcas, Brahmas, Hamburgs, Anconas, Ducks, etc., also Hares, Cavies and Holstein cattle. Cat. free. H. A. Souder, Sellersville, Pa.

HOLSTEIN FRIESIAN Heifer and Bull Calves, High Grade and Purebred Reg., beautifully marked splendid individuals. Reg. Durocs, pigs, bred gilts, and service boars. BROWNCROFT FARMS, McGraw, N. Y.

REG. P. CHINAS, BERKSHIRES, C. WHITES, large strains, all ages, mated, not akin, 8-wk pigs, br. sows, service boars. Beagles and Collies. Write for circ. P. F. HAMILTON, COCHRANVILLE, PA.

Highland Stock Farm Belgian Horses, Jersey Cattle, Berkshires, and Indian Runner Ducks. Stock for sale at reas. prices. Anselm B. Kirsch, Nicktown, Pa.

100 Shetland and larger Ponies. Colts $50 to $75, broken ponies $75 to $150. List for stamp. F. B. STEWART, ESPYVILLE, PA.

BARRED ROCK COCKERELS: Muscovy Ducks: Eggs for hatching, 12 varieties; Duroc Jersey Hogs, all ages. Free list. Kahler & Son, Hughesville, Pa.

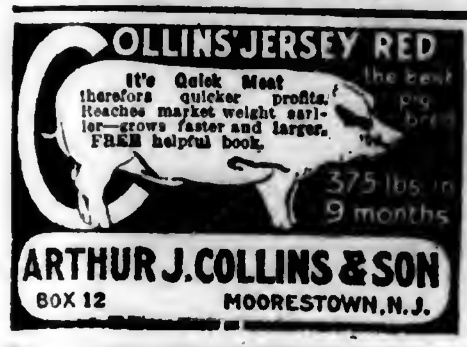
FLEMISH GIANTS FOR SALE. 3 months old, $4 each, 6 months old, $5 each. JOHN C. TURTON, Williamstown, N. J.

Chester Whites and HAMPSHIRE SHEEP. Write your wants. We can please you. TWIN BROOK FARM, Newville, Pa.

Chester White Hogs, All Ages Shorthorn Bulls. R. L. MUNCE, Canonsburg, Pa.

March 26, 1920
Kindly change copy for my 7 line advertisement now running. * * * * I have had wonderful results this year from The Pennsylvania Farmer, in fact, better results than from any other medium whatsoever, and I used a number of them.
LEONARD F. STRICKLER, Sheridan, Pa.

Work and Cure Him
Don't lay up because of Ringbone—Thoropin—SPAVIN or ANY Shoulder, Knee, Ankle, Hoof or Tendon Disease.
SAVE-The-HORSE
is sold with a Signed Guarantee to return money if it fails to cure. OUR FREE BOOK is our 25 years' discoveries treating every known lameness. It's a "mind settler." Write for it and Sample Guarantee together with ADVICE—all FREE.
Keep a bottle of Save-The-Horse on hand for emergency—it is the cheapest Horse Insurance.
TROY CHEMICAL CO.
370 State St., Binghamton, N. Y.
Druggists Everywhere Sell Save-The-Horse with GUARANTEE, or we send by Parcel Post or Express Paid.



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the best pig bred
It's Quick Meat therefore quicker profits. Reaches market weight earlier—grows faster and larger. FREE helpful book.
375 lbs in 9 months
ARTHUR J. COLLINS & SON
BOX 12 MOORESTOWN, N. J.

Makefield Farms Quality Durocs
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Indigestion—Warbles.—I have two heifers about the same age, which I feed together and one is fine and healthy, but the other it seems I cannot put flesh on, the poor one eats just as much hay and grain as the other, if not more and I have tried everything. These two heifers and my herd bull have little lumps on their back and when squeezed a small worm pops out. Could you advise me what to do? M. S., Ashbury, N. J. Mix equal parts ginger, gentian, bicarbonate of soda, cinchona and salt together and give her some in each feed. A tablespoonful is dose enough for cow weighing 8 or 10 pounds, but of course the dose can be safely increased. See treatment for Warbles, this column.

Crippled Boar Pig—Rheumatism.—I have a four-month-old boar pig that cannot walk. He started about 6 weeks ago, getting so he walked stiff on his front legs and gradually got worse. Now he can't walk at all, just drags himself along, but lies still most of the time. He seems to get blue around the snout and strangles when he eats or moves about. Has a good appetite and keeps on growing. I keep him in a brooder house with double floor as it was so cold last winter the liquid manure froze on floor, making it impossible to keep it dry. Would the meat of such a pig be fit for food? For the past 4 weeks have kept him on barn floor. M. ., Cochecton, N. Y. Doubtless your pig is rheumatic, or perhaps you have fed him too much corn and not enough food containing protein. His recovery is decidedly doubtful; therefore, I advise you to make pork of him. If you fail to find any internal ailment, such as tuberculosis his flesh will be fit for food.

Foxhound Dog Scours.—I have a very valuable foxhound dog that scours. This has been going on for the past 5 months. I have given him several different kind of remedies, but none seem to help him. Have fed him meat, corn meal, oat meal and potatoes and other kind of food, none of them seem to help him. E. R. G., Pomerania, N. J.—Give your dog 5 grains of Salol at dose three times a day. Feed him some raw, chopped, lean beef twice a day. Keep him fairly quiet. If he is fond of milk, give it to him.

COUNTY NOTES

Union County, Pa., April 5, 1920. R. D. Moyer's sale of farm stock was held on Saturday the 3d, and this ends the sales on farms in this county for the season.

There were more farm sales and more changes on farms this spring than ever before in the history of the county. Except for the unsettled milk market for a while stock and implements sold well. Some corn stalks were plowed last week, but farmers will begin right as soon as the soil is dry from the rain of Sunday.

Sowing clover seed has been done, and seed will be saved on account of the high price. Since more cows are pastured in this county than formerly, less clover seed is produced.

Wheat is looking well generally, except on low places on some fields where it drowned or froze out. Corn is worth $1.50 per bushel and most of the crop has been marketed. Oats are worth 95 cents; hens sold up to 42 cents per pound and some White Leghorns by the piece at $2.12.

The stable of steers, fed in this end of the county, were shipped last week, and they made the feeder no money. Milk at $2.54 for April will not pay costs of production, and low milk producing cows are being sold. Hay is worth $28 to $30 per ton. Farmers are hopeful and will try to keep up production in spite of the shortage of farm help.—J. N. G.

Cum Co., N. J., (Shiloh) April 2. Weather warm and clear. Potato cutting and planting going on. Clover seed sown. Plowing for gardens. A few finishing corn husking. Onion setting going on extensively. Late spring delayed work and help is very scarce. Milk 6½ cents per quart; butter 75 cents per pound; hay, $30. per ton at barn; eggs, 45 cents.—C. J. S.

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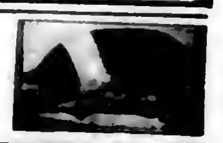

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PENNSYLVANIA FARMER
AGRICULTURE THE KEYSTONE OF NATIONAL PROSPERITY
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English and German Agriculture

A Comparison Which Shows the Value of Science and Cooperation

By Dr. JACOB G. LIPMAN

Director New Jersey Experiment Station

In 1917 the Board of Agriculture and Fisheries of England published a pamphlet under the title of "The Recent Development of German Agriculture." This report, prepared at the request of the **Earl of Selborne**, then President of the Board, by **P. H. Middleton**, is not merely a comparison of agricultural production in Germany and England, but contains a very intelligent discussion of the important factors that must underlie all agricultural progress.

Comparing the returns from one hundred acres of cultivated land in Great Britain and in Germany, Middleton calls attention to the following striking facts:

1.—The English farmer feeds from 45 to 50 persons; the German farmer feeds from 70 to 75 persons.

2.—The English farmer grows 15 tons of grain; the German farmer grows 33 tons.

3.—The English farmer grows 11 tons of potatoes; the German farmer grows 55 tons.

4.—The English farmer produces 4 tons of meat; the German farmer produces 4½ tons.

5.—The English farmer produces 17½ tons of milk; the German farmer produces 28 tons.

6.—The English farmer produces a negligible quantity of sugar; the German farmer produces 2¾ tons.

Striking as are these figures in themselves, they become even more impressive when we note that in the early 80's of the last century the British farmer in growing wheat, barley and oats produced an average yield of about 33 bu. to the acres of all of these crops taken together as against about 23 bushels to the acre for the corresponding production of the German farmer. The corresponding differences in the yields of potatoes and hay are nearly as striking. Just prior to the outbreak of the war, the German farmer had not only caught up with the English farmer in the acre production, but exceeded his production in a very marked degree.

A Well Kept Orchard is a Thing of Beauty and a Joy Forever

Obviously, an analysis of the causes responsible for this remarkable improvement in the methods and yields of German agriculture would teach us many interesting and profitable lessons. A study of these underlying causes reveals the following:

1.—The soils and climate of Germany are inferior rather than superior to those of Great Britain.

2.—Within a period of thirty years Germany increased her live stock from about 3,500,000 to about 4,500,000 head of horses; from about 15,500,000 to about 20,000,000 of cattle, and from about 9,000,000 to about 22,000,000 of swine. On the other hand, it decreased the number of sheep from about 22,000,000 to about 9,000,000. This increase in the number of livestock was accomplished without increasing the total acreage of cultivated land, which remained substantially the same, viz: about 82,000,000 acres.

3.—On the entire number of farms in England and Wales 15.8 percent were under 50 acres and 84.2 percent over 50 acres. The corresponding figures for Germany are 48.5 percent and 51.5 pecent. In other words, Germany has three times as many farms under 50 acres as there are in England and Wales.

4.—The percentage of cultivated land in England and Wales is 73 percent; in Germany it is 61.5 percent. The area in forests and woodland in England and Wales is 5.1 percent and in Germany 26.3 percent. Apparently, Germany has, in proportion to its total area, more than five times as much of its total area in forests as does England and Wales and a considerably smaller proportion of its area in cultivated land.

5.—About 69 percent of the cultivated land in England and Wales is under grasses and clovers; in Germany it is only about 32 percent. On the other hand, Germany has nearly 46 percent of its cultivated land in cereal crops as against the 19.5 percent for England and Wales; [illegible] percent in potatoes as against 1.59 percent for England and Wales; and 2.51 percent in gardens, fruit and vineyards as against, .44 percent for England and Wales.

6.—The English farmer with 250 acres and over keeps 8 pigs to each 100 acres, while the German farmer with 12 to 50 acres keeps 24 pigs to each 100 acres. It appears further that about one-tenth of all the pigs in Germany are kept on holdings of less than one and one quarter acres.

7.—For each 100 acres of cultivated land there are employed in German agriculture 8.3 males and 10 females, or a total of 18.3 persons. The corresponding figures for Great Britain are 4.6 males and 1.2 females, or a total of 5.8 persons. On holdings of less than 12½ acres the women in Germany do most of the farm work. Of the 8,000,000 women who are employed in German agriculture, 4,500,000 are on holdings of less than 12½ acres. The small holdings in Germany are, therefore, the means of keeping women on the land and it is from these small holdings that most of the agricultural labor for the larger farms is recruited. It may also be pointed out that in Germany six times as many women are regularly engaged in farm work to each one hundred acres of cultivated land as in Great Britain.

8.—Agricultural progress in Germany has been stimulated to a remarkable extent by the creating of suitable credit facilities thru the land mortgage credit associations and the savings banks. Out of a total of about two billions of dollars loaned on real estate in 1912 each of these agencies was responsible for about $800,000,000.

9.—The progress of German agriculture has also been stimulated by the organization of cooperative societies. Before the outbreak of the war about one fourth of all the fertilizers and feeding stuffs used on German farms were brought thru cooperative societies. These cooperative societies include creameries, employment societies, electricity supply societies, potato drying societies and distillery societies.

10.—Agricultural education has played a prominent role in the advancement of German agriculture. Aside from the German universities which provide training for investigators and teachers in agriculture, special educational facilities have been created for the teaching of agriculture in the secondary schools and, which is more important, for teaching better methods to the

(Continued on Page [illegible])

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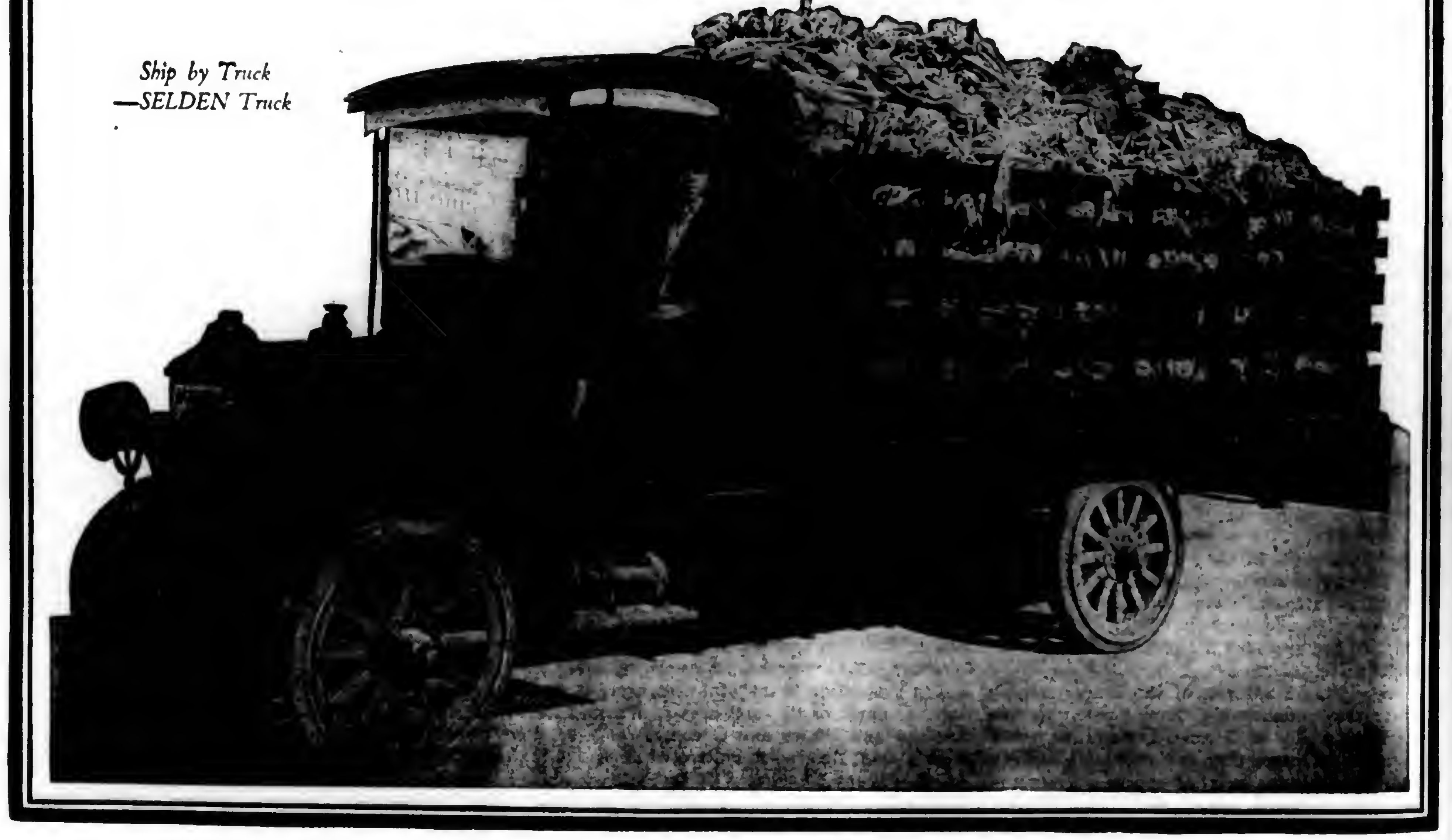

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ESTABLISHED 1880 PUBLISHED WEEKLY

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Philadelphia

Prevention of Plant Diseases--Part II

Showing Progress Made and Directions for Effective Seed Treatment

By Prof. FRANK D. KERN

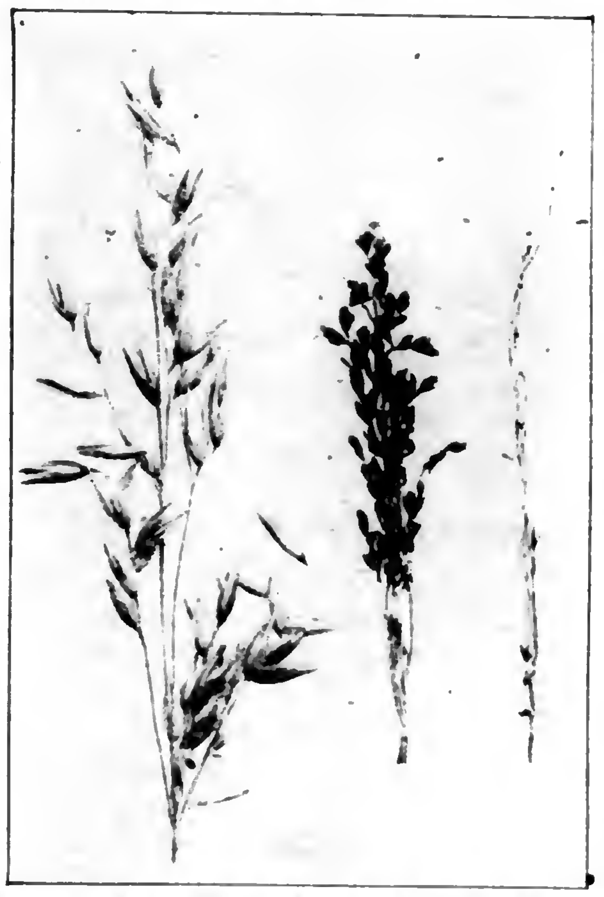
State College, Pa.

Black Rust of Wheat and Other Grains

For 250 years practical growers in various countries have insisted that the common barberry bush has had something to do with the spread of black rust. More than 50 years ago a scientific explanation of these suspicions was furnished thru the proof that the rust parasite spends a part of its life-cycle on the barberry bush. After obtaining proof that the barberry spreads rust, scientists were slow to advocate eradication of the offending bush. Denmark began compulsory eradication in 1904 with most promising results. The State of North Dakota inaugurated an eradication program prior to our entrance into the war, but it took the food crisis of the war to stimulate widespread sentiment against the barberry. As a war-time measure the plant disease specialists came to the conclusion that the most promising method for reducing the enormous losses caused by black stem rust was the eradication of the rust-bearing varieties of barberry, particulaly the common or European Barberry, in both green and purple varieties. The Japanese variety is harmless. The eradication campaign was successfully begun in the spring wheat region of the great plains states. Much remains to be done in order to carry out the eradication plan to a successful conclusion. The old saying "well begun is half done" seems particularly applicable here for the important point is that a definite stand has been taken against this bush. As a result of the definite war against the barberry in the spring wheat areas, investigators have been carried out in the winter regions of the east resulting in the finding of considerable escaped barberry and revealing its unmistakable connection with the quantity of rust on the grains. We surely can reduce rust by eradicating barberry. If we do not eradicate barberry the situation will not remain as it is but will grow worse for the barberry has made itself at home and in many places is spreading definitely and rapidly. When a crop as important as wheat is affected there can be no excuse for a half hearted program especially when the offender is nothing but a spiny shrub with no economic value at all. The eradication must be thoroly done, the bushes must be pulled out by the roots—grubbed out—or they will sprout again.

Wheat Scab

Scab is a disease of wheat producing various effects. Usually the diseased heads show a pinkish moldy growth and the kernels are much shrivelled. Scab is now recognized as a disease of very great importance. Early in the war time conferences, some interesting facts were brought out relative to this disease Certain workers who were in the midst of their investiations presented evidence that the scab fungus in wheat may be related to corn root and stalk rots. If this be true, systems of cropping in which wheat is sown in corn stalk ground are of doubtful standing. Many observations have been made and there seems to be little doubt that so-called "corn stalk" wheat always shows a higher percentage of scab. This has been checked by the reports of farmers who know nothing of the possible relation between the corn and wheat diseases.



Sound Oats in Comparison With Smutted Oats

Effects of Spraying Potatoes—Three Rows in Middle Not Sprayed

Potato Seed Treatment

Treating seed potatoes to eliminate certain seed borne diseases has been practiced to some extent for a considerable period of years. The effectiveness of the treatment has never been much in question but the fact that the treatment required a soaking for 1½ to 2 hours made it a time-consuming process and as a result large growers often omitted the treatment and took chances on their crop. During the war time there was a notable effort to shorten the time for this treatment. Success has been attained thru a hot formaldehyde treatment by which the time is reduced to 2 minutes. The hot solution is more active and penetrating, serving to disinfect as well in 2 minutes as the cold solution does in 2 hours. The solution is made at the rate of 2 pints of formaldehyde to 30 gallons of water and treatment is given when the temperature is between 118 and 122 degrees, Fahrenheit. The potatoes are dipped for two minutes and then placed in piles 6—8 inches deep, covered with sacks for an hour, and then allowed to dry. In small lots the solution can be treated in a wash boiler over an open fire. In larger lots an improvised heater, or steam from a boiler can be used in a tank. A good thermometer must be used and the temperature limits must be watched. Too great a heat is injurious, too cold a solution will not control the diseases. Common scab, black scurf, black leg, and dry rots are the usual diseases carried over in the seed potatoes. The stand, the yield, and the quality can be improved by proper seed treatment.

Spraying

Recently much effort has been put forth to bring about better spraying. Workers along this line of plant disease prevention have come to realize that indifferent results from spraying, either potatoes or fruits, are often due to failure to make proper application either as regards method or time. Sufficient pressure to produce a proper quality of the spray has been shown to be a great factor. Comparison of results obtained from up-to-date machinery and old machinery tell the story. The matter of timely applications has also been shown to be an important factor. The old adage "what is worth doing at all is worth doing well" certainly applies to spraying treatments.

Transportation and Storage Problems

During the war time, plant disease specialists began in a new way to realize their responsibility in connection with storage troubles. Previously, they had occupied themselves chiefly with the occurrence of diseases in the field. In perishable products there are troubles occurring in transit and storage which are plant disease problems. It is not possible to show much of the results within the scope of this paper but it is desired to say sufficient to show that the viewpoint has changed, and that some results have already been attained. On this subject there was some co-operation between the Food Administration and the war time organization of the disease specialists. The latter organization also distributed literature of its own interest to grocers. A pathologist in one state undertook to go rather fully into the problems of importance in the transportation of fruits and vegetables and a very attractive publication was put out by the American Railway Perishable Freight Association. The U. S. Department of Agriculture put out some publications on specific phases of the problem including methods for preventing strawberries rotting,

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VOLUME 47 NUMBER 17

Our job is to serve our readers. Whenever and wherever we can help you, write us.—The Editors.

Planting Season Again

PLANTING season approaches with new and unknown conditions facing the farmer. There never was a time when there was so much confusion and affairs were so unsettled. Prices of all farm supplies are abnormally high, labor is almost impossible to secure at any price, the rate of foreign exchange is high, and conditions generally are not encouraging.

Reports from various states indicate that many farmers, especially those on hills farmers far from markets, are selling out and moving to the cities where wages are high and the eight-hour day prevails. Other farmers are planting only what they feel they can plant, till, and harvest themselves. Labor-saving, machinery is being bought in large quantities. Many farmers are equipping their farms with modern machinery, tractors, hay loaders, side-delivery rakes, milking machines, and light and water plants. This is a mark of progress but machinery is simply an aid, to production and in itself has no power to stabilize prices or conditions.

The decreased acreage of wheat and a general tightening of the forces of production indicate clearly that production will be below normal this year; but we cannot but feel that conditions warrant the usual effort on the part of farmers who have built up the fertility of their land, and that prices will return a fair profit.

All this suggests the greatest care in planting. Low-grade seeds and fertilizers which increase the amount of labor required to raise a given unit of produce should be eliminated. Tools should be in order to avoid delays. At the same time, the importance of a well-prepared seed-bed should be kept in mind. There is always an opportunity for the man who does things well.

Farm Loan Banks Face a Crisis

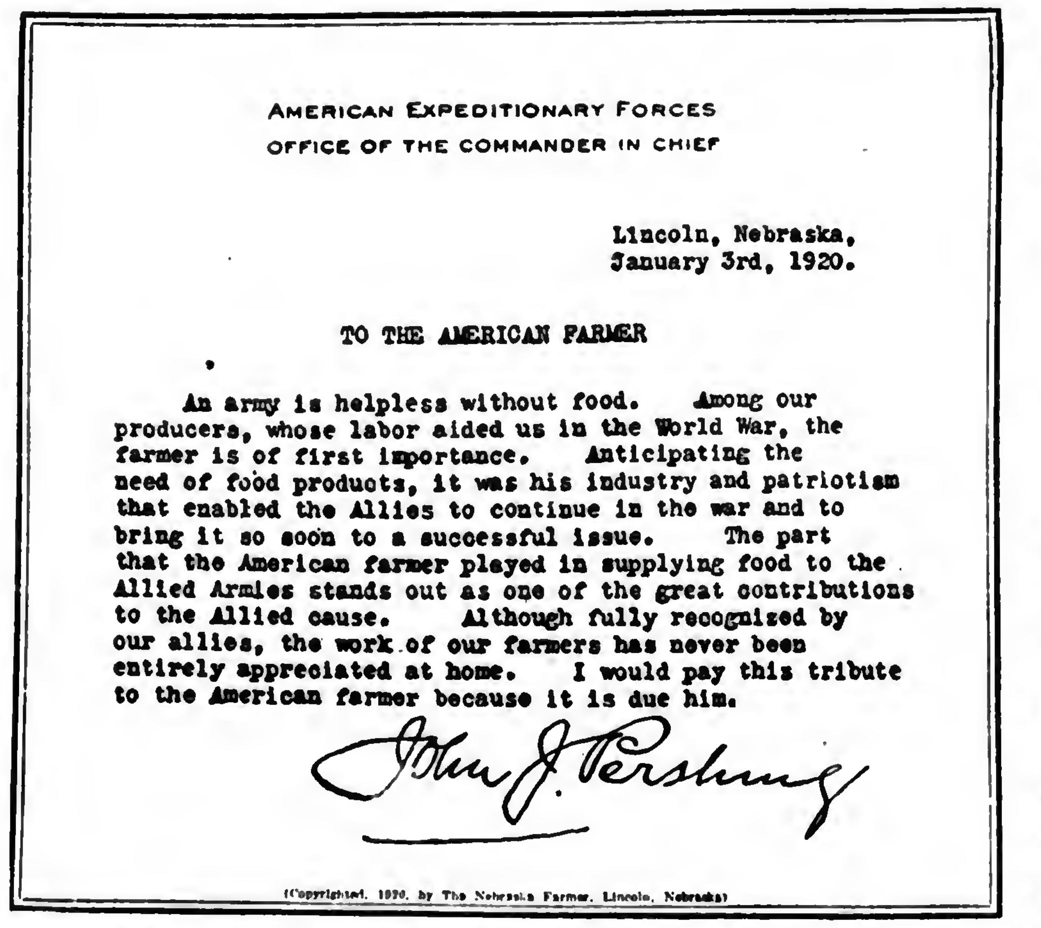
THE Farm Loan Act is facing the possibility of repeal. The Farm Mortgage bankers and all others who previously fattened upon the necessity of farmers are using every means to have it annulled or emasculated in such a way as will practically kill it as a farmers' loaning institution. The same old crowd of opponents of rural credits is at work and the results of 50 years of agitation for an adequate system of farm loans may go by the board unless farmers bestir themselves and make Congress understand that it must not take a backward step in this matter.

The Farm Mortgage Brokers' Association has brought suit to test the constitutionality of the Federal Farm Loan Act, and while this is pending the entire System is practically at a standstill. The Mortgage Brokers are reaping a harvest during the suspension and are flooding the country with propaganda intended to prejudice the people against the Farm Loan System. The chief argument is that it is class legislation because the bonds are exempt from tax and that this feature will give the rich a chance to invest their money and escape taxation. The unfairness of this argument is seen when it is realized that Land Banks have issued only two percent of the total 16 billions of tax-free bonds in this country. Only dishonest reasoning could make this two percent class favoritism while the other 98 percent would continue as at present.

Farmers ask no special privilege. All they ask is that such laws be enacted as will give them adequate banking and business opportunities. Two of the primary needs are: a system of borrowing which fits the peculiar necessities of farming, and legal permission to cooperate for greater efficiency and economy. Altho these just opportunities would innure to the benefit of all classes, the short-sightedness of the masses and the selfishness of special interests have so far stood in the way of their accomplishment.

Our Washington Letter

Information I am receiving indicates that the American Federation of Farm Bureaus is making a rapid growth. The membership is increasing by the thousands, and the organization is doing effective work for the protection and betterment of the farmers. The Washington headquarters of the Federation is at 1411 Pennsylvania Avenue, with Gray Silver, of West Virginia, in charge.



AMERICAN EXPEDITIONARY FORCES
OFFICE OF THE COMMANDER IN CHIEF

Lincoln, Nebraska,
January 3rd, 1920.

TO THE AMERICAN FARMER

An army is helpless without food. Among our producers, whose labor aided us in the World War, the farmer is of first importance. Anticipating the need of food products, it was his industry and patriotism that enabled the Allies to continue in the war and to bring it so soon to a successful issue. The part that the American farmer played in supplying food to the Allied Armies stands out as one of the great contributions to the Allied cause. Although fully recognized by our allies, the work of our farmers has never been entirely appreciated at home. I would pay this tribute to the American farmer because it is due him.

John J. Pershing

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In discussing the railroad situations, Mr. Silver says it emphasizes very forcefully the highway question. The road bill introduced in the Senate by Senator Charles E. Townsend of Michigan, and known as the Townsend bill, provided for a city to city system of automobile roads. This, according to Mr. Silver, does not meet the present situation. Far more than pleasure riding automobile city to city roads, the country needs the farm to town highways. The Federal Department of Agriculture is promoting such a system in the interest of both the producers and consumers.

The railroad strike is going to emphasize the importance of market highways, and will no doubt be the means of developing an agitation for better marketing roads. The people of the cities will have to aid in the development of the farm to town road system, or go hungry. It is no longer safe to depend wholly upon the railroads to supply the cities with foodstuffs.

The products of the soil built our railroads, and must build out highways. For the good of all the people the government cannot afford to be stingy with the public highways. Every farm is entitled to a good road to town, and the farmers, usually slow in asking for appropriations, are justified in demanding sufficient appropriations to construct and maintain these roads.

The costs of road construction are high but Henry Shirley, a highway authority, estimates that with the exception of wheat, every farm crop will build more road per bushel, pound or ton than before the war, the relative cost of road building being less than it was four years ago.

* * *

The widespread railroad strike has brought to the people of the cities a serious food problem. But Mr. Silver points out that the present results of the strike in shutting off the supply of food, are small compared with the food shortage next fall that will be inevitable as a direct result of tying up the railways this spring. The Long Island potato growers were unable to get their seed from Aroostook County, Maine, early in the season, owing to the car shortage. They appealed to Mr. Silver, who was able to get from the American Railway Association one hundred additional cars a day until the Maine potato crop could be moved to destination. The strike came on, the railroads could not meet this agreement, and the Long Island growers are without their seed at planting time. The strike has prevented the delivery of fertilizers, farm implements and seeds all over the country, and this will undoubtedly cause a serious shortage of food next fall, with another boost in the high cost of living and the probability of more strikes to secure increased wages to catch up with living costs.

* * *

Mr. Silver predicts that the Capper-Hersman bill will be reported out of the committee this Spring. The Federation of Farm Bureaus Washington headquarters is receiving many letters from farmers, strongly demanding the enactment of this bill. One county agent, writing to Mr. Silver from Oklahoma, says:

"It seems to me that conditions are such at this time that Congress must do something for the farmer, and the agricultural interests of the country, or the farmers will be forced to go out of extensive business. No industry can survive producing at a financial loss, and that is just what the farmers are strictly up against now, and they are quitting by the thousands. Our county put out 137,500 acres of wheat in 1918. The 1919 sown acreage is less than 8,000 acres by actual data gathered. To illustrate the feelings of the farmers: About four weeks ago I visited a farmer who put out eighty acres of wheat in the fall of 1918. Last fall the same farmer put out six acres." The inability of the farmers to compete with the railroads, mines and factories in securing labor, according to this man, is a leading factor in the decreased acreage of wheat.

Some farmers are wondering why a bill so strongly backed by the farm organizations and consumers' associations as the Capper-Hersman bill, can be held up and smothered without the Senate having a chance to vote on it. Senator Capper explains this, by saying that "the bill has been lodged for months in the Judiciary committee, where it was in turn referred to a sub-committeee. This sub-committee refuses to report the measure to the full committee and thus balks its report to the Sentae. The Judiciary committee is made up of lawyers. The bill was referred to this committee on the ground that there was a question about its constitutionality. What has happened is that lawyers on the committee are blocking its report under the claim that it is class legislation."—Elmer E. Reynolds.

HARRISBURG LETTER

Rasmussen Wants Action.—Secretary of Agriculture Frederik Rasmussen has apparently gotten tired of the discussion of the farm labor shortage in Pennsylvania and has called for some action, declaring in a formal statement from his office in the Capitol that nothing constructive is being done toward ending the condition which has placed almost 90,000 of the 219,000 farms in Pennsylvania without the help essential to properly conduct them. The secretary has repeated his warning that the shortage of labor for the farms in war brought about unpleasant food regulations and that food can be just as short in peace. He has added to his comments the fact that the industries growing up in the small towns are drawing boys and girls from the farm and that no one seems to be doing anything to prevent this swing. The secretary's remarks are being made in very plain language and it is his intention to bring the conditions to the attention of Chambers of Commerce and other organizations in the cities and towns because the urban population will be among the greatest sufferers in the end. His statement contains some interesting figures on the shortage of labor on farms as reported for 1919 and it is shown that the difficulty is general. Delaware County has three-fourths of its farms without adequate help, while the big agricultural counties of Lancaster, Berks, York and Washinton are short of labor on 40 percent of their farms, and Susquehanna has over half of its farms without adequate help. As pointed out in this letter last week the shortage of farm labor is growing to a critical stage and Mr. Rasmussen says nothing to remedy seems to be suggested. Everyone seems to be considering it the other fellow's business.

Fair Attendance Grows.—Attendance at the various fairs last year showed signs of coming back after the sad experiences of the war year and the influenza outbreak. A total attendance of 1,550,000 is reported by the statistical bureau of the State Department of Agriculture. Premiums were $147,000. A big jump in attendance is expected this year.—Hamilton, Harrisburg, April 19.

NEW YORK LETTER

Farmers forced to Grow Hay.—The experience of the New York Grange Exchange, with its big business in farmers' supplies indicates that a large increase in grass areas is to be made this year, and less cultivated crops. Their sales of grass, clover and alfalfa seeds are very large while corn is being used less. The latter indicates that there will be less ensilage grown, as there will be fewer cows to feed it to. Within the past two weeks so unsettled is the milk situation that cattle desl-ers report the price of dairy cows to have dropped 10 to 30 percent with little demand, while the sale of heifer calves for veal increases.

Building Out of the Question.—A leading builder announces it is his belief that no individual or corporation can afford to build now. Last year's prices were exorbitant, but are doubled this year. For instance last year lath was $7 a thousand. Now they are $24. Hemlock in 1919 was $40 a thousand. It is now $72. Oak flooring was $125 and is now $292. Clapboards were $50 and are now $125. Shingles were $5.50 and are now $12.

Exported Cattle.—Recent regulations provide better care for export cattle because most export cattle are now breeding animals, while formerly they were for beef. A Carthage breeder has just sent 14 two-year-old heifers to South Africa where they will be used to determine how American cattle stand the climate. Formerly European cattle only were imported there.

Farm Legislation Secured.—Besides the above help agriculture has secured the passage of the pure feed and of the pure seed bills, also the road act. No one party is to be credited with this. Farmers have learned the value of political independence, not tying up to any party which give far better results.—F.

NEW JERSEY NEWS

New Jersey Legislature Adjourns.—The 1920 session of the New Jersey Legislature adjourned this present week, and one of the features of the final hours in the Senate was the inability of the members of the Upper House from the populous centres in the State to offset the strength of the representatives of the rural sections and pass the daylight saving bill that was supported by Senator William B. Mackay, of Bergen, and which would have made it necessary for everyone to set their clocks ahead one hour the latter part of March, and set them back the latter part of October. When the measure came up in the Senate, after having been deferred on two occasions to see if New York State would repeal its daylight law, large numbers of agriculturists in the galleries and on the floor of the Senate Chamber were greatly pleased to witness opposition to the measure by Majority Leader Allen, of Salem, who declared that the farmers had numerous problems to meet in these days and that they needed all of the time possible. Senator Allen said that thousands of farms were lacking in normal production in Pennsylvania at the present time in comparison with past years, and that statutes such as the daylight saving bill would lessen production in New Jersey. The measure was defeated by a representative vote.

The Senate passed the bill by Assemblyman Emmor Roberts, an extensive fruit and vegetable grower at Moorestown, Burlington County, which provides a method for standardizing farm products. Other late bills acted favorably upon in the Upper House were: Allowing judge of court and prosecutor to fix the pay for county detectives; referendum on million dollar bond issue for purchase of right of way for New Jersey Ship Canal over much farmland in the State; gives $7,500 salary to judges in counties with population of between 150,000 and 200,000; "Blue Sky Bill," wanted by the agriculturists to prevent sale of worthless stocks and bonds in New Jersey such as has occurred frequently with farmers as victims, the act being similar to the Volstead Federal Act and permits of complaint to Attorney-General for protection; provides for taking of several samples of milk for testing; permits retirement of Common Pleas Judges in counties, who have served 14 years and after they have reached 70 years of age; continue peace justice jurisdiction in Camden County; provides a closed season for ring-necked pheasants; provides for highway in Cape May County contiguous to roads in State of Delaware; an amendment to the annual appropriation bill which provides $10,000 for continuation schools in counties and elsewhere and which are now used by many sons and daughters of farmers in the State.

Strike Affected Farmers. — The railroad strikers should have made a concession in the interest of producers in the very distressing walk-out of the employes of the railroads in New Jersey, that is in the way of moving trains containing necessaries for the production of crops this summer in the state. This assertion was made by Alva Agee, secretary of the New Jersey State Department of Agriculture, who added that not only has the embargo on freight service become a most serious matter to Jersey farmers, but agriculturists will lose hundreds of thousands of dollars by reason of inability to plant their fields on time. Mr. Agee further stated that reports received by the department at the State House from important farm exchanges, co-operative associations and individual dealers indicated, that one-third of the entire supply of seed potatoes had not yet been received by them, while he pointed out that New Jersey grows this crop for the Summer market and supplies a great number of States that receives potatoes from the North later in the year. He also declared that it was imperative that the farmers in this State plant early, but that the strike was responsible for holding carloads of seed stock and fertilizers at Philadelphia and other points.—Kelly.

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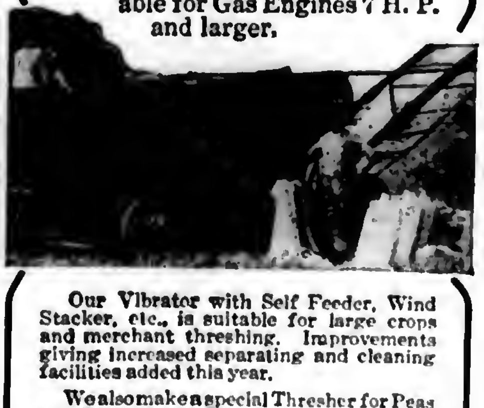

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THE RELATION OF THE SOIL TO PLANT GROWTH

Most farmers mentally weigh the requirements of their soils and crops. Those who use commercial fertilizers are more diligent in this matter than those who use little or no commercial fertilizers. A mental inventory of this character is of much value. It is an important guide and all farmers would do well to give some thought to this matter. It would be still better to strike a balance between the amount of fertility elements removed from the soil each year by cropping and leaching and the amount of fertility of barnyard manure, straw, stubble, green manures, and commercial fertilizers. It is true that the amount of fertility elements leached from the soil, and that lost thru harmful bacteria would have to be estimated. This might be done with fair accuracy with a knowledge of the characteristics of the soil.

An understanding of the soil is necessary to such a procedure. I think every one who is working the soil and is securing his livelihood from it should stop and give some thought to this question. A simple definition of the soil may help to plan the season's work.

When I was a youngster I was taught while at school that "the soil was a covering of the earth crust." This didn't mean very much to me and I learned it because I went to school for that purpose. I didn't question it either. It was sufficiently illuminating for me at ten years of age. In later years I began to grope around in my mind for a better definition.

It happened that I heard the soil explained at an agricultural meeting in quite a different way. It was stated that the soil was a mine or storehouse, a reservoir, a laboratory, and a support. In such a definition there is much food for thought.

The soil is a mine because it contains plant food, sometimes in large quantities, and the farmer is a miner because he is growing crops which require food which they get from the soil. But the farmer should consider the soil more as a storehouse for plant food and it should be his object to fill the storehouse full of available plant food rather than to deplete it by constant mining and by making no returns.

We don't hear so much of the virgin soils of the west as we did ten and twenty years ago. The Western farmer has been mining the plant food from his soil, especially the available plant food, and today they have become depleted—not of all of their fertility elements but of the available plant food and today many of these soils require fertilization just as Eastern soils do. Thus we must distinguish between the total amount of plant food in a soil and that part of it which is usable by the plant.

Heavy soils generally contain large quantities of potash, some phosphoric acid and moderate amounts of nitrogen. Light soils contain proportionately less of each and sometimes very little of any. The soils of Northern New Jersey, most of New York and most of Pennsylvania are very rich in potash. Soils containing as much as 60,000 pounds of potash to the acre seven inches are not uncommon. This is enough potash to grow the most common crops of the general or dairy farm rotation for one hundred years; yet, we know that this soil becomes depleted or run down very rapidly if manures are not added. This is because this plant food is not available and must be changed in form before plants can use it. The same is true of phosphoric acid and nitrogen though they never occur in such large quantities.

The Western soils were well supplied with available plant food years ago. It had accumulated for years but today it has been mined and shipped to the cities in the form of wheat and hay and other crops and the farmers of the West are very gradually coming to realize that they must adopt more intensive methods of livestock production and use also commercial fertilizers. The prices of Western farms have increased year after year while the farmers have sold off fertility until today many of these farmers are beginning to realize this and each year many sell out from under and move further East where potential plant food supplies are just as large, and practical or actual, usable plant food is no less.

The soil is a reservoir. By this, it is meant that the soil contains moisture for plant growth. All plants require water which is absorbed thru the little hair roots and is the carrier of all plant food used by the plant. A crop of corn requires fourteen inches of water during the growing season and so on. Thus, it is important that the soil be managed in a way to make it retain moisture and to conserve moisture. The farmer is responsible for operations of this character. Among such operations are the addition of organic matter, fall plowing, shallow cultivation and the like.

In all soils there are millions of little workman called bacteria. They make the soil a laboratory. They cause chemical changes, so the soil may be called a chemical and a bacteriological laboratory. These little workman may be helpful or they may be harmful. The farmer is particularly interested in the helpful bacteria. The most common are those which attach themselves to the roots of legumes and secure nitrogen from the soil air for their own use and for the use of the plant. There is also a type of bacteria which does the same thing independently of legumes. And again, an important type changes organic nitrogen to nitrate nitrogen, or dormant food to the active form.

It is unnecessary to say anything very much about the soil as a support. It simply means that plants require some place to send their roots and thus support themselves.

This is a rather long explanation of the soil. In spite of this I like to add that the soil is a medium for the growth of plants. I like this because it places the responsibility of making this medium favorable for the growth of large crops directly upon the farmer and the ability rests with him to so farm his land as to make it a favorable medium for plants to grow in.

In order to do this a knowledge of the fundamental factors of plant growth is necessary. They are:

1. Moisture.
2. Heat.
3. Air.
4. Food.
5. Light.
6. Root space.
7. Sanitary condition.

Generally a moderate amount of moisture is required thruout the growing season. Too much moisture is just as harmful as two little. Drainage is important in the case of too much moisture just as cultivation is important in a soil which is too dry. In other words the amount of moisture in a soil must be regulated by various farm operations wholly within the power of the farmer.

The heat of a soil is one of the most important factors of plant growth. First, because seeds will not germinate without it and secondly, because bacteria lie dormant, inactive without it, and other things being equal the activity of helpful bacteria increases directly as the soil temperature increases. Decay is caused by bacteria. The decay of organic matter in the soil is necessary to the production of large crops. It increases directly as the heat increases. Soil placed in a cold storage plant would be useless. In the same way soil soaked with water remains cold because evaporation is constantly taking place and evaporation requires heat and it takes it out of the soil and in this way lowers the temperature.

The most common operation used on the farm to conserve heat is early cultivation to prevent evaporation. This conserves moisture too. Also, the addition of any material which will tend to darken the color of the soil will increase the heat because black is a combination of all colors and absorbs all the rays of the sun.

Air is essential to the life of bacteria, and at the same time makes the circulation of moisture in the soil possible. This is important because moisture is the carrier of all soluble plant food and thru its easy circulation in the soil it is brought into contact with the roots of all the plants. Also, legume bacteria secure their nitrogen from the soil air —not from the air above the soil as some believe.

Food for plants as previously stated must be in the soil in a soluble form for use of plants. We are primarily interested in the essential elements of plant food, nitrogen, phosphoric acid and potash which are so called because they are used in large quantities by plants and found in most soils in insufficient quantities to support plant growth. A more complete discussion of plant foods will follow.

In the same way the soil should be well supplied with food for bacteria. Organic matter is the primary food of bacteria but this is only one of the many advantages of the use of organic matter.

Of the three other fundamental factors, light, root space, and sanitary condition, it is only necessary to say a few words. Light is needed not in the soil but to produce color in the leaves of plants by means of chlorophyll. Root space is the same as explained previously under the term support.

Sanitary condition refers to the pathological condition of the soil; that is, whether it contains disease germs, as in the case of a soil which produces scabby potatoes, or on which cabbage developes club root. In the former case the sanitary condition of the soil may be improved by plowing under some green crop to produce acids which destroy the disease germs, whereas in the case of club root of cabbage an application of hydrated lime will kill this particular disease germ.

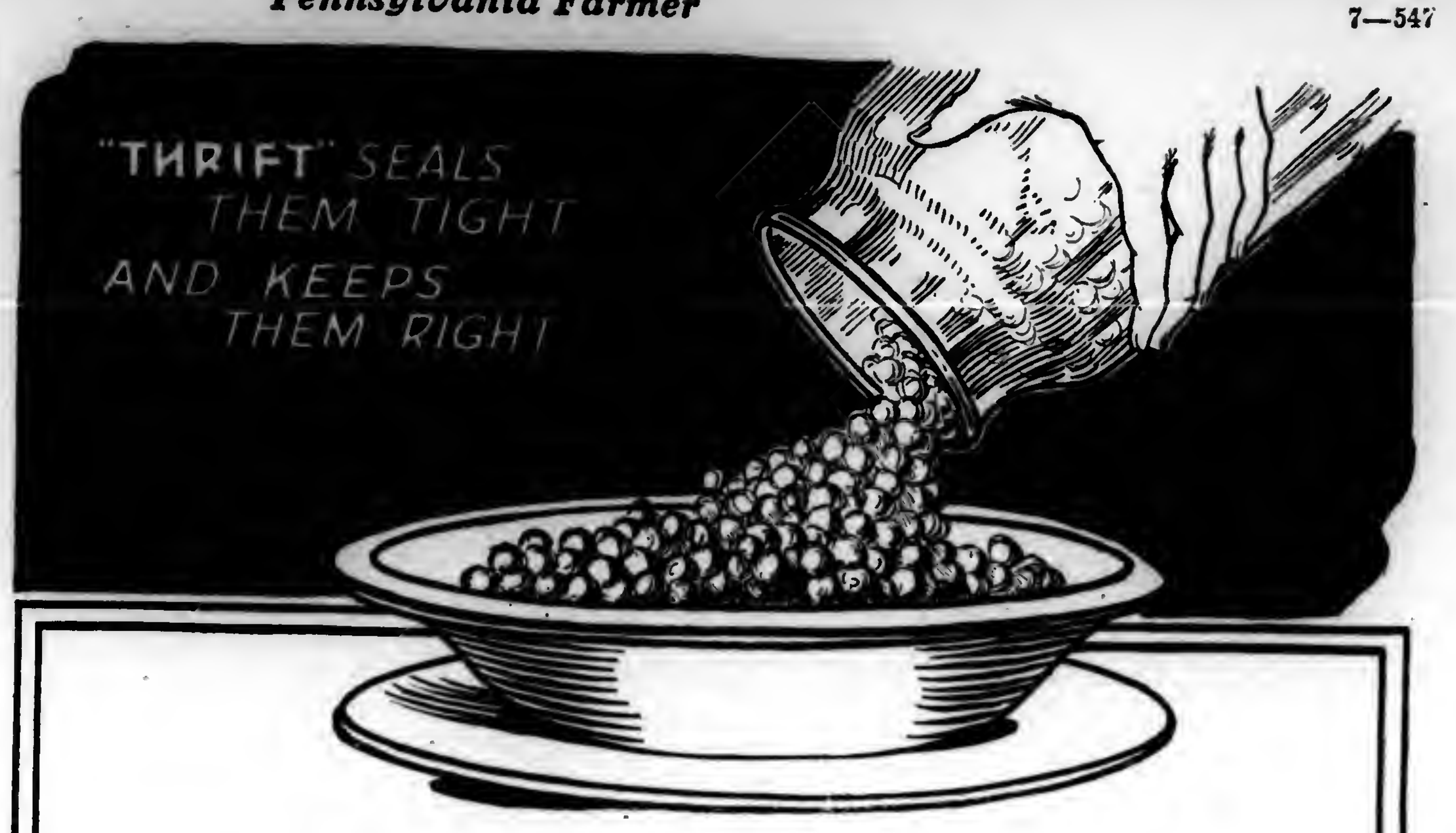
In the production of all crops these fundamental factors are extremely important. Practical operations to regulate them are primarily the farmer's own problem but if he understands them and the physical characteristics of his soil it is only a matter of trials and experience to learn the soil operations adapted to conditions which prove profitable.

It is very interesting to note that the conditions of the soil fundamental to plant growth are also favorable to the spread and development of helpful bacteria except that lime is needed to produce an alkaline condition in the soil which also favors large crop production.

CHEAP MAPLE SUGAR EQUIPMENT

There are farmers who would like to make maple sugar once more on account of the high cost of white granulated sugar, but owing to a disposal of the sugaring tools, many are handicapped on account of the lack of them. They cannot afford to buy a new equipment in these times, consequently they give up the idea of making any sugar.

A man in our neighborhood has, for several years, made all the sugar he wanted for home use besides making some syrup to sell, at a trifling expense compared to the old method which he formerly used. He already had plenty of sap buckets, so he tapped his trees and commenced work. He went to a nearby city and purchased a food cooker, such as the farmers use for cooking feed for stock, boiling soap, etc. This one had a 100 gallon galvanized tank. The fire box underneath is of full cast iron. The stove and covered tank all come as one complete article. He put it in his tool house not far from the sugar grove. For gathering tubs he used two of the old-fashioned large milk cans which served the purpose excellently. This cooker cost about $20. Good ones can be had that will hold from 25 to 160 gallons. The larger ones cost around $25. This is a fine way to conserve fuel as it takes but little compared to the old way of stuffing an arch full of firewood repeatedly. The cookers take but little wood to run them. Some are made to burn coal instead of wood. This way of boiling the sap down, makes a whiter sugar than the old way where the arch so often smoked.—E. M. L. B., Cortland Co., N. Y.



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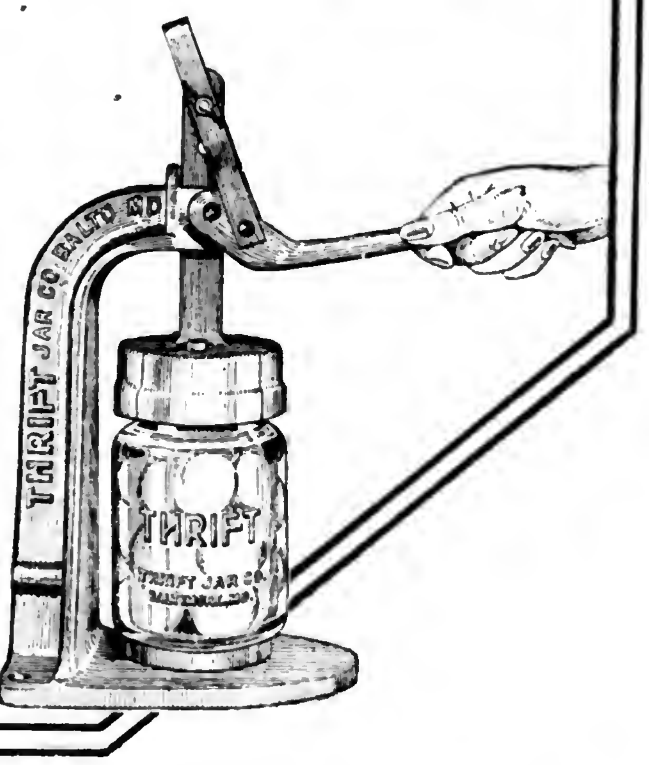
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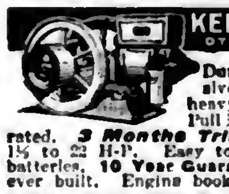
KEROSENE ENGINES
OTTAWA LATEST DESIGN
Durable, Powerful, Reliable, Massive. Built to last; to do hard, heavy work. Uses Cheapest Fuel. Pull ¼ to ½ horse-power more than rated. *3 Months Trial. Easy Terms.* Sizes 1½ to 22 H-P. Easy to start. No cranking. No batteries. 10 Year Guarantee. Most practical engine ever built. Engine book free. A Postal brings it.
THE OTTAWA MANUFACTURING CO.
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WE DRILL WELLS AND GET WATER
Test Borings and Soundings
Let Us Submit Prices
Ridpath & Potter Co.
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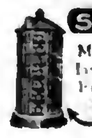
PIPE second hand. Large stock all sizes furnished with new threads & couplings. Prompt shipment. J. F. Griffith, 416 Meyer St., Phila


SILO USER AGENTS WANTED
Men wanted in every locality to own, show and sell famous Cincinnati Silos. Liberal spare-time profits. Full details free with special introductory offer.
Hauser-Stander Tank Co. Dept. F Cincinnati, Ohio

PURE FARM SEEDS
That conform strictly to OHIO'S NEW PURE SEED LAW.
Clover, Alsike, Timothy, Alfalfa, Oats and all kinds of PURE FARM SEEDS. Direct from producer to consumer. Ask for free samples.
BE PROTECTED. BUY YOUR SEEDS IN OHIO
From
THE A. C. HOYT COMPANY
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$1500 Cash Secures
Big Equipped Farm
165 acres, 2 horses, 8 cows, bull, 10 sheep, poultry, valuable machinery; on good road [illegible] city; machine worked fields, brook and [illegible] watered pasture, large woodlot [illegible] fruit; 7 room house, running water, big basement barn, poultry house, other buildings; everything [illegible] only $[illegible] cash, balance easy terms. Details page 15 Strout's Spring Catalog Farm Bargains 33 States; copy free. STROUT FARM AGENCY, 1122 B E, Land Title Bldg., Philadelphia, Pa.

Pedigreed Yellow Dent Seed Corn
OUR yellow dent corn is pedigreed and the finished product of careful selection and continuous breeding and has yielded as high as 102 bu. dry shelled corn per acre. Write for prices and descriptive pamphlet. Early and late varieties. Germination guaranteed. Write for circular.
C. B. THOMAS, R. F. D., West Chester, Pa.

The Spray Pump That Cannot Stop-up With Lime
¼ in. inlet holes, ⅛ in. outlet, ¼ in. spray THROWS ¼ in. STREAM 40 ft. HIGH
Made of Brass, Candle-wick packing, gate valves. Just the PUMP for
SMALL ORCHARD WORK, TRUCK CROPS, SPRAYING CHICKEN-HOUSES, STABLES, AUTOS, WINDOWS, PORCHES
Write for Information and Price.
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Alabama Alfalfa Land
Demopolis Section
Embraces best portion 5 counties—the real "Argentine of America." For alfalfa, grain, grass and live stock unexcelled. New comers here from 21 states—[illegible] interested write C. C. CLAY ALFALFA LAND CO., DEMOPOLIS, ALABAMA.

Guard Your Garden
Prevention is better than cure. Keep away blight and mildew and destroy insect pests with a
Brown's Auto-Spray
One No. 1, shown here, operates by compressed air. Half a million have been in use from 1 to 13 years. *Write for free Spraying Calendar & 1919 Catalog.*
THE E.C. BROWN CO. 856 Maple St., Rochester, N.Y.

DE LAVAL
THE EVERLASTING CREAM SEPARATOR

There are thousands of voluntary letters in the De Laval Company's files, similar to this letter from Mr. Watkinson, of Iowa, bearing out the statements made in connection with the long service of De Laval Cream Separators.

In fact, by averaging up the years of use, it has been found that the average life of a De Laval is more than 15 years; and that during that time they have required little attention or repairs, and have produced the highest possible quantity and quality of cream with the least time and effort.

"My De Laval Separator has been in use about seventeen years and is doing just as good work today as when I bought it. I think it is good for ten years longer. With butter-fat at present prices no one can afford to use a cheap machine.

"When looking around to see what kind of a separator to buy I found that all the creameries in our vicinity were using the De Laval. The thought struck me, what is good enough for the creameryman is good enough for me, and my experience proves I made no mistake."
Ed. Watkinson

That is why there are more De Lavals in use than all other makes combined. Sooner or later you will buy a De Laval.

The nearest De Laval agent will be glad to demonstrate a De Laval. If you do not know his name, write to nearest De Laval office

The De Laval Separator Co.
165 Broadway, New York
29 E. Madison St. Chicago
61 Beale St. San Francisco

50,000 Branches and Local Agencies the World Over

Unadilla Silos Are Trustworthy

YOU can trust your good corn crop to a UNADILLA Silo. It will make perfect silage, keep it without waste and afford easy labor and silage or time saving conveniences that no other silo can offer.

You can trust your boy or girl up and down its safe, handy and ever-ready door-fastener ladder.

Choose the UNADILLA—it's worth trusting.

Prove our claims to your own satisfaction. Send for the handsome UNADILLA Catalog. Your own neighbors have or know the famous UNADILLA.

Unadilla Silo Co.
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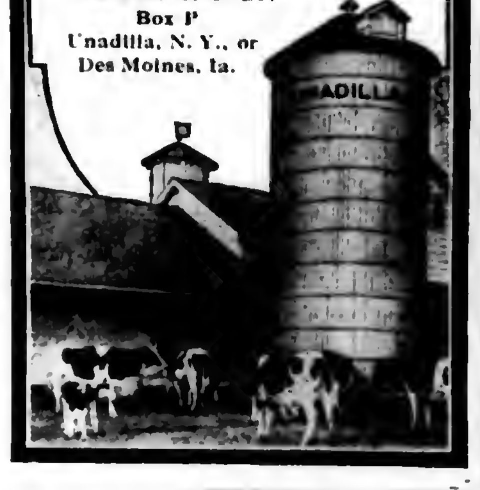
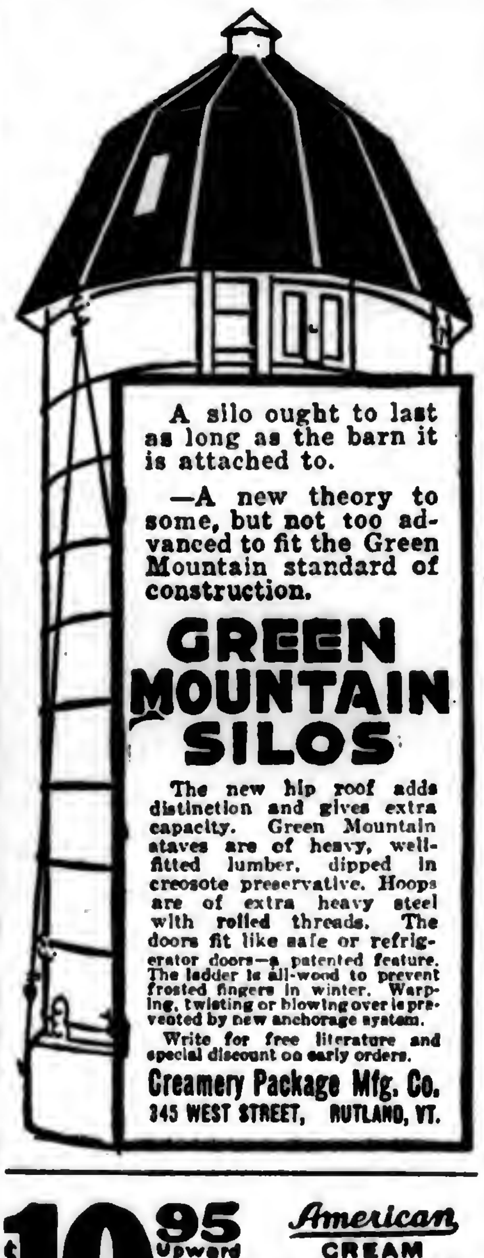




A silo ought to last as long as the barn it is attached to.

—A new theory to some, but not too advanced to fit the Green Mountain standard of construction.

GREEN MOUNTAIN SILOS

The new hip roof adds distinction and gives extra capacity. Green Mountain staves are of heavy, well-fitted lumber, dipped in creosote preservative. Hoops are of extra heavy steel with rolled threads. The doors fit like safe or refrigerator doors—a patented feature. The ladder is all-wood to prevent frosted fingers in winter. Warping, twisting or blowing over is prevented by new anchorage system.

Write for free literature and special discount on early orders.

Creamery Package Mfg. Co.
345 WEST STREET, RUTLAND, VT.

ECONOMY SILOS
A PERMANENT SILO
Every Economy Silo is equipped with the Storm Proof anchoring system that makes it absolutely permanent. Ensilage is always fresh and sweet—it can't spoil in an Economy Silo. Perfect fitting doors make the silo perfectly air-tight. Hoops form easy ladder. Built of long leaf Yellow Pine or Oregon Fir. Headquarters for all sizes of water tanks. Our motto is quality through and through. Factories at Frederick, Md., and Roanoke, Va. Write for catalog.
ECONOMY SILO & MFG. CO., Dept. R, Frederick, Md.
and WATER TANKS

$19.95 Upward American CREAM SEPARATOR
On Trial. Easy running, easily cleaned. Skims warm or cold milk. Whether dairy is large or small, get handsome catalogue and easy monthly payment offer. Address
AMERICAN SEPARATOR CO., Box 5062 Bainbridge, N.Y.

MAKING GOOD BUTTER AT HOME

Altho it seems rather absurb, it is a strange fact that it is more difficult to get good butter in the country than in the city. Perhaps the reason is that most farm women don't want to be bothered with the trouble and work of buttermaking, or that the milk is being sold as whole milk, which is believed to be more profitable than making butter or selling cream. It would, I am sure, be a revelation to many milk producers, if they would have their milk tested and sit down with a pencil and figure just what form of marketing would pay them best. Generally the high testing herds would be more profitable if the product is sold as cream or butter, and medium or low testing milk will pay best sold whole.

Let us assume that it has been found that it will pay best to make butter. The next point in good management is to make good butter, such that will bring the top figure of the market. It is just as easy and no more expensive to make such better than to make the sort that isn't fit to eat. Farmers often wonder why there is such a wide difference between the quotation on creamery butter and farm butter—sometimes as much as thirty cents. If you have ever traveled around much among farm homes you will not wonder about the reason for this difference. Most farm butter is of poor quality, and if it is good it varies greatly, so the purchaser has to get used to a new flavor every time he buys a pound or two of butter. The secret of high-priced creamery butter is first it should be of good quality, and secondly, it should always be uniform.

There is no reason why the farmer cannot duplicate these two essentials to good butter if he will use the proper methods and provide a little equipment. First of all, making good butter begins with producing clean milk. That does not merely mean straining out the dirt and hairs after the milk is brought to the house, for by that time the putrifactive bacteria have done irreparable damage and gained a foothold sufficient to give that bitter and nauseating taste that we call bad butter. Before the cow is milked she should be cleaned with a comb and brush, and the udder and hind quarter swiped with a damp cloth that has been dipped in some antiseptic solution. The bucket should be provided with a strainer cloth, preferably cotton, or flannel, and all utensils must be not only clean to the eye, but to the microscope, and such cleanliness can only be gotten with steam or boiling water, or an antiseptic.

If it is not convenient to separate while the milk is still warm, it should be cooled below 45 degrees, and then warmed up to 90 when it is to be separated. Until there is sufficient cream for churning, it should be held below 45 degrees, which does not permit the working of undesirable bacteria. When there is enough cream it should be raised to 70-75 degrees and a starter should be added, about one tenth of the volume of the cream. A commercial culture would be the best way to get a foundation stock, but good sour milk, with a smooth curd and free from bubbles which are caused by putrefactive bacteria, or good butter-milk may be used. By starting in this way and holding at the right temperature the cream should be ripe enough in ten or twelve hours, when it would be mildly sour, free from bubbles, and have no unpleasant taste or odor, and not be stringy, but should have a fine smooth curd, like real soft ice cream.

The churning temperature depends on the temperature of the room and not on the weather outside. If the room is warm the churning temperature should be 52-56, or if the room is cool 60-62 degrees is best. The cream should be held at churning temperature for two hours so as to solidify the fat. Many people say that temperatures are all foolishness and that they have used a thermometer without success. I'll wager that all they did was to start churning as soon as the correct temperature was gotten, without giving the fat a chance to become solid for even a short while. I have made large quantities of butter by the methods outlined and have never failed to get the best of results. Before the cream is put into the churn, the latter should be scalded with hot water and then rinsed with real cold water. Only sufficient cream should be used to half fill the churn, and enough coloring added, if necessary at all, to give a bright June color. The butter will come in twenty to thirty minutes unless the cream is too cold, or the churn too full, or the cream too thin. The most economical fat content is about thirty per cent, and this is obtained by separating so that you get one-eighth as much cream as milk, if the latter tests 4 per cent fat. Thirty per cent cream means that it is necessary to handle only 20 pounds to get as much butter as you would from 30 pounds of 20 percent cream, which is about the percentage of hand skimmed cream.

When the butter is a little larger than a wheat kernel, gather it just enough so that it won't be lost and then drain off the buttermilk thru a strainer to catch the butter particles, and put it in as much cold water as there is cream. The water should be about four degrees cooler. Turn the churn over four or five times, drain off the water and weigh the butter, which is spread out thin on the worker or bowl and salted at the rate of one ounce of salt to a pound of butter. If the butter has been properly made there should not be much buttermilk, and therefore much working should not be required. If the butter gets soft and greasy, stop working it, and put it away to cool. The test for good "body" is if the butter breaks off like cast iron, rough on the edge. Taste the butte to see if it is salted properly. If it is gritty it should be worked until it is perfectly smooth, work it no more than necessary. Prints are neater and more satisfactory than rolls or crocks, and if one is making large quantities of butter it will pay to get equipment for this purpose.

By these methods I was able to get top prices for creamery butter last year when whole milk was flush and a drag on the market.—Paul T. Menzel, Harford County, Md.

TWO-THIRDS THE MILK FROM ONE-HALF THE COWS

Labor costs are the biggest item in milk production these days. The farmer with a dozen or more cows had a chore every night and morning that means a good big hole out of the regular farm work. I feel from my observations while testing officially in this state that in a majority of cases a herd could be reduced 50 per cent and still the production would be at least two thirds as much as at first and in some of the cases it would be three-fourths as much.

The milk scales is one of the first things to adopt. "It takes too much time and the scales cost too much," are the objections that we hear. Suppose the scales will cost you $3.50, can you tell which cow is the loafer any other way?

"The weighing of the milk will take too much time," says some. Weighing the milk, setting it down on the milk sheet and traveling from the cow and back will not take over 30 seconds to a cow. Besides that you will have to travel from the cow to the milk can anyway. Now, with 20 cows the time it takes each day is 10 minutes. That is liberal. It will probably take less time because with practice, one can read a scale about as soon as the bucket is on it.

I am sure even many herds during advanced registry work can be weeded out some. A cow that just makes the necessary pounds of fat a year to get into the advanced registry class is not doing enough. She must make it with a good margin. Even tho a herd has been officially tested there may be cows in it that do not pay. However, this testing is a step and there will be fewer poor cows than without the test. I have seen many herds that have been admitted into the R. of M. class, or A. R. O. class and yet they were not paying.

Today, a cow can not just pay for her keep. She must also pay for the labor and the investment. When she does these things and then puts a little profit into her owner's pocket besides she is worth while cow. E. R.

Over One Million In Use

Increase Your Cream Profits

If you are not getting every trace of cream from your skimming you're losing good money and any inferior method of skimming at present values of butterfat means a big loss.

GET ALL THE CREAM
use a
VIKING CREAM SEPARATOR

You're dairying for profit—Make sure you get it.

The simplest separator made today. Whole bowl can be cleansed in three minutes.

Everywhere it proves a profit maker for the farmer.

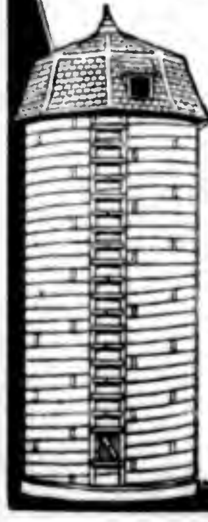
It will pay you to investigate. Go to your local dealer and see the Viking in operation, or write for illustrated catalog.

Dept. V
Swedish Separator Company
261 Broadway, N. Y.

CRAINE TRIPLE WALL SILOS

Strong and Handsome

"Crainelox" patent covering over a stave silo, with Silafelt between, produces a smooth 3-wall silo without bothersome iron hoops; a silo that makes and keeps good silage by keeping *warmth* in, and cold out.



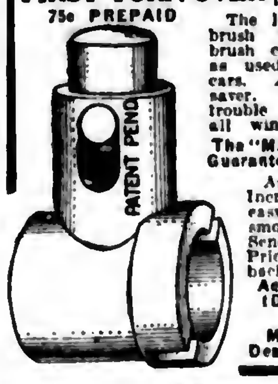
Any old stave silo, tipped, twisted or broken can be rebuilt into a beautiful, enduring Craine 3 wall silo at a fraction of the cost of a new silo.

Prices are certain to advance. Place your order now.

Send for literature and early-order discount offer.

Craine Silo Co.
Box 140, Norwich, N.Y.

FIRST TURN OVER STARTS YOUR FORD IN ZERO WEATHER
75c PREPAID



The latest improved timer brush for Fords. Sliding brush contact principle same as used on highest priced cars. A time and trouble saver. Avoids 50 per cent trouble in using your Ford all winter.

The "MASTER" Timer Brush Guaranteed for 5,000 miles

Assures long hot spark. Increased power. Affords easy starting and a smooth running motor. Send for one today. Price 75c—your money back if you want it. Agents, Dealers and Distributers wanted at once)

Master Products Co.
Dept. R Detroit, Mich.

SEED CORN TAKE NO CHANCE ON FROZEN CORN BUY NORTHERN GROWN SEED Four varieties 90 to 100 rowed Kauffman's Yellow Dent, Reid's Yellow Dent, White Cap Yellow Dent, Early Minnesota Ear tested, extra high germination. Shipped upon approval. Your money back if not satisfied. Circular and samples free. Send us postal today.
WOODFIELD'S FARM, Wycombe, Bucks Co., Pa

BARN PAINT $1.32 PER GALLON
Get factory prices on all paints. We guarantee quality. We pay the freight.
Franklin Color Works, Dept. 18 Franklin, Ind.

STYLEPLUS CLOTHES

The quality you should have at moderate price

For Styleplus you pay a moderate price, which is certainly desirable these days. You get a guaranteed all-wool quality that will stand up to the long wear that means economy on the time-cost basis. And, you get *Style*.

The protection in Styleplus is that pride and pocket are both satisfied and you get the quality a good suit must have. We further protect you by making the prices *known* (printed on the sleeve ticket).

Visit a Styleplus dealer in your locality. He will *show* you the clothes and you will *see the big values before you pay*.

Sold by one leading clothing-merchant in most cities and towns. Write us (Dept. A D) for name of local dealer.

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$45-$50-$55-$60
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The big name in clothes
Styleplus Clothes
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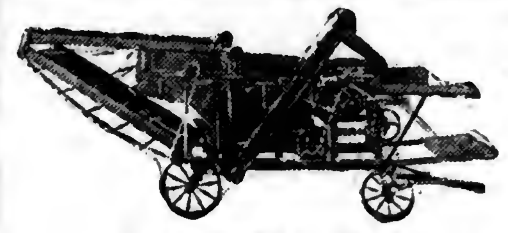
AMERICA'S KNOWN-PRICED CLOTHES

PAINT $1.35 PER Gallon
ORDER DIRECT FROM FACTORY
We will send you as many gallons as you want of good quality red or brown
BARN PAINT
upon receipt of remittance. We are paint specialists and can supply you with paint for any purpose. Tell us your wants and let us quote you low prices. We can save you money by shipping direct from our factory. Satisfaction Guaranteed. On orders for 30 gallons or over we will prepay the freight within a radius of three hundred miles.
AMALGAMATED PAINT CO.
Factory: 373 WAYNE ST., JERSEY CITY, N. J.



Junior America Grain Threshers For the Farmer
Pneumatic Straw Cutter Attachments
SPECIAL PRICES THIS MONTH
DOYLESTOWN AGRICULTURAL CO.
ESTABLISHED 1851 DOYLESTOWN, PA.

Before you buy a silo send for the Globe Catalog

GLOBE SILOS

The Globe Silo with its extension roof, insures a full silo. Five or six ft. more of silage means using the full capacity of the silo, using every foot of silo you pay for.

The Globe Silo Company was first to introduce the extension roof idea. Today it is the only silo extension roof with side walls so nearly straight that silage will settle level—no heaped up silage exposed to the air to spoil. *WRITE TODAY*

GLOBE SILO COMPANY
3-13 Willow Street, Sidney, N. Y.

Talk it over with an Empire user

MANY dairymen who have been using Empires now for over five years tell us that their machines are in just as good condition now as they were when installed. Pretty good evidence of Empire quality of material and construction this, but even more important they also report their cows in as good or better condition than before the machines were used.

There's probably an Empire user not far from you. If you'll write us we will tell you his address. Ask for catalog 25-M

"The Standard of the Better Dairies"

EMPIRE CREAM SEPARATOR CO., Bloomfield, N. J.
Also manufacturers of The Separator with The Million Dollar Bowl
Chicago, Denver, Atlanta, Toledo, Syracuse, Minneapolis, San Francisco, Montreal, Toronto

EMPIRE MILKING MACHINES

Bugs and worms haven't a chance with

DEVOE Guaranteed *Insecticides*

Paris Green—Bordeaux Mixture (Fungicide)
Calcium Arsenate—Arsenate of Lead

For spraying or dusting anything that grows, Devoe insecticides have for years given the best results.

Guaranteed strictly pure and full strength. Made to conform with U. S. Government standards. Deadly effective.

The Devoe Spray Calendar and the practical booklets covering the above insecticides are yours for the asking. If your dealer can't supply them, write to our New York Office, 101 Fulton St. They're free.

DEVOE & RAYNOLDS CO., INC.
New York Chicago
Houston New Orleans Boston Buffalo

STANDARD INSECTICIDES

Arsenite of Zinc
The Bordeaux Sprays

THE ORCHARD BRAND

Kill Bugs Quick

Orchard Brand Arsenite of Zinc kills potato bugs before they have time to injure the plants. It is adhesive and does not burn the plants.

Orchard Brand Bordeaux

Copper is the active ingredient in Bordeaux Mixture, and Orchard Brand Bordeaux preparations are made to meet the recommendations of the Federal Insecticide and Fungicide Board. They are dependable and economical. Orchard Brand Zinc-Bordeaux is the most satisfactory combined spray for potatoes and tomatoes. For spraying grapes, use Orchard Brand Bordeaux-Lead.

GENERAL CHEMICAL CO.,
Insecticide Dept., 25 Broad St., New York

OUR FREE SERVICE

We are cooperating with potato growers everywhere. You are invited to write us. Put your spraying problems up to us. Our advice and directions are given free. We answer spraying inquiries personally. Get your name on our mailing list to receive the spraying pointers and information we are mailing out.

CABBAGE PLANTS

Copenhagen Market, Wakefield, Ballhead, etc., 300 $1.25; 500 $2.00; 1,000 $3.00 postpaid. Express, $2.50 thousand; 10,000 $20.00 cash. Shipped safely anywhere, well packed.
TIDEWATER PLANT CO., Franklin, Va.

STRAWBERRY PLANTS

All leading varieties, including the best of Everbearing kinds. ASPARAGUS ROOTS and Tomato Seed. Quality best. Prices reasonable. Catalog free.
V. R. ALLEN, SEAFORD DEL. R. D. No. 1.

HORTICULTURE

STRAWBERRIES ON THE GENERAL FARM

Strawberries are generally considered "too much work" to be given a place on the general farm; but we grow them on a seventy acre general farm that is being changed over to orchard, and find them one of the easiest and most profitable crops we can devote our time to. Last year we had a small patch of a quarter acre which yielded twice as much net cash as did six acres of good wheat. We keep strict cost accounts with our crops, and after I have described our method of growing the berries, I shall give the actual figures for the patch in question.

We live in a general farming and dairy section where little fruit is grown. Roads and markets are good, and pickers easy to get. The soil is rather heavy and late, so we get into the market after the early fruit from other sections are gone, and accordingly secure good prices. We plant midseason or late varieties, and leave the mulch on as long as possible, which tends to make them even later. As a rule, the plants do not bloom until danger of frost is well past, so that the crop is pretty safe.

Preparation of Land

Strawberries do well on almost any fertile soil, but prefer a rich moist loam. We always try to precede the strawberries by a hoed crop or a one year clover soil. Strawberries should never be planted on any other kind of sod, because of weeds and the white grub. If possible, a cover crop should be plowed under, and plenty of manure should be supplied. We shall set an acre in the spring, on land that grew potatoes last year. After the potatoes were dug, we drilled in a mixture of oats, rye, and beans. The oats and beans made a rank growth before the cold killed them, and the rye of course, will grow all winter. This ground will get a heavy coat of manure and when this mass of vegetation is plowed under, it will fill the soil full of decaying matter for the strawberry roots to find.

Planting

After the ground has been very well fitted, we mark out rows four feet apart, and set the plants eighteen inches apart in the rows.

I like a small mason's trowel best for this purpose. Always be sure that the crown of the plant is just at the surface, and that the soil is well firmed about the roots.

Cultivation and Training

After the plants are set, we go thru with a cultivator, and loosen up the tramped soil. We try to get thru at least once a week until cold weather. Strawberries require very clean ground to do best. They must be hoed several times during the growing season to keep the weeds out and the soil loose. If the weeds once get a start, there will be a lot of work to get them out. If the ground is not kept loose, the runner plants will not set well. When once rooted, these should not be disturbed. The best system for general use is the modified matted row system. The runners from the parent plant are allowed to set in a row about two feet wide, and the space between is cultivated. The runner plants can be spaced evenly in the rows at the time of hoeing. If any blossoms appear the first season they should be clipped off, as a set of fruit will weaken the plant. Late in the fall, or very early in the spring, we find it a good plan to go over the rows and remove any dandelions, docks, wild carrot, clover, "cheese weeds" or similar hardy weeds that may have got in. This little point will improve the yield.

Mulching

We always mulch our berries. A mulch prevents winter injury from freezing and thawing, keeps the fruit clean, and holds weeds in check. We use straw, spread four inches deep over the whole bed as soon as the ground freezes in December. If spread before the ground is frozen, mice will get in and destroy the plants. When growth starts in the spring, we go over the rows with a fork and take off just enough (no more) straw to let the plants thru. The extra straw is put between the rows, or carried off if there is too much of it. If early berries are wanted, take the straw off early. We want late ones, so leave it on as long as we dare.

Picking.

It has been no trouble for us to secure enough children to do the picking, and with careful supervision they do good work. It is a good idea to assign each picker a row, and see that he picks it clean. An older person should keep account of the baskets picked, and insist that they be well filled, and that no crushed berries or unripe fruit is picked. We pay two cents a quart for picking.

Marketing

Under our conditions, we find it best to sell to the stores rather than attempt to sell direct, provided they will pay a satisfactory price. It is more profitable to unload several crates at a time, and get the money all at once, than to spend a half-day of valuable time peddling them about town. The stores usually return the empty crates.

Renewing Old Beds

After the first picking we plow out the middles and cultivate them, and then go over the rows with a sharp hoe to clean out the weeds and thin out the plants. With good care, the patch will yield another picking the following season. Sometimes a third can be secured, but it is generally advisable to set a new bed, as after the second picking weeds get pretty bad and the fruit is inferior. Immediately after the second crop is secured, the patch can be well plowed and worked up, and a crop of late sweet corn, late cabbage, late crop potatoes, or other truck taken off the same season.

Yields and Income

A quarter acre, upon which we kept figures, yielded about 650 quarts and $150 last season. It required about the same amount of hand labor, and far less horse labor as did six acres of wheat. The crop was not by any means exceptional but by charging all cash expenses, horse and man labor, interest, etc., we discovered that strawberries yielded an income of $250 above all costs to the acre, while wheat returned about $5 plus the straw.—R. L. Scharring-Hausen, Cumberland Co., N. J.

MAKE TOMATO PLANS ON AVERAGE YIELDS

Farmers who grow tomatoes commercially are warned in making their plans for 1920 not to base their planting on 1919, which was not a typical year.

During the season of 1919, specialists in vegetable gardening of the state college of agriculture conducted a survey of the tomato industry in Chautauqua and Erie counties to determine the cost of growing tomatoes, the best practices of tomato growers, and to find where improvements can be made at a minimum cost.

More than 500 farms were visited on which records of labor, yield and cultural methods were made. Of these records 326 are complete, representing more than 1300 acres of tomatoes.

The figures on cost of production have been tabulated to show: First, cost of man and horse labor and use of equipment in growing the crop up to harvest time; second, cost of harvesting and delivering the crop, and third, the general items of expense. All items under the first and third would be the same for a small yield as for a large yield, while items under the second would vary with the yield.

The average cost of growing an acre of tomatoes on 326 farms in 1919 was as follows:

1. Cost of man and horse labor and use of equipment up to harvesting:

89.62 man hrs. at 40c per hr.	$35.85
79.20 horse hrs. at 20 per hr.	15.84
.87 tractor or truck hrs. at $2 per hr.	1.74
79.20 equipment hrs. at 5c. per hr.	3.96
	$57.39

2. Cost of harvesting and delivering.

125.29 man hrs. at 40c pr. hr.	$50.12
36.86 horse hrs. at 20c per hr	7.37
2.14 truck hrs. at $2 per hr.	4.28
36.86 equipment hrs. at 5c. per hr.	1.84
	$63.61

3. General Expenses:

Items	Amounts	Totals
Plants	3243	$19.99
Fertilizer	634.50 lbs.	12.79
Spray material	.02 lbs	.01
Lime	4.67 lbs.	.11
Manure	5.32 tons	8.29
Carefare for pickers		.06
Interest		2.72
Use of land and taxes		17.82
		$61.79

Total cost of growing and delivering $182.79

Returns per Acre:

Returns per Acre:	
Tomatoes used at home—.08 tons at $21.46 per T	$1.72
Tomatoes sold to canners—8.89 tons at 20.04 per T.	178.16
Tomatoes marketed—.35 tons at 36.95 per T.	12.56
Total receipts per acre	$192.44
Total cost of growing	182.79
Net gain per acre	$ 9.65

Average yield per acre—9.3 tons.
Average cost per ton—$19.65.

The yield of tomatoes in New York in 1919 was considerably higher than the average. In 1918, the yield was 6.6 tons an acre and in 1917 it was 3 tons an acre, while the average for the past five years is about 6 tons. If the yield in 1919 had been 6 tons the growers would have grown the crop at a loss as shown by the following figures:

Cost of growing per acre	$57.39
Cost of harvesting a 6-ton crop per acre	40.92
General Expenses	61.79
Total	$160.10
Returns from 6 tons at $20.	120.00
Loss per acre	$ 40.10

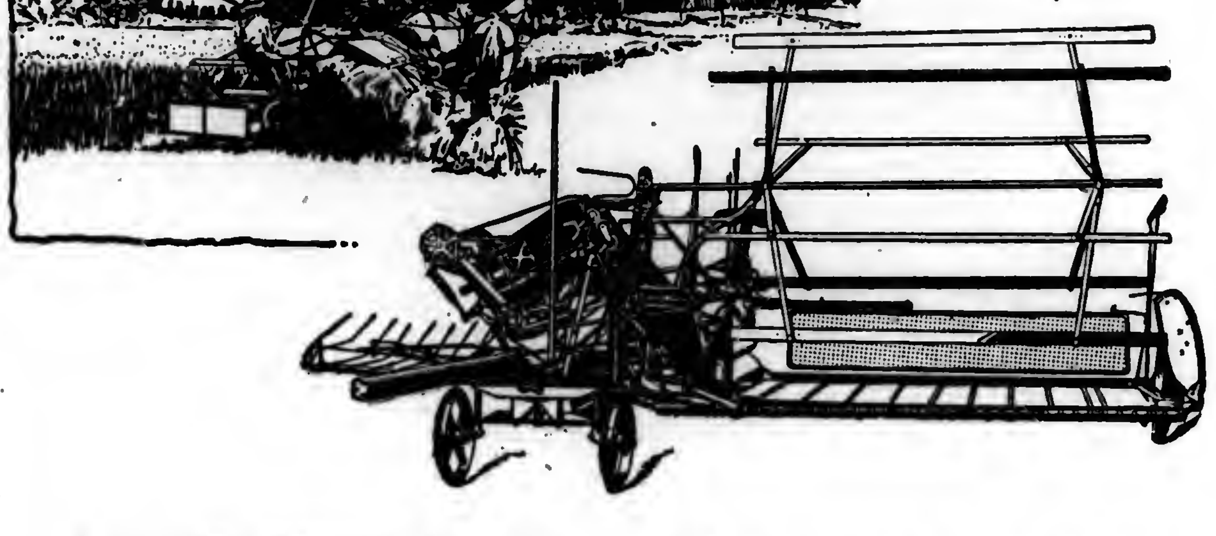
In the above figures, the cost of harvesting is arrived at by dividing the cost of harvesting, $63.61, by the yield, 9.3 tons, giving the per ton rate of $6.82, which is multiplied by 6. The cost of harvesting a ton of tomatoes is probably higher from a low yield than for a high yield, but the figures are near enough for practical purposes.

Tomato growers making plans for 1920 on the basis of 1919 yield are likely to be rudely awakened because a yield as high as the one of last year is not very common. Plans should be made on the basis of average yields.—Dept. of Vegetable Gardening, New York State College of Agriculture.

TO GRADE MELONS

The Cantaloupe and Sweet Potato Growers in Wicomico County, Md., in co-operation with Mr. Cobb, County Agent, have decided to grade their melons and potatoes. By-laws and grading rules are now being drawn up. Enough members were interested to ship over three carloads of graded cantaloupes a day during the season. The growers found by a personal visit to the markets of New York that their cantaloupes were discriminated against due to their bad packing methods and poor grading. They are taking steps to remedy this and hope to top the market this coming year

A Solid Cutting Foundation



AFTER all, the principal thing is to get the grain cut—all of it. And in order to do this successfully, a binder must have a smooth-working sickle that will not jam or bind, even when the binder is working on rough ground.

McCormick, Deering, and **Milwaukee Grain Binders** cut clean—and continue to do so during the entire life of the machine. There is no twisting, sagging or springing of the cutter bar, because the knife works forth and back on a solid foundation—a Z-shaped steel sill that effectually resists heavy strains imposed by operation in rough, uneven fields. There is no rubbing of sickle sections against guards nor binding due to springing or twisting of the sill, for it *does not twist or spring.*

This is only one of many features that make **McCormick, Deering,** and **Milwaukee Grain Binders** so efficient and dependable—that have won for these harvesting machines a world-wide reputation for economical, satisfactory service.

Your local International full-line dealer handles these standard-setting harvesting machines. See him, and place your dependence also in **McCormick, Deering,** or **International twine,** and your harvest will be well within your control. Place your order early—service will follow.

INTERNATIONAL HARVESTER COMPANY
OF AMERICA
(INCORPORATED)
CHICAGO USA

Reading Bone Fertilizer
Quality Service Satisfaction

Always look for our trade mark (as shown below) on the bag. It means protection to you. Hundreds of farmers in the East have come to recognize it as the mark of honest, square fertilizer goods and methods.

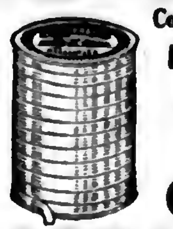
(This trade mark means quality)

Reading Bone Fertilizer Co., Reading, Pa.

Ask your dealer for Reading Bone Fertilizer.

Write for booklet and further information.

Contractors to the Government



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FOR TYING
CELERY
ASPARAGUS
IN FAST COLORS
Hoffman-Corr Tape Mfg. Co.
312 Market Street, Philadelphia.

Strawberry Plants. Klondike $3.00 per 1000. Gandy $1 per 1000. Cash with order. [illegible]
M. J. PARSONS. PARSONSBURG, MD.

Blight and Rot
Cause more Damage than Bugs

Potato blight is a fungous disease that attacks the vines and may kill them in a few hours. It causes rot, either in the ground or in the cellar. Blight is a more serious enemy than bugs. It shortens the growing season, cuts down the yield and causes heavy losses by rot. It is easy enough to kill bugs with a poison, but a fungicide is needed to prevent blight. You can do both by spraying with

Pyrox

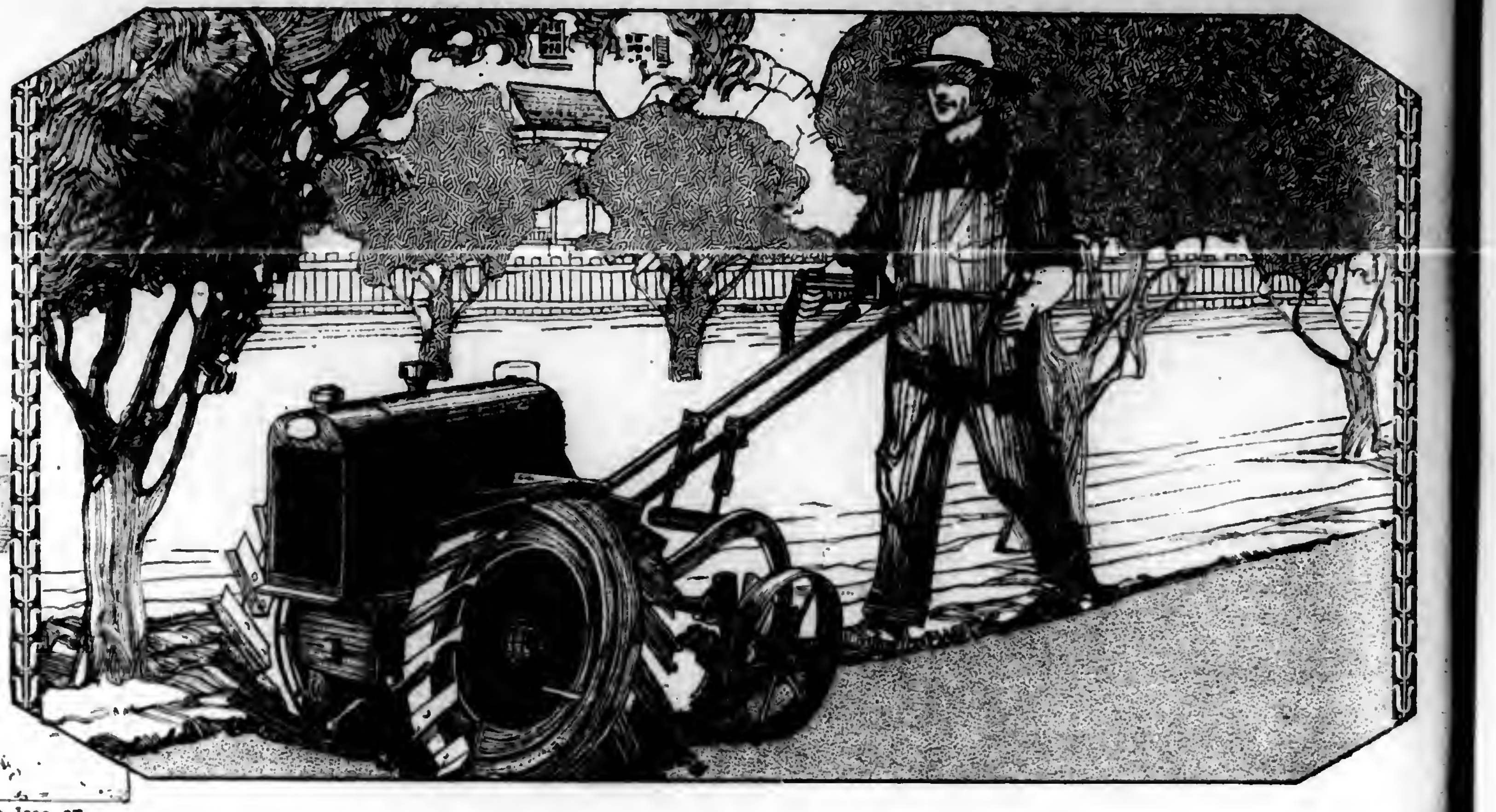
This combined poison and fungicide prevents blight and kills bugs with the same application. It keeps the vines green and healthy and prolongs the growing season right up to frost. Pyrox is a smooth, creamy paste, ready to use by mixing with cold water. It sticks like paint. Respraying is required only to cover new growth.

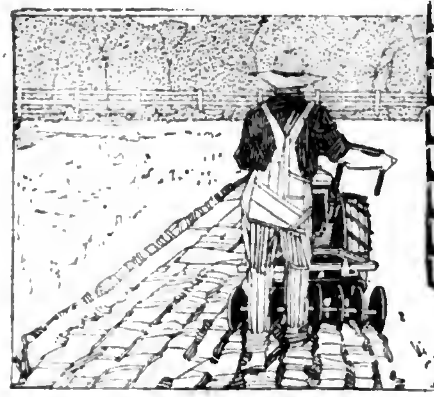
See your local dealer about Pyrox. Have him reserve enough for you. Write today for our **"Vegetable Growers' Spray Manual."**

BOWKER INSECTICIDE COMPANY
43-D Chatham St., Boston, Mass.
1005 Fidelity Bldg., Baltimore, Md.
715 Conway Bldg., Chicago, Ill.

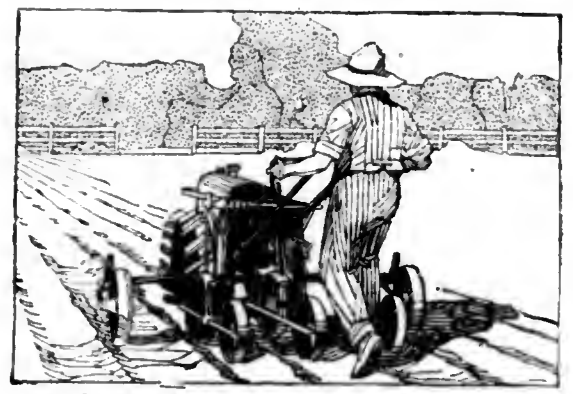
Beating the Game

"Beating the Game" is an interesting little booklets full of valuable information you will be very much interested in. We have a copy ready to mail to you if you just fill out the coupon and mail today.

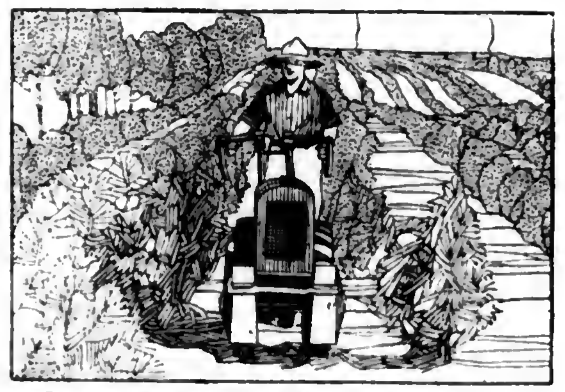




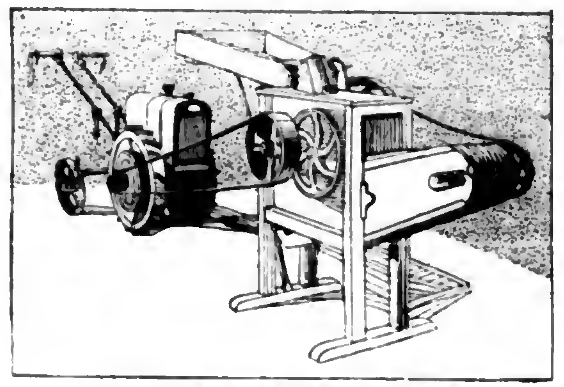
Discing can be done faster and at less expense with the Utilitor



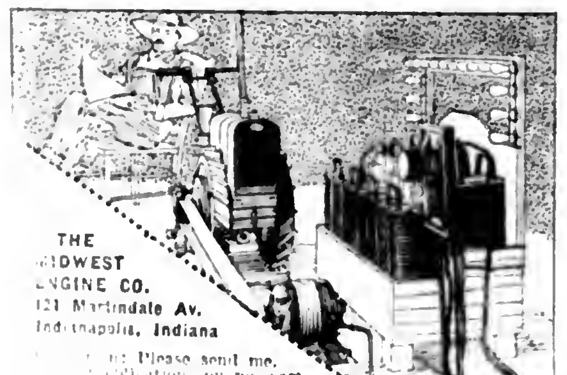
A Utilitor and three-row gang seeder will drill or hill 35 different kinds of seeds



The Utilitor has no equal for one-row nursery truck garden or berry cultivation



One of many belt uses Operating corn sheller



This farm lighting unite, Utilite, is made especially for the Utilitor

THE
MIDWEST
ENGINE CO.
121 Martindale Av.
Indianapolis, Indiana

Please send me, obligations on my part, information on the Utilitor as below:

Booklet ☐ Who is my
Beating the Game ☐ nearest dealer?

will give us the information requested we will be better able to show you how the Utilitor fits your particular problem.)

I own......acres. I have under cultivation......acres

I am raising .... Nature of soil ....

.... Rolling? .... Hills? ....

Name ....

City .... State..........................

You Simply Can't Farm Under Present Conditions to the Best Advantage Without a Utilitor

Farmers are making REAL MONEY by using their brains and letting the Utilitor do the work. This whole UTILITOR proposition is purely a matter of DOLLARS and SENSE. To show a profit on your farm you must make more money and SPEND LESS.

By working TWENTY-FOUR HOURS a day, if need be, at a cost to you of approximately FIVE CENTS AN HOUR for "gas" and oil, the Utilitor cuts farm wages in half, saves horse feed, and shaves your table expenses by ridding you of a lot of HUNGRY, "HANDS." It does all that one good strong horse can do, PLUS all that one good gasoline engine can do. It is made by the Midwest Engine Company—one of the strongest and fairest factories in America—a factory that absolutely guarantees the Utilitor to DO its work properly. This guarantee is IRON CLAD and means exactly what it says.

MIDWEST UTILITOR

DEPENDABLE POWER

TRADE MARK

The Safest and Most Practical Orchard and Fruit Worker Yet Devised

The Utilitor is especially well adapted for work in orchards. We offer a disc, spike tooth harrow, spring tooth harrow and a set of cultivating tools, any of which are suitable for orchard cultivation. With our hitches a wide range of adjustments for these various tools is possible. The Utilitor is only 36 inches high, permitting cultivation beneath low hanging branches much closer to trunks of trees than is possible when horses are used. There is no danger of the Utilitor nipping fruit and branches. It is so easily controlled that the operator need have no fear of injuring trunks of trees, surface roots or branches as is the case with horse cultivation.

Cuts Expenses to the Bone and Does Better Work for The Truck Gardener

A number of implements which we recommend for use with the Utilitor are especially adapted to the truck gardener's use. The three row gang seeder permits the drilling or hilling of 35 different kinds of seeds in rows varying in width from 9 to 36 inches. Our one row cultivator and disc are adapted for cultivation both astride and between rows, for the Utilitor has a vertical clearance of 8 inches and a horizontal clearance of 10 inches between the bull wheels. Equipped with cultivating rims the Utilitor is 18 inches wide, so it may easily pass between the rows of larger crops. Our three row cultivator is designed to cultivate the crops planted with the three row gang seeder. With our set of cultivating tools a number of combinations can be arranged for various kinds of cultivating, both deep, and shallow, astride or between rows of different widths.

The Utilitor Will Thoroughly Motorize Your Farm

The Utilitor is a portable gas engine for driving belt machinery requiring not over 3 horse power. Remember this machine will move from job to job under its own power. It is the untiring friend of man and woman. It gladly helps lift the burden of work around the house or barn yard. Some of the belt uses of the Utilitor are, operating corn sheller, cream separator, washing machine, churn, and charging batteries for an electric lighting set. It can also be used, in conjunction with a cart, to feed stock or haul one horse loads around the place.

No self-propelled farm equipment designed in recent years offers a wider range of usefulness in the field or on the belt than a Utilitor.

DEALERS

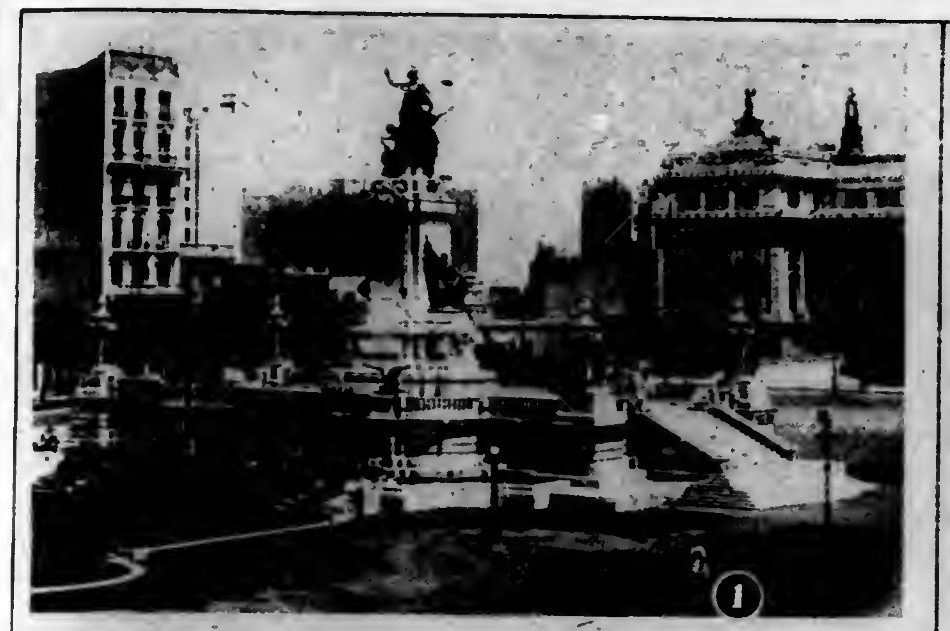
The Utilitor is the most active merchandise on the market today because farmers NEED it 365 days out of the year. Our selling plan is so complete and thoroughly financed that we are positive our plan will interest you. Territory is being rapidly allotted.

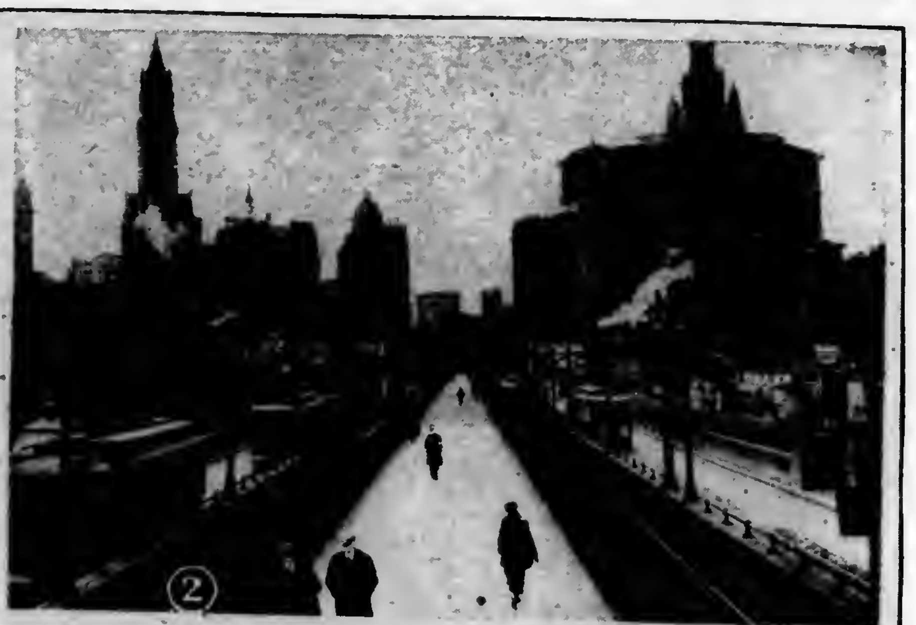
WRITE FOR OUR SELLING PLAN TODAY!

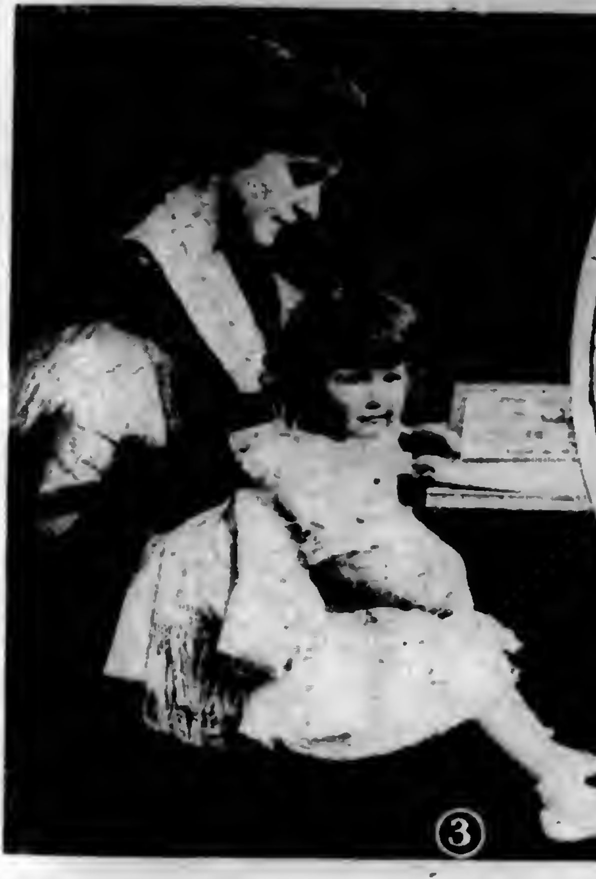
MIDWEST ENGINE COMPANY, Indianapolis, U. S. A.

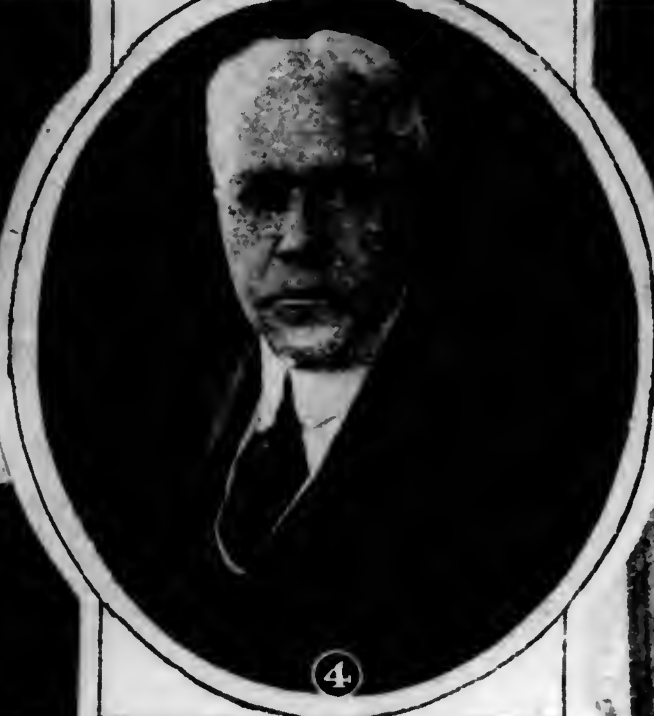
Dependable Power

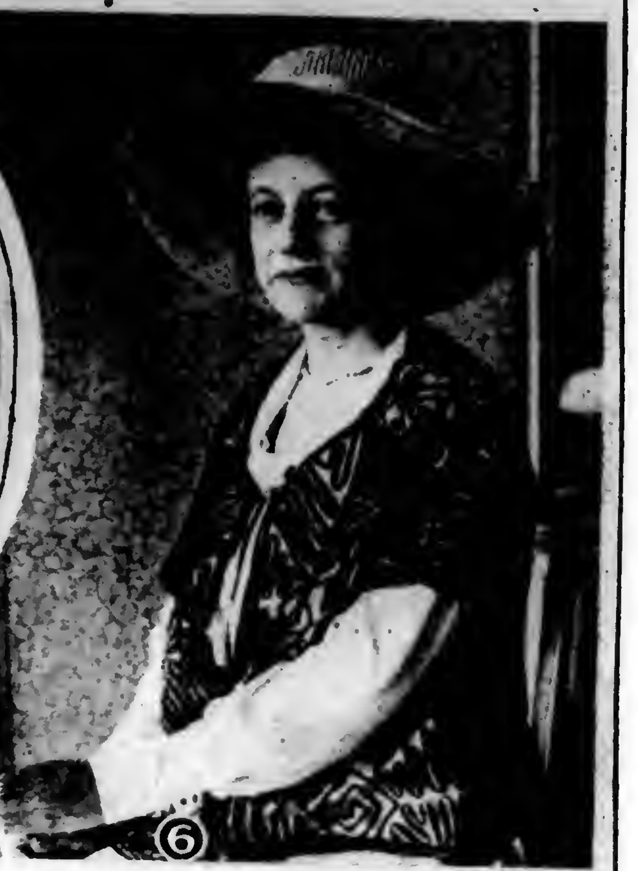
PASSING EVENTS IN PICTURES

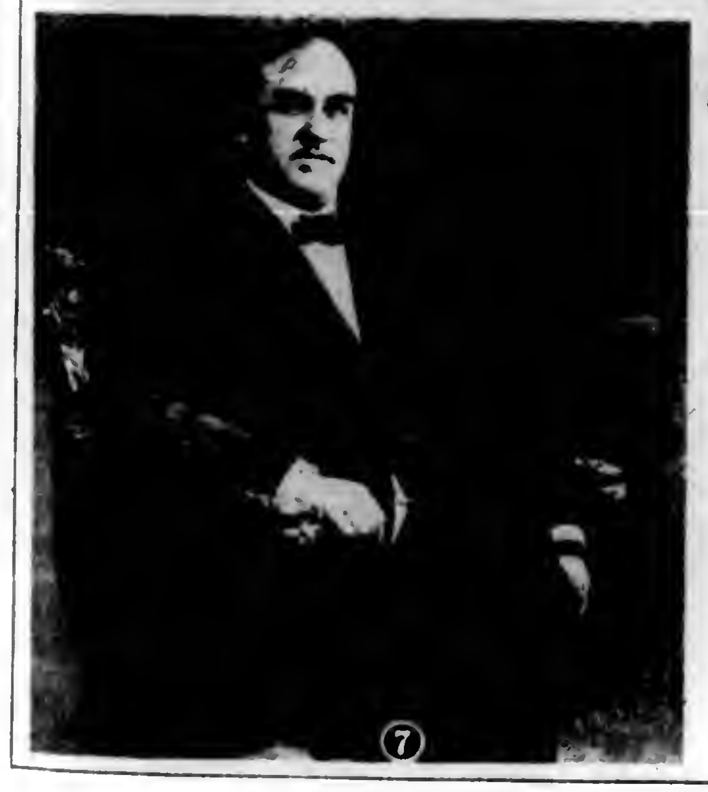


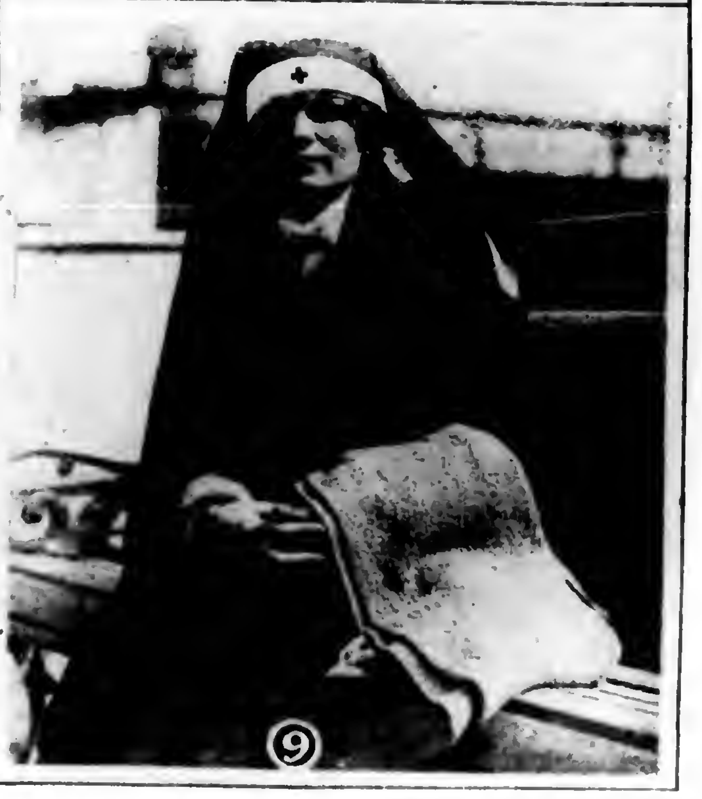












(Photo Copyright by Underwood & Underwood)

1.—Massive Monument fronting Capitol Buildings, Buenos Aires, Brazil.

2.—Left, Woolworth Building; right, Municipal Building, viewed from Brooklyn Bridge

3.—Mrs. Edward Bell, Counsellor to American Embassy at Tokio, and her daughter.

4.—Frank D. Vanderlip, formerly Pres. Nat'l City Bank, N. Y., mentioned for Presidency

5.—Titanic Electric Locomotive Conquers Largest of Steam Locomotives.

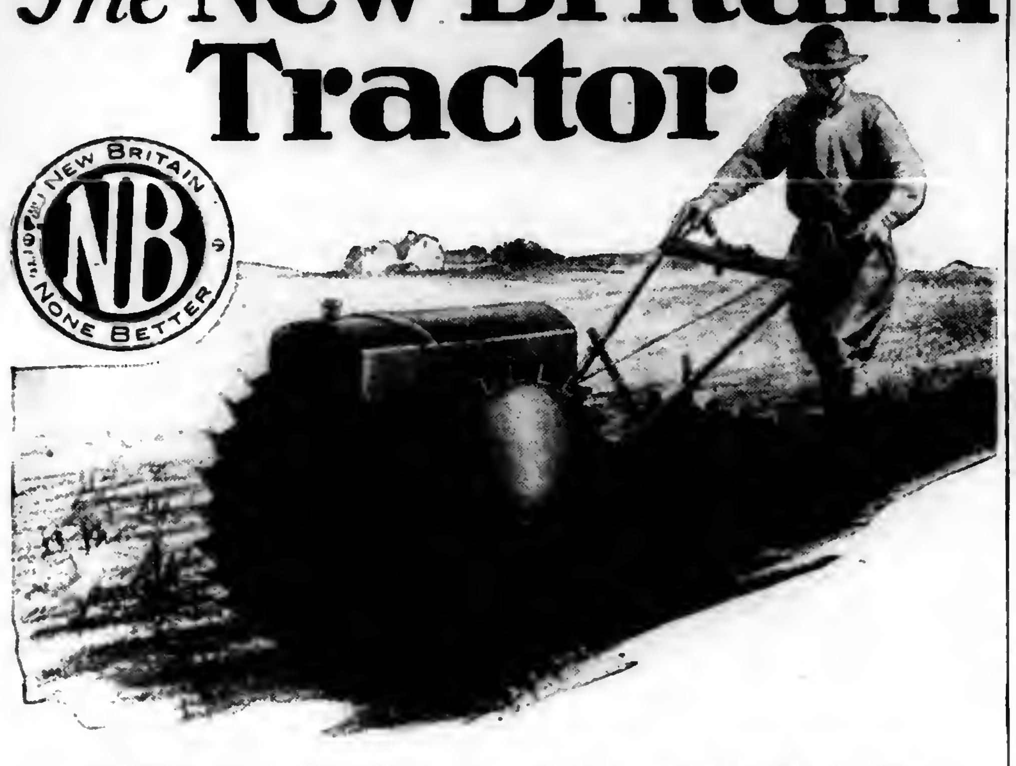
6.—Mrs. Elizabeth Murray Sheperd, who is interested in founding a writer's colony.

7.—Representative Humphreys of Miss. asked President Wilson to refuse a third term.

8.—Mrs. Meredith viewing the early Easter Flower Show of Bureau of Plant Industry

9.—Miss Van Til, a Dutch Nurse, who was arrested with Edith Cavell in Brussels.

The New Britain Tractor



JUST think of your real need of a high-grade, small-size tractor—compact, powerful, and with unusual stability,—that will out-work any horse at cultivation or soil preparation; out-distance, out-tire and out-last him; and then starve him to death in economy of maintenance!

Such a machine is the New Britain Tractor. Guided as easily as a wheelbarrow and occupying little more space. No complicated controls—no awkward cranking.

It will plow, harrow, disc, cultivate, drill, or haul any one-horse implement or load. It will dodge obstructions, work between narrow rows, straddle crops 8 to 13 inches high, creep under low branches, and work up as close as you want to fences, walls and bushes.

Still more! The New Britain Tractor delivers 6 h. p. on the belt and drives saws, grinders, silo fillers, pumps, dynamos, or other machines within the limit of its power.

In design, workmanship and material the New Britain Tractor has no superior in any tractor at any price. It is built by mechanics trained to precision work in fine materials, in a factory world-famous for thirty-two years for the excellence of its products.

THE NEW BRITAIN MACHINE CO., New Britain, Conn.

Branch Offices:
New York Philadelphia San Francisco Detroit Cleveland Chicago

Kendel's Superior Strains
Famous for Standard Bred, Utility Qualities
All leading breeds including Leghorns, Plymouth Rocks, Reds, Wyandottes, Minorcas, Anconas, Brahmas, Langshans, Orpingtons, Ducks, and etc. Prices reasonable. Circular free.
Baby CHIX
Hatching EGGS
A. C. Kendel, 224 Prospect, Cleveland, O.

BABY CHICKS
Three millions for 1920, delivered anywhere by Parcel Post. Catalog free.
Barred Rocks White Wyandottes
White Rocks Rhode Island Reds
Buff Rocks Black Minorcas
Brown Leghorns Anconas
White Leghorns Buff Orpingtons
Buff Leghorns Assorted
SMITH HATCHERIES, Dept B, 1629 Chestnut St., Phila., Pa.

CHICKS
WHITE LEGHORN RHODE ISLAND RED
BLACK MINORCA
Increased incubator capacity enables us to fill your order for Pratt's "Superior" chicks. Three varieties bred for highest combination of practical qualities and standard requirements. A farm—not a hatchery. Booklet.
PRATT'S POULTRY EXPERIMENT FARM
Morton, Delaware County, Pa.

10,000 Baby Chix AND EGGS
for May, June, July and August delivery by prepaid parcels post. Safe delivery guaranteed on greatly reduced prices. Only Bred-to-Lay S. C. White Leghorns. Catalog free.
SLATY RIDGE FARM
Box 5, Palmyra, Pa.

Chicks
Better Produced Day-Old Chicks are the kind you want—17 leading breeds at reas. prices. Send for free catalog today. Springfield Hatcheries & Poultry Farm, Box H. Springfield, Ohio.

AMERICAN POULTRY ALMANAC
Our 1920 catalog FREE. How we breed the 300-egg hen. Scientific facts plainly told. Each month's routine. Feeding for winter eggs. *How We Win Medals at the Egg Laying Contests.*
HOPEWELL FARMS, Box 65, Hopewell, N. J.

Chicks
White Leghorns $20—100
Barred Rocks 25—100
R. I. Reds 25—100
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Tappan Poultry Farm, Tappan, N. Y.

BABY CHICKS White and Barred Rocks, White Wyandottes, Reds, Anconas, White and Brown Leghorns and Broiler Chicks. Send for Free Catalog and prices before ordering elsewhere. Trial convinces.
NEW WASHINGTON HATCHERY,
NEW WASHINGTON, OHIO. DEPT. N.

HILLPOT CHICKS THAT PAY
HILLPOT QUALITY CHICKS
Strong, healthy chicks from heavy layers. Well bred, well hatched—the sort that start you right in profitable poultry raising. Four big hatches weekly. Safe delivery guaranteed anywhere in U. S. A. Post prepaid.

	100	50	25		100	50	25
White Leghorns	$20.00	$10.00	$6.00	Black Leghorns	$22.00	$11.00	$6.00
Barred Rocks	25.00	12.50	7.00	R. I. Reds	26.00	13.00	7.00
Wh. Wyandottes	30.00	15.00	8.00				

W. F. HILLPOT Box 28 FRENCHTOWN, N. J.

POULTRY

APRIL POULTRY REMINDERS

Place the brood coops on well drained sites with as much protection as possible from the wind. Many chicks are lost when coops are blown over in strong winds or the ground is temporarily flooded during a severe rain storm. A strong wooden floor in each coop helps to keep the chicks dry and a large stone may be needed to weight down the coop when strong winds are blowing.

* * *

Watch for head lice on the little chicks. Rub a bit of lard on the head and the lice will be killed. A bit of blue ointment on the mother hen will keep her free from lice and this in turn is a protection for the chicks.

* * *

Good poultry equipment is expensive and this means that the incubators and brooders bought at pre-war prices are much more valuable now. I do not advocate production of poultry at any cost but under farm conditions with plenty of range and sour milk, poultry can be made to pay. Why not get down that old incubator in the attic and hatch at least 100 chicks. If you ahve no artificial brooding equipment the chicks can be divided up among old hens.

* * *

We have had good success in brooding incubator chicks with old hens. We have the hens setting on china eggs for about a week before the incubator hatches. They are placed in fairly deep boxes so that the chicks cannot crawl out. About fifteen chicks are placed under each hen at night. The next morning at break of day we examine the hens and see if they have adopted the chicks. If they are talking to the chicks and do not pick at them, it usually means that they will mother the brood. Once in a while an old hen will be vicious and refuse to accept the chicks. Of course, an old hen spends valuable time in brooding chicks but she understands the work and sometimes it enables a farmer to raise more poultry than with a brooder if there is little time to give it the right attention. And each hen receives her full quota of chicks and does not have to spend much time on the nest when the work of incubation is done by the machine.

* * *

Frequently second-hand poultry equipment can be purchased for moderate prices. If it has been given good care it may be fully as satisfactory as new equipment. But test the water system in hot water incubators to locate leaks if there are any. Compare the thermometer with an instrument of known accuracy. Second-hand stove brooders are nearly indestructible if they have been cleaned every year and properly stored and they are usually a safe investment when such equipment is needed.

* * *

If possible answer all correspondence regarding hatching eggs on the day received. Notify buyers when the eggs can be shipped and drop them a line when the eggs are shipped. Postal cards are sufficient for this work as they save postage, correspondence paper, and envelopes. If information concernin stock or eggs is requested it pays to write a letter containing full information. A well written letter on the typewriter is often an order clincher. Buyers are suspicious of letters written in pencil on plain paper and do not highly regard the business ability of such a poultryman.

* * *

Why not try a few geese if you have pasture land. A few birds in a large pasture will not seriously injure the land for stock. And fat geese will bring a good price next fall. I do not believe that there will be too much poultry produced this year at the present price of feed. It surely means that the producer of geese, on grass and a very small amount of corn, will be able to make a profit. Satisfaction in a poultry business is based more on the amount of profit than the amount of sales. Geese are the prize winners when it comes to meat produced at a small cost. Start with pure-bred geese and be in position to sell the surplus eggs next spring to other breeders as well as some of the young stock as foundation breeders for the neighbor's flocks.

* * *

I believe that farmers are going to appreciate geese more and more every year especially if grain prices remain high. Food that can be raised on waste grass is worth considering. A flock of geese looks fine on the farm and the poultryman who likes birds of all kinds will find much pleasure in a small flock of Toulouse, Embden, African or White China geese. Some breeders are finding the White China geese to be of fine flavor as they lack the greasy flavor which some find objectionable in the heavier breeds. The White China is a moderate sized goose just about right for the average family for dinner with a little left over.

* * *

When shipping eggs by parcel post for table use or hatching we believe it pays to have the containers promptly returned. Most buyers are willing to return the package if they are asked to do so. The expense for postage is small and the packages can be used for several trips. The corrugated cardboard boxes are a little more expensive this year and it pays to get as much service as possible from them. However do not use boxes until they are ready to break down as the loss of one order in transit will pay for a dozen or more boxes.

* * *

Examine the roofing paper on the poultry houses. If the spring winds have started slight tears they must be repaired at once or a large strip may be ripped from the building.

* * *

Set the hens in boxes that are large enough so the hens can step down upon the eggs and not jump down on them. Study the nest that a hen builds in the hay mow when she steals her nest. It is just a little hollow in the hay. But the eggs do not roll on top of each other and the hen covers them all with ease. Try and imitate the nest that the hen builds for herself and there will be fewer eggs broken during incubation. We have constructed nest boxes about six inches high and large enough so the nest can be built in the center the same as the stolen nest in the hay. The hen steps on such a nest and does not clumsily drop stiff-legged upon the cluster of eggs.

* * *

Try and visit a culling demonstration if one takes place in your neighborhood. A poultry business simply cannot endure the expense of carrying slacker hens with feed at present prices. Experiments and trapnest records have definitely proven that certain types of hens are producers while others are not. The farmer with only fifty or a hundred fowls can earn very good wages by studying laying types and spending a little time at a culling demonstration followed by immediate practice on the home flock.

* * *

Only hatch the chicks that can be given proper care and then feed to keep them growing rapidly. A poor stunted chick will never bring as much profit as the egg from which it was hatched. Therefore it pays best to sell the eggs, unless the chicks are to be carefully brooded and fed to maturity. Large flocks which receive little attention do not pay. Overcrowding increases the mortality rate. And fifty good pullets will aways pay better and be worth more than a hundred which are half fed and weakened from overcrowding and reduced rations.

CHICK LOSSES EASILY PREVENTED

Aside from the losses of chicks due to poor feeding methods there are thousands lost because certain precautions are neglected. The best eggs for hatching come from year-old and two-year old hens. After experimenting with both kinds we believe that the chicks from pullet eggs have a handicap from the start and the chicks from mature breeders have a spark of vitality which helps them to survive many troubles.

Rats and weasels take many chicks. They breed and hide under buildings and in scrap lumber piles. When the scrap heaps are removed and the colony houses are raised from the ground the losses from such pests are nearly eliminated. Small brood coops need wooden floors and they should be closed at night to keep rats from stealing chicks from under hens.

Our first year with colony houses we left one of them on the ground and the floor had been built of scrap lumber. We placed 250 fine barred ock chicks in that house one afternoon. The next morning there was a small bloody hole through the floor and 117 of those chicks were stacked in little heaps under the opening. We killed a weasel shortly after on a scrap pile near the house. The scraps were removed and the houses placed at least one foot from the ground and there has never been any losses of that kind since.

We have eliminated losses from hawks by providing plenty of shade for the chicks. Cuthbert red raspberries form a thick growth of canes where the young birds can hide if a hawk approaches. The chicks scratch and dust in the protection of the long rows of berries. The prey that a hawk cannot easily see it is not apt to attack. A dog that will run and bark at hawks is a great asset on the poultry farm. But if the range is protected with plenty of shade like raspberries, sunflowers or corn we believe that the losses will not be large. The berries are the best, as they are ready to furnish their proteceion early in the spring as soon as the leaves come out. This helps to prevent the hawks from learning the flavor of chicken in the early spring. When they once form the habit of catching chicks they are more difficult to control.

Weight down small brood coops if they are exposed to the wind. It may save many casualties during a severe storm. It is desirable to locate them in the protection of a windbreak. Do not place brood coops in a low spot that may be flooded during a heavy rain. Many chicks are drowned each spring for that reason. Large water pails should not be placed where chicks can fall into them and drown. They are apt to try to drink from the rim of a deep dish and then lose their balance and fall into the water. And many chicks are lost because heavy objects blow over upon them. This can be avoided by keeping boards, rolls of roofing paper and long handled tools where they will not be tipped over and strike the chicks.

The habit of walking carefully around the brood coops and in the colony houses saves the life of many chicks. Never let dogs romp or run rapidly across the range where the chicks are feeding. Chicks that die from disease must be buried deeply. It is better to burn them especially if there is a dog in the neighborhood that is a persistant digger. Chick mortality is also reduced by killing off the weaklings which may contract disease easily and infect the strong chicks in the flock.—R. G. Kirby, Michigan.

A gentleman from New York went out into the Jersey farm districts to hunt up a farmer by the name of Smith, whom he had some business with, but had never met. After driving some miles into the country he located the house as directed. The only person in sight, however, was a small boy very busy whittling.

"Young man, is your father in?"

"Yep," replied the boy.

"Well, I would like to see him; can you tell me where I will find him?"

"Sure," came the answer, "he's out back in the pigpen; you'll know him—he's got a hat on."

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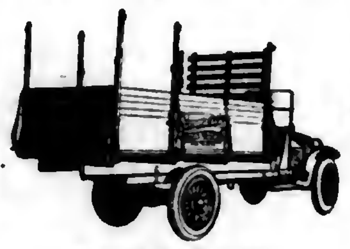

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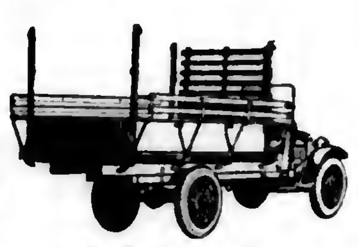

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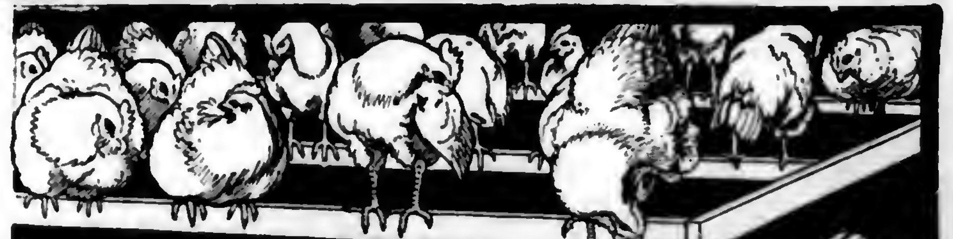

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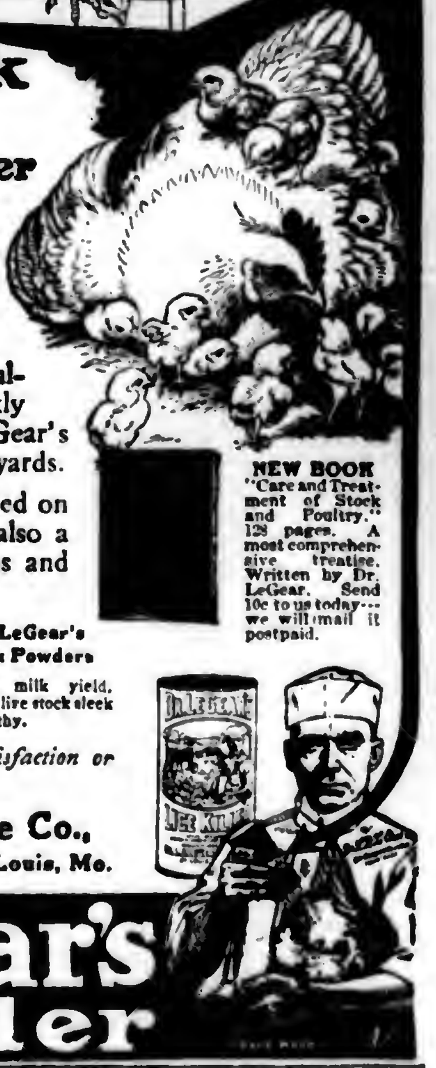

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SOME SUGGESTIONS FOR HANDLING WOOL

I. Equipment

1. Machinery: Clipping machines are a success. Late close clipping results in the sheep's back sunburning sometimes.

2. Twine: Sisal and binder twine should not be used for tying fleeces. Wool twine and paper twine prepared for that purpose are best. One pound of twine will tie 20 fleeces. Paper glazed twine is preferred—1 pound for 30 fleeces.

3. Sacks: 7 to 7½ foot sacks are the regulation size. They will hold 250 to 300 pounds of wool. Wool buyers usually deduct 3 or 4 pounds tare per sack and allow ½ to ¾ its original cost.

4. Platform: A clean board floor out of the wind is satisfactory.

II. Preparation Before Shearing

1. Washing sheep before shearing is not profitable.

2. Hay, chaff, dirt and burrs lower the value of the fleece.

3. Sheep will struggle less if their paunch is not full at time of shearing.

Members of a Pig Club

4. March 15th to May 1 is a good time to shear. All shearing should be done by June 1. Sheep do better after being sheared. Late shearing results in too much grease in the wool. Buyers pay less for very greasy wool.

5. Have clippers, oil, twine and sacks on hand and in good order.

Set sheep on rump with the back against the shearer's knees so that the hind feet will be off the ground to avoid struggling. Shear down the belly, up the neck, around the sides and back, and up the outside of the hind quarters.

III. Shearing

1. The fleece should be dry. Wool will heat when tied and sacked damp.

2. Have platform clean.

3. Follow instructions which come with machine.

4. Make one cut. Second cuts lower the value of the fleece. Do not pull fleece apart.

5. Long full width sweeps are best.

IV. Tying and Sacking

1. Sort out all dirty tag lots and coarse leg trimmings. Put these on the market in a separate lot.

2. Tie once around the fleece "east and west" cross the strings and tie "north and south." Tie around the corners if necessary. Tie moderately tight, the flesh side of fleece on outside or inside out.

3. Sack the wool at once. It loses weight and collects dirt when stored unsacked.

4. Hang the sack from a whoop so that bottom swings free from ground. Climb in and tramp fleeces down.

5. Dirty and black fleeces should be marketed separately if possible.

6. Store wool in a comparatively dry place. Excess moitsure is bad.

V. Marketing.

1. It pays to market wool in good shape.

2. Buyers bid more on large lots, especially if in carload lots.

3. 20,000 to 26,000 pounds make a carload, depending on how tightly the wool is packed.

VI. Market Classes and Grades

1. The grade and value of a fleece is determined by its condition, quality and staple.

2. Condition refers to the manner in which the wool has been handled, broken fibre, twisted, etc., and the amount of yolk, dirt, burrs, chaff, etc., which it contains. The condition depends upon the care of the sheep and wool before shearing.

(a) Unwashed or "in the grease" wool is in its natural unwashed form—the best way to market it.

(b) Washed—wool washed with soap and water on sheep's back—it does not pay to do this.

(c) Scoured—wool cleaned in the mills by chemical heat, machinery, etc.

(d) Burry—wool matted with burrs, seed, straw, chaff, etc.

(e) Black—wool containing many black or grey fibres.

(f) Tags and dunglocks—locks of wool matted with manure—These should be sold separately.

(g) Pulled—wool from the pelts of dead sheep.

3. Quality refers to the coarseness and crimp of the fibre. It depends upon breed and individuality. The breeds are divided into three classes: fine wools, medium woods and long wools. The merino breed is the finest and the coarser grades are classified as though they carried 1-2, 3-8 or 1-4 merino or fine wool blood. Shropshires, Hampshires, Oxford, etc., run 3-8 to low quarter. Lincoln, Leicesters, Cotswolds run low quarter and braid.

4. Staple—is the length of the wool fibres. Long fibred fleeces are said to have a "good staple." staple is influenced by the breed, individuality and thriftness of the sheep.

(a) Combing—long staple. The long fibres (2½ inches or longer) are combed out and made into the finer qualities of thread.

(b) Clothing. Short staple. These fibres are short (less than 2½ inches)

Summary of Market Classes.

Fine Combing or Clothing.
½ Blood: Combing or clothing.
⅜ Blood: Combing or clothing.
¼ Blood: Combing or clothing.
Low ¼ Blood Combing or clothing.
Braid or Carpet Combing or clothing.

These may be further classified as bright, semi-bright, etc.

VII. Shrinkage is the difference in weight between grease wool and scoured wool. This varies from 47 per cent in the coarser wools to as high as 75 per cent in fine wools.

VIII. Crimp is the waviness in the fibre. Fine wools carry 20 to 30 crimps or waves to the running inch, medium wool (¼ to ½ blood) 10 to 18 and coarse wool (braid) three to five.—C. G. Elling, Kansas State Agricultural College Extension Service.

FITTING COLLARS AND HAMES AND HITCHING THE HORSE

Sore shoulders are very likely to follow the recurrence of spring work after the horses have been idle thru the winter months, the care of the collars has been neglected, the leather has become more or less dry, hard and irritating to the skin, tendered with disuse.

Collar and harness sores always reflect on the care and attention given the team by the attendant or driver. If collars are properly fitted and the collar and shoulder are kept clean there should never be any chafing, galls or bruises. If a new collar is purchased it should be very carefully fitted to the horse that is to wear it. It should be only wide enough to clear comfortably the heavy muscles on the side of the neck, and about one inch larger than the neat measurement of the neck, or sufficient to allow the hand to pass between the inside of collar and the bottom of the neck or breast. A collar properly fitted should never be worn by any other horse, should never be changed from one horse to another any more than you would change shoes with another man.

The iron bound hames in general use are the cause of much trouble, they are generally too short and too covered, which has the tendency to press the collar up at the bottom and down at the top forcing the collar into too much of a circle permitting the pressure or draft to come too far out on the shoulder from the neck, and causing a sidewise rub on top of neck. This is the cause of many sore necks. The hames should fit well into the groves in the collar intended for that purpose. They should hold the collar that has been fitted to the shoulder, to its original shape, so that the pressure or draft will fall on the part of the shoulder close to the neck that is protected by heavy muscles and not on the bony edge where we so often find the proverbial gall, bruise and open sore.

The old style split wooden hame known as the "Conestoga" or "Lancaster" hame is the best pattern for the work horse. They are not so curved, and fit well into the collar and are generally a good length. The adjustment at top and bottom can easily be fitted to any collar so as to keep it in shape, if the collar is properly fitted and the hame properly adjusted to keep it to its place. Then it is only a matter of keeping the collar and the shoulder clean to prevent chafes and galls. When the collar is removed the face should be cleaned by rubbing with the hand or if it is badly sweated it should be washed with cold water. An occasional light pounding with a smooth stick, like a wood tool handle, along the edge will keep the face from becoming flat, and will keep the collar fresh and elastic. Occasionally during the day the collar should be lifted from the shoulder for a few minutes and loose hairs, sweat, etc., rubbed off with the hand.

We often find a team working unevenly, one horse a foot ahead of the other, so that the singletree of the slow horse does not swing free and clear of the doubletree, but the inside end of the singletree rests against the doubletree causing the greatest draft to fall on the slow horse's outside shoulder, then the collar is pulled to one side, placing the draft too far out on the edge of the shoulder blade. Then we find a large hard hot swelling which is very sore and in a few hours it fills with liquid. It is not puss, but it is a light colored bloodly fluid that must either be removed or absorbed and will disqualify the horse for work for several weeks.

It is likely to be followed by a sweeney, (a blemish), and is likely never to fill up entirely.

These and many other conditions are always the result of either imperfect fitting collars, or lack of care of collar and shoulder or improper hitching of team so they can work comfortably, or they might be said to be due to the lack of judgment or carelessness of the care taker and driver, and they should be prevented.—Dr. M. E. Conard, Chester Co.,

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Most people 'ose half of every hatch, and seem to expect it. Chick cholera or white diarrhoea is the trouble. The U. S. Government states that over half the chicks hatched die from this cause.

An Avicol tablet in the drinking water, will positively save your little chicks from all such diseases. Inside of 48 hours the sick ones will be as lively as crickets. Avicol keeps them healthy and makes them grow and develop.

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It costs nothing to try Avicol. If you don't find that it prevents and promptly cures white diarrhoea and all other bowel diseases of poultry, tell us and your money will be refunded by return mail. Avicol is sold by most druggists and poultry remedy dealers, or you can send 25c or 50c today for a package by mail postpaid. Burrell-Dugger Co., 497 Columbia Bldg., Indianapolis, Ind.

AVICOL
stops chicks dying

HOUSEHOLD

ABOUT COSMETICS

Girls, your skin has uses. One of the important uses is to sweat. If the weather is cool, the sweat does not show because it evaporates fast, but it comes out just the same. All face powders have starch of some sort in them, and these all swell in moisture. They are introduced into the tiny pores of the skin when you apply them, and there they swell and distend the pores.

Look at the face of the average healthy young man. His skin is coarser than a girl's but pink and soft. The girl beside him wears a mask of colors not found on a normal human being. Forty years from now that man's skin will still be healthy skin. The woman's will be a parchment that will cry aloud for the treatment it is getting now or it will "look a fright." Its texture has been ruined, deprived of its chance to breathe and keep healthy with a bounding blood supply; what should be a soft pink skin is a covering that has forgotten its function and pliability. Then the trips to the beauty doctor begin, and more damage is done by a class of people who know little of physiology but much of human vanity, and have a talent for extracting money.

When a man washes, he scrubs the dirt off and then scrubs the color on, by brisk friction which sets all the tiny blood vessels in the skin to doing their best. Blood supply means health every time, and a skin that is scrubbed into a lively flow of blood at least frequently is a skin that will not wrinkle in its normal time, that will stay white.

Let me tell you a secret. A yellow skin is a bloodless skin. Our skins all have a certain amount of yellow. In the sun this increases, and we tan or freckle. Now the yellow, if mixed with the bright red of the tiny blood vessels underneath, makes that clear transparent color we admire in nice old ladies and in little children. If your skin capillaries get out of the habit of working to the limit, it is about impossible to get them back into it.

Think it over, girls. What is prettier than the pink and white of youth? Is a little shine on the end of the nose a disgrace? Does it mean anything so serious that we must sacrifice all of the beauty of our faces and after powdering that offending nose go on and get the rest into harmony by smearing it with white mud?—Harriet Boewig..

Editor's Note.—Miss Boewig is a bacteriologist, chemist, and biologist who knows a good deal about the behavior of various substances. She works a great deal with the microscope and knows what contributes to health.)

STUDIES IN NUTRITION—6

By Pearl MacDonald, Penna. State College.

The Fats

Fats are one of the sources of energy for the body. There are two main kinds of fats—animal and vegetable.

The animal fats are: Cream, and its results, butter; meat fats, such as tallow, suet, lard; and the fat of egg yolk.

The vegetable fats are: Cocoa butter; olive, peanut and corn and cottonseed oil, and other oils derived from any vegetable source.

Like the starch and sugars, the fats contain only carbon, hydrogen and oxygen, but these elements are not combined in the same way in fats as they are in the starches and sugars. Nor are they in the same proportion.

Because of the way the fats are made they require more oxygen when they are burned or digested in the body. For this reason they furnish two and three-fourths times more heat than any other food that we eat. This is the reason why fats are such valuable fuel foods in winter when the air is cold and the body loses heat rapidly by radiation, and therefore requires more fuel to keep it warm.

Theoretically, starches, sugars and fats are practically interchangeable in the diet. As a rule, however, we seem to be able to take larger amounts of starch than of sugar or fats.

Fats differ from each other in that some are liquid, while others are solid. And there are different degrees of hardness among the solid fats.

Tallow, for example, is harder than lard because it contains a larger amount of one of the solid fats. Suet, on the other hand, is not so hard as tallow nor so soft as lard, because it contains less of the hard form of fat and more of the softer form.

Olive oil is liquid because it has very little of the hard form of fat. It is made up almost entirely of a liquid form.

Comparative Digestibility of Fats.—Practically, this softness and hardness is not an important factor in digestion, for all the common fats are about equally well used in the body. The only exceptions to this are cream and the butter derived from cream; also the fat of the egg yolk. Cream is in the form of an emulsion. By that we mean that the fat is very tiny particles called globules. The fat globules in milk are in suspension in the milk, and when milk stands, these fats globules rise to the top and we call them cream. The fat in the egg yolk is also in the form of an emulsion. Emulsified fats are very easily digested, some of the digestion taking place in the stomach. This is one reason why cream and the fat of egg yolk are so desirable for children. With the exception of the emulsified fats, the diestion of fats takes place in the intestine.

Since fats are not, for the most part, digested until they reach the intestine, the way to prevent that feeling of hunger which some people experience soon after a meal is to use a generous amount of emulsified fat.

It is sometimes difficult to get children to take as much fat as they need. But it is so important that they do so that care should be taken to provide enough fat in the diet, and to train children to like it.

Cream, butter and the fat of egg yolk are the best fats for children. The special value of these fats will be discussed in a later article.

The next paper of this series will talk about the body regulating materials in greater detail and interest than we did in the April 3rd issue of The Pennsylvania Farmer.

A HAT TRANSFORMATION

A new hat was needed and the prices in the stores were so beyond the reach of the discouraged shopper that she came home and turned to the attic to see what could be found there to help solve the problem. Even this had been so thoroly searched before that she found no old hat to be blocked over. An old dark blue satin skirt and a partly worn crepe waist that belonged with it suggested a possibility. They did not look very promising for millinery use but when a woman will, she will.

The skirt was narrow so there was not much material in it, and it was considerably worn in places, but it was ripped and the pieces pressed carefully on the wrong side so that part of it looked real good. The waist did not seem fit for anything but she cut it apart on the seams, as it would take too long to rip it. Then each piece was held over a steaming kettle of boiling water to remove the wrinkles, and was then pressed lightly with a warm, not hot, iron.

A wire hat frame was bought for 15 cents, and the crepe cut to fit smoothly on the flat brim. Two pieces were used, one for the upper and one for the under side, and these are sewed on at the outer edge, stretched smooth and firm so there are no wrinkles. There was a piece left large enough to cover the top of the crown. This was sewed on then a bias strip, four inches wide and long enough to reach around the outer edge of brim, was cut from the satin. This had to be pieced several times, but as it was done on the bias it did not show much when the fold was completed. Next the bias strip was folded so the edges met at the center but did not over lap, and long over and over stitches were taken to hold the edges in place. The strip was then folded together with the sewed edges inside, thus making a fold about an inch wide, which was put on the edge of the brim. It was stretched very tight on the outer edge to make it shape to the brim, thus it required very little sewing to keep it in place. It extends an inch over on each side of the brim, and makes a neat finish.

The sides of the crown were covered with alternate folds of the satin and the crepe, about an inchwide, when finished. These folds were made by simply cutting the material on the bias and folding it in the center, leaving the edges as cut, for they are covered by the overlapping row. The last fold at the top is folded under like the brim fold so as to make a neat finish to the top edge.

To make trimming that would in style this year she wanted a wreath of various colored flowers. Another search revealed a bunch of rose foliage, one or two small roses, a few forget-me-not sprays and several rose buds and other small flowers. These were crushed and faded, but they were touched up with water color (some were varnished), and formed into shape, and arranged alternately with the revarnished foliage to form a wreath. If purchased at the store this would have cost at least $3.

Before sewing on the wreath the hat was lined with a bias piece of thin cambric, and this was shirred together at the center of the crown after the flowers are sewed on. The hat was pretty and dressy enough for any occasion, and no one would suspect it was home-made.—Viola M. Lee, Broome Co., N. Y.

SAVING ON MEAT

I wonder how many readers cut just what meat they need, just when they need it? I always used to, but I've been so busy for awhile I've had to adopt all the short-cuts I could and this is one of them. When we get a piece of pork from the store I slice it all up while I have all my materials right in my hands. Then I don't have to touch those utensils again till we buy another piece. Yes, I hear some one say farmers should not be buying pork at the store and usually we don't but we couldn't see the profit last spring in $8.00 pigs raised on $4 meal and we can eat pork this winter far more cheaply out of the store than we could have done out of our own barrel. We don't often fry meat, except for breakfast. When I want meat for dinner I bring up a can of beef from the cellar. I do think we saved some by canning our own beef because we can't buy fresh beef now as cheaply, in comparison, as we can salt pork. Last fall my neighbor bought a whole hog at 20 cents, which he figured was much less than he could have raised it for; but we can buy the solid meat with no waste now at 26 cents, a pound at a time, if we like; what must the profit to the producer have been on that?—E. M. A.

Old sheets which have been "turned" and can no longer be used as sheets may still prove useful if made into bags for hanging away winter clothing.

PACKING HAM FOR SUMMER USE

I like to save some for haying and harvest time, hence along in the spring I get my work in shape so that I can devote a whole day to packing the hams.

I slice the hams and shoulders as evenly as possible, removing the rinds and all the bones. Then I fry the slices until done as for the table but not overdone. I have some good lard melted and a good stone crock without any cracks in it good and warm. I like an old-fashioned iron spider best for frying the meat.

I pour some of the hot lard into the crock, then I put in some of the meat, but I do not pile it in. Then I pour in some more hot lard, just enough to cover the meat. I continue to add the meat and hot lard alternately until the crock is full, or until I have all my meat thus packed down. I pack the pieces in pretty solidly; the hot lard will fill all the crevices around it. I use lard rather than the meat fryings because these will have some of the meat juices in them and they tend to spoil. I cover the top well with the lard, then put in a plate and a weight to hold the meat down under the lard until the latter hardens. A flatiron will answer for the weight; the grease will not hurt it; on the contrary it does it good. When the lard is hardened I remove the flatiron, and tie paper over the crock.

I like this plan better than putting all the meat in the crock and pouring the lard over the top, because I find that it is surer to keep the meat perfectly. And it does come out so good, just like fresh sliced ham. This way every piece is coated with the lard when it is hot, so is thoroly sealed from any possible chance of trouble. I have kept hams this way all thru a hot summer.—Mrs. D. B., Tioga Co., N. Y.

CHAT ABOUT CLOTHES

When visiting in New York and Philadelphia recently, I noticed that a variety of long blouses are worn this spring by the young girls. They are mostly with short sleeves—the kimona style is much in vogue with bell shape, three-inch wide cuff attached. Many young girls who are learning to sew can make several of these waists, and with a little ingenuity can show a decided change in each garment. For summer there are the wonderful printed georgettes some quite gay, and also a good variety of the quieter tones.

Almost as pretty and much less expensive are the voiles in most beautiful designs. And I saw a young girl making a pretty packet waist of navy blue taffeta to wear with her navy blue serge skirt now, and later with white skirts. Her brother had designed three figures, one of the neck decoration, and one for each side front. The jacket was open on the hips. The designs were embroidered with red and gold floss, and she made a narrow belt with large balls attached, over which she crocheted navy blue floss.

Another pretty waist was made by a friend from a pretty piece of left-over yellow-flowered voile. She bound it with yellow satin around neck and sleeves, and made a yellow girdle of the satin tying it in a bow at the back. If tight sleeves are preferred, bell sleeves or a ruffle or a puff can be attached at the elbow. When bell sleeves are finished, they must not be more than three-quarter length. When tight sleeves are worn the waists are often buttoned down the back.—Mrs. Lloyd R. Shuman, Juniata Co., Pa.

MAYTIME BREAKFAST FRUIT.

A dainty little lady who lives near me serves rhubarb as a breakfast fruit thus: She gathers as many stalks as wishes to serve, and pares them, then she cuts them into about five-inch lengths and puts them on a dainty china tray which, with its pinks and greens in the decoration, harmonizes with her "fruit." At each person's place at table is put an individual sugar boat filled with powdered sugar. The rhubarb is dipped into the sugar and eaten as one eats strawberries from the stem.

Mrs. R. claims that this is a most excellent substitute for grapefruit, and has the added charm of lacking bitterness. Besides it is much less expensive. And it makes a pleasant change in the breakfast fruit. Most of us have the rhubarb in our gardens now coming on nicely. The stalks should be gathered fresh just before breakfast.—Mrs. Nina Wallace, Broome Co., N. Y.

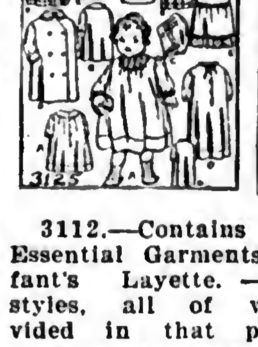
EVERY STEP IN CANNING

You should send for this book by Grace Viall Gray, who has had a great deal of experience in cannnig all sorts of things. It is about as handy a volume on this subject as we have seen. The operations and times for blanching and cooking are arranged in table form, which makes them very readily accessible when one is in a hurry. The book is published by Forbes & Co., Chicago.

PENNSYLVANIA FARMER PATTERNS

Give figures and letters of each pattern exactly as printed at beginning of each description or we will not be responsible for correct filling of orders. Give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261 S. Third Street, Philadelphia, Pa.

3125.—Infant's Short Clothes Outfit contains 10 patterns of baby garments thus: A yoke dress to be finished with long or short sleeves; a simple double-breasted coat with round collar and bishop sleeve, a cap in Dutch style, a night dress, petticoat with waist, a feeding apron drawers, rompers and a play dress. The feeding apron may be made of toweling or oilcloth. The pattern is cut in one size. It requires of 36-inch material: A, yoke dress, 2 yds.; B, coat, 2¼ yards; C, bonnet, ¾ yard; D, nightdress, 2 yards; E, petticoat, 1⅜ yard ruffle; F, feeding apron, ⅝ yard; H, drawers, ¾ yard; I, underwaist, ⅜ yard; K, play dress, 3 yards. Pattern costs 20 cents.



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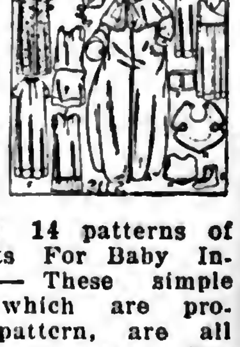

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3112.—Contains 14 patterns of Essential Garments For Baby Infant's Layette. — These simple styles, all of which are provided in that pattern, are all practical and easy to make. The cloak may be cashmere, Bedford cord serge or silk. The cap is suitable for the same material and for lawn, nainsook, cambric or corduroy. The slip is nice for nainsook, lawn or cambric. The pinning blanket may be of domet, outing flannel or wool flannel. The shirt of cambric or flannel. The diaper drawers of cambric diaper cloth, or rubberized material. The borrow coat of cambric or long cloth. The bootee of silk, quilted satin, eiderdown or suede. The band of flannel. The cold feet gown of flaunelet, flannel or cambric, and the bib of silk lawn or cambric. It will require a [illegible]-inch material: A, cloak, 2¾ yards; B, carriage robe, 2¼ yards; C, cold feet gown, 2¼ yards; D, kimono, 2⅛ yards; E, slip, 2¼ yards; F, barrow coat, 2¼ yards; H, cap, ⅝ yard; I, shirt, ¾ yard; J, diaper drawers, ¼ yard; K, sack, ⅝ yard; L, pinning blanket, muslin, ⅜ yard; of flannel, ⅞ yard; N, bib, ¼ yard; O, bootee, ¼ yard; P, band, ¼ yard. Pattern costs 20 cents.

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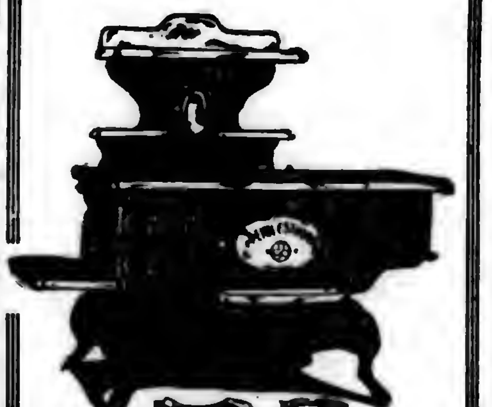

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OUR STORY PAGE

LOVE AMONG THE BLACKBOARD

(Continued from Last Week)

"Did Miss Bailey send you with any message to me?"

The question was so fierce that the truth was forced from the unwilling lips of the spokesman.

"No ma'am—no sir," they faltered "On'y that's the feeling what she had. Und so you go away now 'out seeing Teacher, me und the other fellows we gives you five cents."

The cabinet drew near to hear the answer to this suggestion. It puzzled them, for—

"Now, look here, boy," said Doctor Ingraham, "you'd better go home and get to bed. You aren't well."

Morris conferred with his colleagues and returned with:

"We gives you seven cents so you go home now out seeing Teacher. A nickel und two pennies so you go now. Und say, Miss Blake could to go by your side. She has kind feelings over you."

"Nonsense," said the man. "When will your teacher be down?"

"She ain't coming at all. She has no more feelings. So you goes now we gives you a dime and a penny. Eleven cents. We ain't got it; on'y we could to get. Teacher gives me all times pennies."

Just as the stranger was wondering how much of truth these extraordinary children knew, Teacher, calm-eyed and unruffled, appeared upon the scene. She said, as she generally did:

"Doctor Ingraham! Who would have thought to find you here!" And then, "Are you talking to my little people? They are the cleverest little things, and such friends of mine. Morris here and I are the greatest of cronies."

Teacher's manner, as she began her greeting, was serene and bright but a gloomy, even a morose, glance from Doctor Ingraham's cold blue eye quite changed her. His voice too, considered as the voice of love, sounded sulkily as he said:

"So it seems. He has given me an answer which you refused me."

"How generous of Morris and how thoughtful! He's always trying to save me trouble. And the question, now, to which the answer belonged. May one know that?"

"You know it well enough," with a glance up and down the deserted alley, for even Patrick had realized that discretion is the better part of statesmanship.

"Oh that," said Teacher. "And Morris's answer?"

"No."

"They really are the cleverest children."

"Little brutes! I can't think why you come down here every day. The brats aren't in the least grateful."

"But they are. They think me perfection."

"That is the contagion of mental states."

"And they're not fond of you."

"That's it again, I suppose." And, as Teacher made no sign of having heard, he went on: "Tea, do you know, is a dreadful bore."

"Of course, but cold tea is worse. And the cakes are so shattered towards the end. Come."

"I've changed my mind. I'm not going. I'm tired of this sort of this sort of thing. Answer me now."

"But the children," faltered Teacher. "I should miss them so."

At this sign of weakening Doctor Ingraham favored the queer old street with a tableau to which it long had been a stranger. And the cabinet, creeping back to reconnoitre immediately guessed the worst. Said Morris:

"She's lovin' mit him und he's loving mit her. They're got loving looks. I had once a auntie—"

This was too much for the torn spirit of the leader of the Line. He laid violent hands—and feet—upon the Monitor of Gold Fish. The Monitor of Window Boxes promptly followed suit. Morris's prolonged yell of agonized surprise brought Teacher flying to the rescue. And Teacher brought Doctor Ingraham. While the latter held and restrained Patrick and Nathan, Miss Bailey lavished endearments and caresses on her favorite. The captor grew as restless as his captives under his aggravation, and at last allowed his charges to escape.

"Look here!" he remonstrated; "I can't stand this sort of thing, you know. It's cruel."

But Teacher's ears were all for Morris's tale of sorrow.

"I don't know what is mit Patrick," he was saying. "He hits me a hack somethin' fierce sooner I says about mine auntie. Und Nathan, too, is bad boys. He says you lies."

"I?" said Teacher; "I?"

"Yiss, ma'an, that's how he says. On'y I know you don't lies. I know we should be monitors like you says."

"When, dearie?"

"On your weddinge. You know you says me, und Patrick, und Nathan, should be monitors on your weddings when you marries mit him." And Morris stretched a pointing finger at the foe. After one radiant glance at Teacher's face, Doctor Ingraham possessed himself of the scrubby hand and shook it warmly.

"And so you shall, old chap," he cried, "so you shall. You may be best man if you so desire. Anything you like."

"New clothes?" asked Morris.

"From stem to stern."

"Ice-cream?"

"Gallons."

"Paper napkins mit birds?"

"Bushels."

"Can I mine little sister bring?"

"A dozen little sisters if you have them."

"Can I go in a carriage, down and up? It's stylish."

"You shall have a parade of carriages—one for each sister."

"Morris," commanded Miss Bailey, "go home."

When she turned to confront Doctor Ingraham the "light face" was brightly pink and the "terrible Sheeny eyes" held a mixture of embarrassment and anger.

"Of course I can't explain this," she said. "I must simply ask you to believe that he is making a dreadful mistake. You were quite right when you said they were ungrateful little brutes. They are. You were quite right, too, about teas being a bore. They are. So you will pardon me if I go to see Leah Yonowsky. The twins are reported ill again. Good afternoon."

It was a very rueful and disguested enemy that the cabinet discerned in the offing.

"Good Lord!" cried the Commander-in-Chief. "Here he comes again, and Miss Bailey ain't with him."

"Morris," said the enemy, "you've done for me, my boy."

"Won't she go by your side on the party?" asked the Prime Minister.

"She will not," admitted the hostile power. "So you may as well trot out Miss Blake and begin to collect my eleven cents. For, tho you may not have discovered it—and there be those who doubt it—a ten-cent cigar's a smoke."

FACING THE H. C. OF L.

Our youngest boy came home from the west the other day to be married. For some time he had been looking ahead to this important event in his life and doing the best he could to save up the money he knew would be needed to get his wedding suit and the furniture necessary to start the new home.

It takes a lot of grit to get married these days. A fellow has got to set out with a strong heart and his fist doubled up. And I am sure my boy has as much of this needed characteristic as most young men. He had his term of service over in France and it is fair to assume that he developed a goodly degree of courage, which should stand him in good stead after he was home and ready to settle down for his life work.

Nor is the grit that is required all confined to the man's side of the house. The young woman that looks into the eye of the future as the wife of a good man needs something more than courage; she must have a lot of money to fit her with wearing apparel and the linen and silverware that the wife so well likes to cheer the heart of her husband with after marriage. And the girl my boy had picked out had served as a nurse in the A. E. F. and presumably was a fairly brave sort of a woman.

But you ought to have seen the fire fade out of their eyes when it came to buying the suits they were to stand up in when the minister came to do his part of the ceremony, and incidentally earn, or get, his ten dollar fee. The suit our boy got was nothing extra, just a common sort of a suit, but he left sixty-five dollars behind when he took it under his arm and walked out of the store. The clerk did his best to make him think he was getting a big bargain at that, but consolation does not go far when such a hole has been slashed down thru your "little pile of hard earned money."

And it was so with everything he bought, but not more so than in the case of the girl. It cost her $45 just to have her suit made, and I do not dare to tell how much the cloth itself cost. But if they had gotten the worth of their money, it would be all right. I "hefted" the boy's suit, and honestly it did not seem to me just the thing for cold weather such as we were then having, weighed up just as it was, I doubt if there were four pounds of it, cloth, lining, buttons and all. How much of that was real wool, such as he was supposed to pay for?

And there is where the tough part of it comes in. What did the man get for the wool that went into my boy's suit. It takes pretty good wool to bring a dollar a pound. More goes for sixty to sixty-five cents. Say that every bit of the suit was wool, the worth of the wool could not possibly have been more than four or five dollars. What happened to the wool after it left the farm to make it sell for sixty-five dollars? Ask the men who spun the warn, wove the cloth and dressed it ready for the tailor, then say to the tailor, "What did it really cost you to make up that cloth?"

I am sure that if I could have followed the wool from the farm round to the wedding day, I would have learned more than I know now about the real secret of the high cost of living as it relates to such things as a young man and woman must have to set out on life's journey together. I do not say, nor do I believe that I would be a bit happier if I knew all about it. As it is, I do get a little warm under the collar, as I try to steady myself when things go off the farm to reappear by and by in some other form, but always some form that makes it necessary for me to pay the price demanded by those who have handled my produce from farm to factory or store or mill back to the farm again.

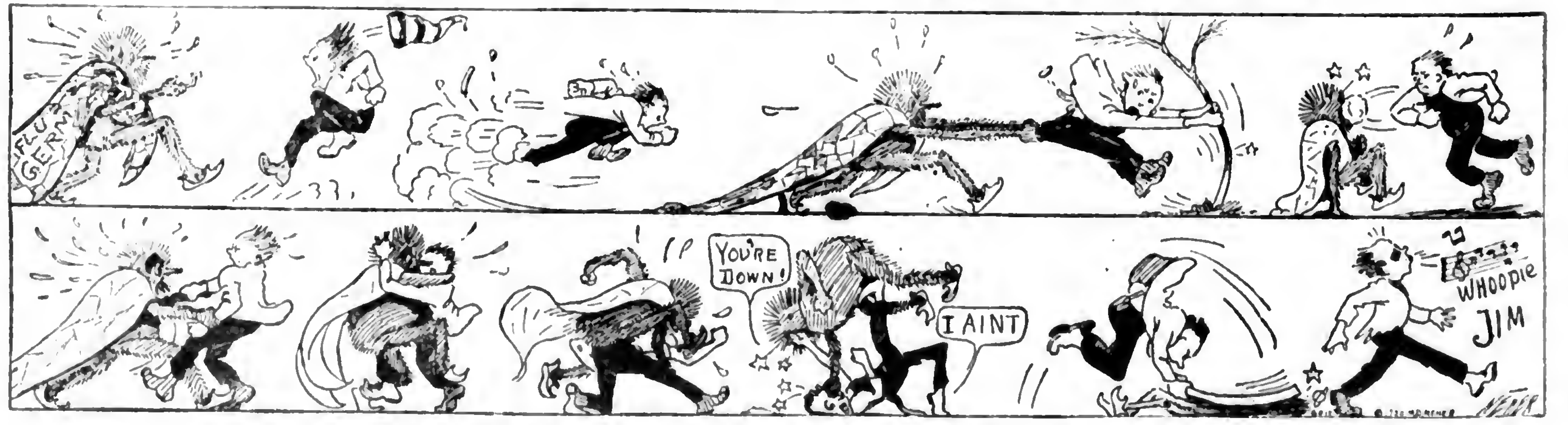
I feel that there is a serious side to this. What is to be the end of this game to get even with the high cost of living? Will there ever, indeed, be any end in my time or yours? Sometimes it seems to me when I manage by hook or crook to get an added cent for wool and rejoice in the thought that at last I have one penny I can lay away against the day when it rains, that before night my hopes are dashed to the ground because my cent has to go with three or four more to pay for some needed article for the home. I can't keep up with the pace set by rising prices; that is sure. When we worry the men who handle our milk into paying us a little more almost before we sign the contract, we hear the fateful words; "It is going to cost more to get your milk to market. You must pay higher freight rates; the men who handle your milk down in the city must have higher wages, feed bills will have to be increased" and away goes all we expected to gain, lost in the shuffle for higher prices all along the line.

It makes a fellow's heart bleed for the young man and woman who start out to build up a new home. God help them and save them from the jaws of that rapacious beast, the H. C. of L!

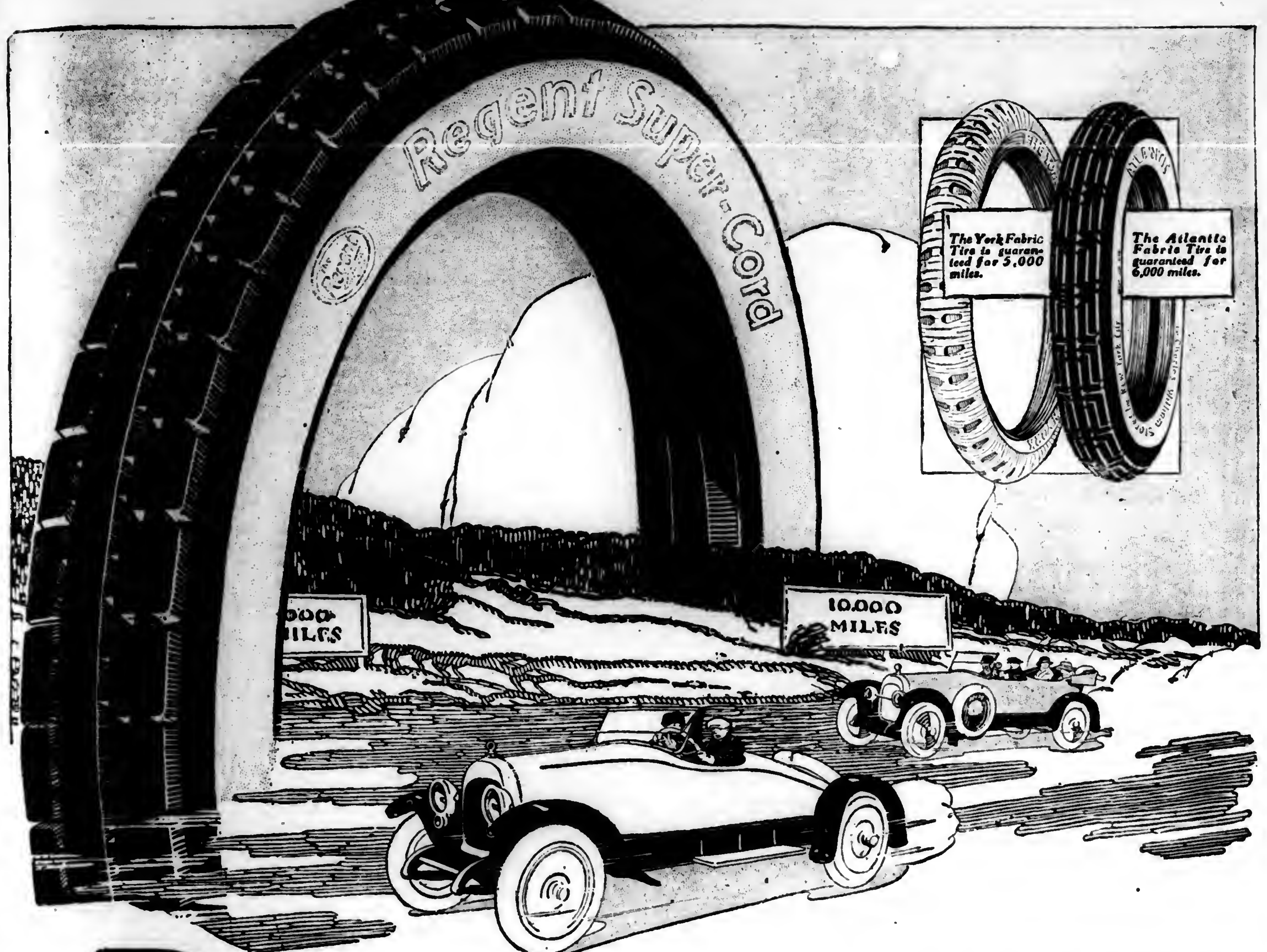
But there is this ray of hope, I believe. When the farmers of this country get their plans well laid, and they are working at them now with faith and determination, so that we may sell and buy co-operatively, a new day will come for us. Then our dollar will go farther; then the things we buy will be better made and really worth taking home. Honestly, I have had cold feet more this past winter than ever before. Not because of any lack of grit; my courage is good yet, and I have not lost hope for the future of farming; but when my wife brings me the new pair of socks she has bought for me, and tells me they are the very best she could find, and when I hold them up to the light I can actually see right thru them, why, it does make me long for the day when honest men will make honest stockings once more, and honest merchants sell them for an honest price.

Buying direct and selling direct has a charming sound to me. It seems to me in self defense every farmer will have to get his feet squarely on the solid rock of co-operative effort in all things that concern the farm life of today. It is time now to look into this movement and see if it does not afford a way of escape from the evils of the present days.—E. L. V., Broome Co., N. Y.

Cleanliness, speed and regularity are prime requisites for the making of good maple sugar or syrup. And of these three, cleanliness is the most important.



Our Son, GRIT, Was Attacked by the Flu Germ, but as Usual, He Comes Out a Happy Victor


Regent Super-Cord
10,000 MILES
000 MILES
The York Fabric Tire is guaranteed for 5,000 miles.
The Atlantic Fabric Tire is guaranteed for 6,000 miles.

REGENT
SUPER-CORD TIRES

"THE TIRE WITH THE LONGER LIFE"

Guaranteed for 10,000 miles

AT LAST! A real achievement in automobile tires!

A Cord Tire that is guaranteed for 10,000 miles; a Cord Tire that is remarkable for its percentage of oversize in comparison to the ordinary tire; a Cord Tire that is unusually low in price.

The Regent Super-Cord is the result of two years of experimenting. We wanted the Regent to be truly the "leader"—a tire that every motorist would want. So we waited until the claims that we were ready to make for the Regent were proved.

That is why the Regent is adjusted on a basis of 10,000 miles of service and why, more often than not, Regents run for 12,000, 14,000 and even 18,000 miles.

The Atlantic Tire

The Atlantic Fabric Tire, guaranteed for 6,000 miles, is made of black carbon-toughened rubber built extra thick in the center. You are bound to be impressed with their long wearing qualities, their ability to withstand the wear and tear of rough roads in all seasons, and their absolute dependability. The Atlantic is another tire which generally out-runs its guaranteed mileage.

The York Tire

York Hand Made Wrapped Tires have now been on the market for nearly four years. Some customers have reported Ford sizes to give as many as 17,000 miles of service.

The Regent Red Tube

The Regent Red Tube is the ideal running mate to this sturdy family of tires. *It is guaranteed for Two Years* and is a tube that can be relied upon for enduring service. It comes in one quality only—the best that can be made for the price we ask.

Take advantage of these unusual values and send today for the big "Motor Car Supplies" catalog.

The CHARLES WILLIAM STORES INC.
New York City

Send for this book showing nationally advertised motor supplies at money saving prices

MotorCar Supplies
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Valuable 1920 motor car supply book--Free

Everything your car needs, is shown in this book. Regent Super-Cord Tires guaranteed for 10,000 miles—tools, lamps, spark plugs, jacks—accessories of all kinds, at prices lower than usual. Send for "Motor Car Supplies Book" today. The Charles Williams Stores, 569 Stores Bldg., Dept. M, New York City.

Back of Every Time-Table

For every train, on every time-table, there are dozens of men—dispatchers, conductors, engineers—who must work with an eye always on the time. They time their trains with the watches they carry. Were these watches inaccurate, time-tables would lose half their dependability and convenience.

More Hamilton Watches are carried by railroad men than any other make. That is because Hamiltons are built right, and *stay* right, throughout their long life.

In twenty-seven years at the throttle, Engineer Jesse J. Brooksby of the New York Central Lines has learned the value of an accurate timekeeper in keeping on schedule. For the past ten years now he's carried Hamilton time.

Hamilton Watch

"The Watch of Railroad Accuracy"

You ought to have a watch like the Hamilton. The modern farm is a busy place. Hamilton accuracy would help you do a bigger day's work by the here-and-there saving of minutes. The Hamilton is the natural selection of successful men everywhere.

See some of the many Hamilton models at your jeweler's. There's one to suit your individual taste. Prices range from $38 to $200. Movements alone, $20 (in Canada $23) and up.

Send today for "The Timekeeper"—an interesting little book about the manufacture and care of fine watches. The various Hamilton models are illustrated with prices.

HAMILTON WATCH COMPANY
Lancaster, Pennsylvania

I Can Ship Your Engine

When You Want It---Save You $15 to $500. Any Style--Stationery, Portable or Saw Rig. Any Size---2, 3, 4, 5, 8, 12, 16, 22 or 30 H-P. Cash or Easy Terms. BOSCH Ignition on order. Catalog FREE.

WITTE ENGINE WORKS
2040 Oakland Ave. Kansas City, Mo.
2040 Empire Bldg. Pittsburgh, Pa.

The Cumberland County Holstein Freisian Breeders' Association
Will hold their 3rd annual sale
TUESDAY, MAY 25, 1920.
Carlisle Fair Grounds, Carlisle, Pa.

15 head of fine Reg. Holstein Friesian cattle will be sold consigned from the leading herds of the county. Sale rain or shine, under tent. Write R. L. SHENK, Sec., Newville, Pa., for your catalog.

ORNAMENTAL FENCE

6 Cents per Foot and up. Costs less than wood. 40 designs. All steel. For Lawns, Churches and Cemeteries. Write for free Catalog and Special Prices.
Kokomo Fence Machine Co. 42 North St., Kokomo, Ind.

Before Spring Work

Best time to clip is in the spring when coat is heavy and animal is soft. Short hair means healthier pores and prevents sickness. A horse kept in good condition in the spring stands better chance of remaining healthy all year. The best way to clip is with a Stewart No. 1 Ball Bearing Machine. $12.75. Send $2.00, pay balance on arrival, or write for catalog.

CHICAGO FLEXIBLE SHAFT COMPANY
Dept. A 140, 12th St. and Central Ave., Chicago, Ill.

CAPACITY
20 x 32 Thresher, wheat 30-60; oats 70-140 bu. per hour

CAPACITY
24 x 40 Thresher, wheat 40-80; oats 90-180 bu. per hour

EVERY FARMER HIS OWN THRESHERMAN

Thousands of farmers are using the NEW RACINE to do their threshing just when grain is in proper condition—many have paid for their machines out of profits [illegible] neighborhood work. They are doing cleaner work with less waste and less help than the big machines. Simple to operate—no experting. Driven by the average farm power.

THE NEW RACINE is backed by twenty-five years of success in building individual and neighborhood threshers. Handles all kinds of grain, seeds, peas and beans.

BELLE CITY MANUFACTURING COMPANY
SOLE MAKERS
RACINE, WISCONSIN, U.S.A.

Distributed in the United States since 1906 by THE INTERNATIONAL HARVESTER CO. OF AMERICA

NEW RACINE

CROP PROSPECTS IN CLEARFIELD COUNTY, PENNSYLVANIA

Our winter was a long, cold, snowy one but now frost has almost left the ground and plowing has been begun on sunny hillsides. The grain looks well, and it and the grass lands are fast losing the brown smirch. We have had some fine days of sunshine and buds of all kinds are showing. Just now our hopes seem dimmed by flurries of snow, but we are reminded of the promise that seedtime and harvest will not fail.

Last year was an off one for the larger fruits, so trees put their entire strength and vitality into the production of fruit buds and to the laying up of stores of sugar and starch for their development.

There could hardly have been a worse winter for sleet storms. For days and weeks at a stretch the trees were sheathed in ice, and yet I fail to find that fruit buds were injured. Thus, is another ancient myth exploded. However, much damage was done, especially to trees that had not been properly pruned, by the breaking of limbs from the weight of ice and snow. There are lots of sound, healthy buds on cherry trees, especially of the sour varieties, and where they have been properly cared for the trees are quite free from disease.

Apples of nearly all varieties show great promise, and in view of prospective prices, pruning, spraying, thinning and fertilizing may well be carefully looked after.

Pears give every indication of fruiting well this season, but I see many blighted trees. It is of the greatest importance that all blighted branches be cut off, well back, before growth starts, to avoid the infection that is nearly sure to follow in other parts of the tree or of other trees. The same is true of the black knot of the plum and cherry.

In going over my sour cherry and plum orchard this spring I failed to find a single specimen of this disease, tho at one time it was quite bad and I feared losing most of my cherry trees, but by persistant cutting out followed by thoro spraying with a soluble sulphur solution it seems to have been completely eradicted. But I am always on the lookout for its reappearance, as it is a most treacherous disease.

This is a pretty cold climate for the commercial growing of peaches or plums — especially, of Japan Plums, but most of the buds seem to be in good shape yet. Their greatest danger however is yet to come as the blossoms are quite likely to open so early as to be frosted.

Bush and cane fruits are apparently in fairly good condition, tho a few more warm days may show signs of winter killing in exposed locations, but in general all crops that start into activity thus early are giving promise of an abundant harvest.

However, as some will say "we are not out of the woods yet", and there may come a late frost and kill the fruit as it did last year. Of this fact I feel assurred, namely, that our hopes are much more likely to bear fruit if we have so well done our part that our trees and plants have lots of vitality.

There is surely encouragement to the farmer and fruit grower in the present prospect and I think of a quotation that sometimes comes to mind, "God has done his part,—do thou but thine."—T. L. Wall.

A Handy Tool House, But Not Storm Proof

FEEDS AS FERTILIZER

Fertilizer manufacturers are buying cottonseed meal in sufficient volume to maintain prices on a steady basis. But the market lacks strength, owing to an almost general absence of demand from dairymen and other feeders. Crushers of the Southeast and Southwest are rather eager to dispose of offerings, being unwilling to carry high-priced cake and meal into the summer. Were it not for the absorption of off-grade meal by the fertilizer interests, the cottonseed feed market would reflect a much easier position than is apparent in the linseed cake and meal trade. Some cottonseed feed handlers express the belief that sufficient meal will be taken by manufacturers of commercial fertilizer to cause an upturn in prices, tho this is seriously doubted, owing to the large stocks in the hands of crushers. But the action of the fertilizer trade is an important factor in the trend of prices for the high protein feed. So far as the actual feeder demand is concerned, it is very probable that prices will tend downward. Prospects for pasturage are excellent in the Southwest and West, and, with feeders hesitant about feeding high-priced cake to cattle because of the disappointing position of the meat animals, consumption is expected to fall below normal for the spring and summer months. Cake and meal of 43 per cent protein is quoted around $62 a ton in Texas and Oklahoma, with the Chicago market around $70.

PROTECTING WOODLANDS

That young growth in the woods, known popularly as "brush," is something to be rid of, is a prevalent but mistaken conception since, a forest can not maintain itself long without reproduction. For the sake of getting a scattering of green grass in the spring it is the short-sighted practice in hundreds of localities to fire the woods regularly. This results in killing thousands of small trees needed to continue the forest in the future, and also injures a large amount of marketable timber. Furthermore, such burning destroys a large amount of rich vegetable fertilizer.

Cattle and hogs in hardwood stands, and hogs in long-leaf pines, keep the forest from being restocked. Damage from insects can be reduced by cutting timber at the proper time of year and by utilizing lightning-killed trees without delay since they harbor destructive pests. Cattle destroy the productive leaf mulch which keeps the trees growing during long, dry spells. All large openings where light comes thru into the forest should be filled with younger trees.

ENGLISH AND GERMAN AGRICULTURE

(Continued from Page 1.)

German peasant farmer who tills fully 70 per cent of all the land in Germany. The most effective instruction offered to the German peasant farmers is thru movable schools and thru itinerant agricultural teachers.

11. The activities of the credit and cooperative societies are supplemented by chambers of agriculture, which provide leadership in representing the interests and needs of the farming community to the State and in carrying out schemes for the development of agriculture.

12. After the serious depression which prevailed in German agriculture in the early 90's of the last century, there was organized in Germany a "Party of the Plow." This became a little later the "Union of Farmers." This organization soon assumed a prominent role as a political party. Since that time the Agrarian Party of Germany has directly influenced the policy of the German Imperial Government in all matters relating to agricultural legislation, tariffs, transportation, labor, etc.

It may be said, therefore, by way of summary, that the progress of German agriculture as noted above has been due to the improvement in the technical methods of the German farmer. This was brought about by the increased use of manures and by the more extensive use of labor-saving devices, by the development of better plants and better animals, by the enlarged production of potatoes and sugar beets and the development of agricultural manufacturing in the converting of certain of the primary crop products into second products, like alcohol, sugar, cheese, preserves, etc. The improved technical methods were the effect, and to some extent the cause, of the development of credit facilities and cooperation and of broad agricultural policies affecting the entire agricultural industry of the country.

Measuring agricultural progress in Great Britain with that in Germany, we find that there has been relatively little increase in unit production in the former country partly because agricultural production in Great Britain was already at a high level 30 years ago. Nevertheless, had agricultural organizations been developed to the same extent in Great Britain as it has in Germany, agricultural production would have shown a more substantial advancement.

COUNTY NOTE

McKean County, Pa., (U.C.) Bradford R. F. D. 1., April 5.—Fine weather last of March so frost was all out of ground and plowing commenced. Roads in fine condition. State road 6 miles south of Bradford to be commenced on the 15th. Less stock will be kept this season, owing to the scarcity and high cost of labor. Common labor $4 and $5 per day. Farmers are only intending to put in just what crops they can care for alone, about the usual amount of oats will be sown. Prices keep high here. Retail prices do not seem to drop on anything we buy. Farm produce to private custom is the same as during winter except eggs which are 60 cents.—R. C. Fuller.

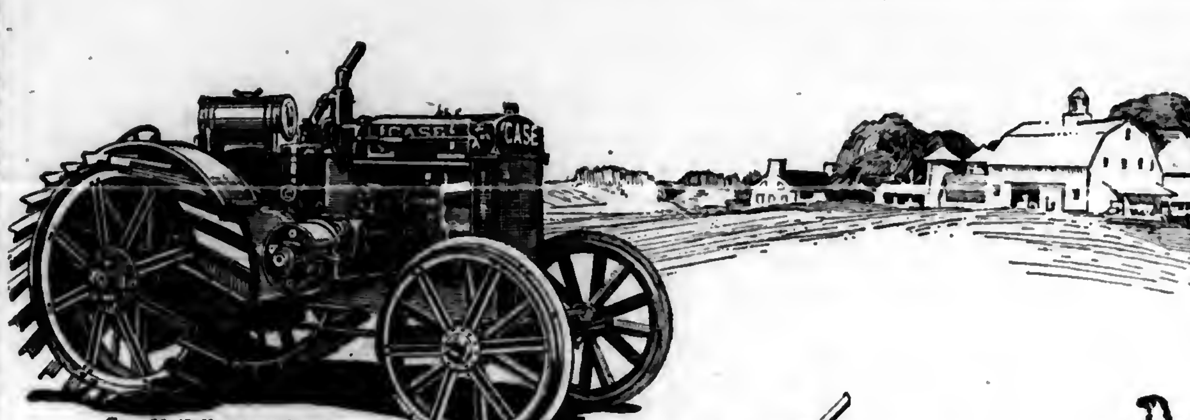
AN EFFECTIVE SAFEGUARD

During an epidemic in a small Southern town every infected house was put under quarantine. After the disease had been checked an old negress protested vigorously when the health officer started to take down the sign on her house.

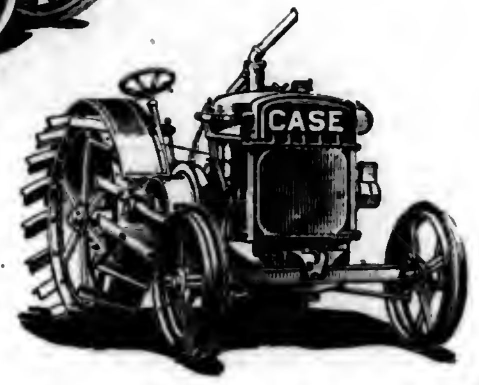
"Why, auntie," exclaimed the officer, "why don't you want me to take it down?"

"Well, sah," she answered, "dey ain't be'n a bill collectah neah dis house sence dat sign went up. You'll let it alone!"—"Harper's Magazine."

Orchard grafters are one kind who don't get into trouble these days.



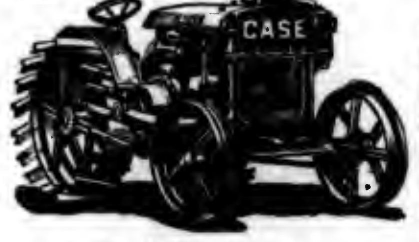
Case 22-40 Kerosene Tractor



Case 15-27 Kerosene Tractor

Look for the EAGLE Our Trade Mark

To avoid confusion, the J. I. CASE THRESHING MACHINE COMPANY desires to have it known that it is not now and never has been interested in, or in any way connected or affiliated with the J. I. Case Plow Works, or the Wallis Tractor Company, or the J. I. Case Plow Works Co.



Case 10-18 Kerosene Tractor

We Could Build Case Tractors Cheaper—But They Would Cost You More

Built into every Case Kerosene Tractor is a high degree of immunity from frequent repairs, replacements and undue wear. These items and the delays they cause are expenses you must add to the first cost of any tractor designed and built less excellently than the Case.

It would cost us less to use iron castings in many places instead of the drop-forged steel we do use; but it would cost *you* far more for replacement of broken and worn out parts.

We could save a lot by using cast-iron open gears instead of cut steel gears running in oil-tight housings; but later on, you'd pay many times the difference for extra parts, and lose still more by delay.

Thus, all through, in design, material, workmanship and equipment, we build Case Kerosene Tractors the best that they can be built instead of building cheaply and "passing the buck" to you.

Case Kerosene Tractors are built in a standardized design of three sizes: 10-18, 15-27 and 22-40 h.p. respectively. Your proper choice depends only on your power requirements. They are uniform in dependability, durability and simplicity of operation and adjustment.

Back of Case Kerosene Tractors is the great line of power farming machinery built by the J. I. Case Threshing Machine Co. Of this line, each unit is unexcelled in its class; within this line is equipment for keeping a Case Kerosene Tractor profitably employed throughout the year. Write for free catalog descriptive of Case Tractors, and listing our great line of tractor drawn or driven machinery.

J. I. CASE THRESHING MACHINE CO., Inc.
Dept. CO-4, Racine, Wis., U. S. A.
Making Superior Farm Machinery Since 1842

CASE
TRADE MARK REG. U.S. PAT. OFF. AND IN FOREIGN COUNTRIES
KEROSENE TRACTORS

Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., April 19, 1920

Altho the strike of freight workers, switchmen and other railroad employees on the various railroads al over the country has been reported as settled, the markets on the various kinds of fruits and vegetables and produce are still showing its effects. They are beginning to show signs of getting back to normal. The embargoes which were placed in many instances have been lifted and the various commodities are beginning to arrive more freely. But at the same time the market is not yet back in such shape so that we feel justified in making any comments upon the market further than to say that conditions are much better than they were a week ago and are gradually improving day by day. The range of prices at this writing on the various articles is as follows:

Vegetables

Potatoes, per cwt., $7.25@8; per 150-lb. sack, $11.25@12; per 165-lb. sack, $12.75@13. There have been no new potatoes on the market in several days, but some last week late sold up to $22@23 per barrel. New Jersey sweet potatoes, $1.75@2.25 per ⅝-basket for No. 1s and $1@1.50 per ⅝ basket for No. 2s, and mediums, while Southern sweet potatoes sold at $2.75@3 per hamper for No. 1s and $1.50 per hamper for No. 2s. Asparagus, western, $4.50@9 per dozen bunches; Southern, $2.50@7 per dozen bunches; artichokes, $5@6 per box; beans green, $4@8 per hamper; wax beans, $4@8 per hamper; new southern beets, 8@12c per bunch; nearby old beets, $2@3.50 per barrel. Cabbage new southern per hamper, $1@1.75 per barrel; $2@2.75 crate; new Western cabbage, $1.75 per crate; nearby washed carrots, $8@10 per barrel; New York State rough carrots, $4@4.50 per cwt. Western cauliflower, $3 per crate; Southern celery, $3@5 per crate, fancy Southern cucumbers, $5@6.50 per hamper, choice and cull cucumbers, $2@4 per hamper; Southern egg plants, $2@5 per crate; endive, $2.50@3 per barrel; Escarole, $2.50@3.50 per barrel; garlic, 30@40c per pound; horseradish, 20@25c per pound; Norfolk kale, $1@2.25 per barrel; lettuce, Southern, hamper, $2@5 per hamper; Western, $7@9 per box; old onions, No. 1s $6@9 per sack; No. 2 onions and onions sprouted $3.50@4.50 per sack; New Texas onions, $6@6.50 per crate; valenciss, $3@4 per case; mushrooms, $1.25@1.75 per pound basket; parsley, curley, $5@8 per barrel; plain parsley, $3.50@5 per barrel; fancy large Southern peas, $4@6 per hamper, small Southern peas, $2@3 per hamper; peppers, $4@8 per box or $5@5.50 per hamper. Romaine, $1@3 per hamper, nearby rhubarb, 7@10c per bunch; Southern radishes, $1@3 per hamper; nearby scullions $1.50@2 per 100 bunches. Tomatoes fancy, $3.50@5 per crate, choice tomatoes, $2.50@4 per crate. Norfolk, spinach, $1@2 per barrel; White turnips, 25@75c per ⅝ basket; Pennsylvania yellow turnips, $1@1.25 per ⅝ basket; rutabagas, $3.50 per barrel; watercress, $3@4 per 100 bunches; dried beans, $10.50@11 per cwt., for marrow, $7@7.50 per cwt. for peas and medium beans.

Fruits

Apples.—Baldwins, $6@9 per barrel; Ben Davis, $6@7.50 per barrel; Ganos, $6@8 per barrel; Winesaps, $6@10 per barrel; Russets, $5@7 per barrel. Strawberries, 25@35c per quart, with some very poor down to $1@3 per crate. Pineapples, $5@8 per crate; oranges, $3.50@8.50 per box. Grape fruit, $1.15@4.50 per box.

Poultry

Live fowls fancy, 45@50c; medium, 42@45c; inferior, 40@41c; average soft meated chickens, 44@45c; inferior, 40@42c; broiling chickens, 65@70c per lb., roosters, 30@40c per pound; ducks, 30@45c per lb.

Eggs

Pennsylvania and other nearby current receipts 44c per dozen; nearby firsts, 43½c per dozen; Western firsts, 42½c and Western extra firsts, 43c per dozen, with Southern at 40@41c per dozen.

LANCASTER PRODUCE MARKET

Lancaster, Pa., April 19, 1920

Another extremely busy session of market today failed to bring any material changes in the price of produce. The quotations:

Butter and Eggs.—Creamery butter, 80c per lb.; country butter, 70@75c per lb.; fresh eggs, 40c per dozen; duck eggs, 50c per dozen; goose eggs, 6@7c each.

Poultry.—Dressed old chickens, $2.25@2.50 each; dressed young chickens, $1.75@2.10 each.

Vegetables.—Spinach, 40c per half peck; turnips, 20@25c per half peck; potatoes, 45c per half peck; do., $3.50@4 per bu.; sweet potatoes, 35c per half peck; cabbage, 25@30c per head; cauliflower, 35@40c per head; lettuce, 15@35c per head; lima beans, 20c per pint; oyster plant, 15@20c per bunch. Apples, 30@40c per half peck.

YORK PRODUCE MARKETS

York, Pa., April 19, 1920

The small supply of eggs and the dealers' price of 40c has steadied the market price around 40@42c per dozen. There are large quantities being hatched and the percentage of fertility is very low, hence the loss here is great. Potatoes have been the prominent feature of the markets for ten days. They advanced a dollar per bushel last week. Lettuce is selling high on account of the shipping situation. Butter is still on the decline. Grains and all kinds of feeds are advancing.

Eggs.—39@45c per dozen.

Butter.—Country, 60c lb.; separator, 65@75c lb.; milk, 12c quart.

Poultry.—Hens, 35@38c lb.; dressed, $1.25@3 each.

Vegetables.—Potatoes, $2.50@3.50 per bu.; 25@35c per ½ peck; cabbage, 8@10c lb.; lettuce, 10@20c head; beets, 5c box; radishes, 5c bunch; onions, 5c bunch; 25@35c ½ peck; lima beans, 35@40c quart; soup beans 25@30c quart; celery, 5@15c stalk; turnips, 20c ½ peck; apple butter, 45@50c ½ peck; sausage, 34@38c lb.; pudding, 30c lb.

Fruit—Apples, 25@40c ¼ peck.

Retail Grain Market.—Wheat, $3; corn, $2; oats, $1.25; rye, $1.80; bran, $3.25 per cwt.; middlings, $3.50 per cwt.

Wholesale Grain Market.—Wheat, $2.60; corn, $1.57; oats, $1; rye, $1.50; bran, $60 per ton; middlings, $62 per ton.

BALTIMORE PRODUCE

Baltimore, Md., April 19, 1920

Butter.—Creamery, Western, separator, extras, 74@75c; do., firsts, 72@73c; Western prints, ½ pound, extra, 75@76c; do., firsts, 73@74c; Western prints, 1 pound, extras, 75@76c; do., firsts, 73@74c; nearby creamery, extra, 70@72c; do., firsts, 69@70c; dairy prints, Maryland, Pennsylvania and Virginia, extras, 45@46c; do., firsts, 43@44c; store packed, firsts, 38@39c; rolls Western Virginia, extras, 41@42c; do., Ohio, extras, 43@44c; do., Maryland and Pennsylvania, extras, 43@44c.

Eggs.—Western Maryland and Pennsylvania, nearby, firsts, 41c; Eastern Shore, Maryland and Virginia, firsts, 41c; Western (Ohio), firsts, 41c; West Virginia, firsts, 41c; Southern (North Carolina), firsts, 40c.

Live Poultry.—Chickens, large, young, smooth, per pound, 45@50c; do., winter, under 2 pounds, per pound, 55@60c; do., spring, 1 to 1¼ pounds, per pound, 60@65c; do. rough and staggy, per pound, 35@40c; do., old roosters, per pound, 23@25c; do., old hens, over 4 pounds, per pound, 45c; do., small, per pound, 45c; do. white Leghorn hens, per pound, 45c. Ducks, Muscovy and mongrel, per pound, 35@36c; do., White Pekins, per pound, 40@42c; do., puddle, 4 pounds and over per pound, 38@40c; do., small, poor, per lb., 35@36c. Pigeons, old per pair, 30@35c; do., young, 30@35c. Guinea fowls, Young, $1.

NEW YORK PRODUCE

New York City, April 19, 1920

Butter.—Firmer; receipts, 3,172 tubs; creamery, higher than extras, 73½@74c; creamery, extras (92 score), 73c; firsts (86 to 91 score), 67@72c; packing stock, current make, No. 2, 41@42c.

Eggs.—Firm; receipts, 18,632 cases; storage packed, extra firsts, 46½@47c; storage packed; firsts, 45@46c; fresh gathered, firsts, 45@45½c; firsts, 42@44½c; state, Pennsylvania and nearby western hennery whites, firsts to extras, 48@52c; state, Pennsylvania and nearby hennery browns, extras, 48@49c; do., gathered browns and mixed colors, firsts to extras, 44@48c.

Cheese.—Firm; receipts, 309 boxes; state, whole-milk flats, held, specials, 29¾@31c; do., average run, 28@29c; state, whole milk, current make, specials, white and colored, 27½c; do., average run, 26@27c.

Live Poultry.—Weak; stags, 45c; fowls, 54c; old roosters, 28c; no turkeys. Dressed steady; western broilers, fresh, 26@32c; stags, frozen, 37@42c; fowls, fresh, 33@43c; frozen, 30@42c; old roosters, fresh, 28@29c; frozen, 28@29c; turkeys, western, frozen, 51@55c.

Vegetables. — Potatoes, old, $12.50@14 per 165-lb. sack. Beets, $3@5 per barrel. Carrots, $5@8 bbl.; cabbage, old $3@5 bbl. Onions, $3@7.50 per 100-pound bag.

Fruit.— Apples.—Ben Davis, $5@7.25; Winesaps, $3@5; cranberries, $4@8.50 bbl.

PITTSBURGH PRODUCE

Pittsburgh, Pa., April 19, 1920

Butter.—Prints, 75@76c; Tubs, 74½@75c; cooking, 55½c; Ohio, 73@74c.

Cheese.—New York full cream, 34@35c, Ohio, 33@34c; Wisconsin Swiss, 58@60c; Philadelphia cream, $1.00 per dozen.

Eggs.—Fresh, select, 48@49c; at mark, 44@45c. Current receipts, 40@41c; do., candled, 43@44c.

Potatoes.—Round, $11.50@12 per 150-lb. sacks. Onion, $7.50@8 sack. Cabbage, Texas, 6@7c head. Sweet potatoes, $2.75@3.15 hamper. Turnips, $2.25@2.50 bushel.

Fruit.—Apples, $3@5 box.

SHORT WEEK-END REVIEW OF FRUITS AND VEGETABLES

Prices Continue Upward Trend

Onions and potatoes led the advance and celery and tomatoes gained moderately. There was little change in apples and sweet potatoes. Shipments decreased, many leading market centers being unable to obtain their normal supply on account of transportation difficulties.

Potatoes Make Further Advances

After the sharp gains of the previous week some irregularity might have been expected in the potato markets, yet prices continued toward still higher levels. Northern stock at Minnesota shipping points held at last week's top of $7 per cwt. f. o. b. a few sales high as $7.30. Bulk Green Mountains ranged $5.60@5.68 f. o. b. bulk per cwt. with haulings light at Maine shipping points. Prices for this stock in consuming markets caught up with those prevailing in Indianapolis, St. Louis and Kansas City, bringing all the markets within a general range of $7.50@8.35 per cwt. sacked. In Chicago carlots ranged $6.70@6.90. New York round whites, No. 1, were $2 higher in Philadelphia, Pittsburgh, Cleveland and Cincinnati, ranging $7.50@8.65. Maine Green Mountains in New York and Philadelphia closed at $7.75@8.40 and $6.50@6.75 in Boston, sacked per cwt. Florida Spaulding Rose brought $20 per barrel in Boston and Bermuda Bliss Triumps $25 in New York.

Onions Make Sharp Gains

Demand continued moderate but light supplies in most consuming markets furnished a basis for higher prices. Eastern Yellow stock in Baltimore and Pittsburgh advanced about $2 from a range of $6@6.75, reaching $8.50@9. Middle-western yellow varieties gained about $1.50 in Cincinnati and Detroit from $6.50@7.50 to a range of $8@9. In the past ten days this stock has advanced $3 in Baltimore from $5.50@6 a range of $8.50@9. Texas Yellow Bermudas, No. 1 and 2 in standard crates, sold for $3.50@4.25 f. o. b. shipping points. Haulings are increasing and demand for shipment is moderate. The new onions sold at $6.50@7 in Philadelphia, at $4.25@4.75 in Chicago and at $5.50@6 in Kansas City.

Apples Steady

Little change occurred in prices, but market tone and activity showed improvement. New York Baldwins A 2½ held at $8@9 per barrel in leading terminal markets, with some sales higher in Cincinnati and Detroit at $9@9.50. Middlewestern markets quoted Ben Davis No. 1 at $7.50@8. Minneapolis held at $8.50 per barrel. Northwestern boxed Winesaps, extra fancy, sold at $3.50@4 in most consuming markets, but New York, Pittsburgh and Detroit were exceptions, closing higher at $4@5.

Other Fruits and Vegetables

Sweet potatoes continued slow and steady. Stocks became exhausted in New York, but other markets were generally well supplied. Maryland and New Jersey yellows held last week's range of $2.25@3 per bushel hamper. Tennessee Nancy Halls were about 15c higher at $1.90@2.50. Celery markets strengthened. Ten-inch crates of 4@6 dozen bunches closed within last week's range in Chicago, Cincinnati and St. Louis at $4.25@4.75. Cleveland, New York and Philadelphia were about $1 higher at $5@6. Tomatoes were in good demand and advanced about $1 in consuming markets. Globes, fancy sizes ranging $4@5, with some sales in Baltimore, reaching $6. Strawberries were in brisk demand at Louisiana shipping points, 24-pint ventilated crates of Klondikes ranging $2.75@3.40 f. o. b. and 24-quart crate $6.50@7. Haulings were moderate. In Philadelphia Klondikes sold at 35c on Tuesday, but weakened to 20@22c per pint by Thursday. The same stock in Middlewestern markets ranged $4@5 per 24-pint crate. Pittsburgh was slightly higher at $5.25@5.50. Chicago was considerably lower than other markets at $3@3.75. Twenty-four quart crates brought $7.50@9 with some earlier sales high as $12.

PHILADELPHIA LIVE STOCK

Philadelphia, Pa., April 19, 1920

Receipts of live stock for week ending April 17, were as follows:

	Beef Cattle	Sheep and Lambs	Hogs
Total for Week	2,431	2,950	8,387
Previous Week	2,461	6,446	7,500

Calves.—Receipts of calves last week were 1,369 head against 2,013 head week previous.

Beef Cattle.—The market for steers and cows ruled steady under moderate offerings and a fair demand for desirable stock. There was a fair inquiry for veal of fine quality and values were firmly maintained. We quote: Steers, fair to good, $14@16; common to fair, $11.75@14; cows, per lb., good to choice, corn fed, 9@11½c; fair to good, 7@9c; common to fair, 5@7c; calves, extra to choice, $21@22.50; do., fair to good, $10@18; do., common; $13@15; do., heavy and rough, $8.50@11.50; Tennessee, $16@18; other southern, $9.50@14.50.

Sheep and Lambs.—Receipts were light and the market was firm, with demand readily absorbing the offerings. We quote as follows: Sheared sheep, wethers, extra, $14@14.50; do., good to choice, $11.50@12.50; do., medium, $8.50@9.50; do., common, $6.50@7.50; ewes, heavy, fat, $10@11.50; lambs, sheared, choice, $19@19.75; do., medium grades, $16@17; do., culls and common, $12@14.

Hogs.—Quotations of western hogs, were omitted in the absence of business. Nearby stock was firm, with a fair demand. We quote: Best western nominal; hogs, good, $18@18.50.

City Dressed Stock.—The market for steers, heifers and cows ruled firm, with demand readily absorbing the offerings of the best grades. Veal, mutton and lamb were firm, with light offerings and a good demand. Other kinds were firm, with a fair demand. We quote: Steers, 20@26c; heifers, 18@22c; cows, 16@20c; calves, city dressed, choice, 26@28c; calves, country dressed, 23@25c; lambs, spring, choice, 37@40c; sheep, 20@30c; hogs, 25c.

PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., April 19, 1920

Baled Hay and Straw.—There were no receipts and in the absence of business the market was nominal.

Bran.—Firm under light offerings. Soft winter bran western, in 100-lb. sacks, per ton, $61.50@61.62; spring bran, in 100-lb. sacks, $61@61.50.

Corn.—No. 2 Yellow, $1.75@1.85.

Oats.—No. 2 white, $1.24@1.25; No. 3, white, $1.22½@1.23½; No. 4, white, $1.21@1.22.

NEW YORK HAY AND GRAIN

New York City, April 19, 1920

Feed.—The market for mill feed was strong, with an urgent demand for most any kind of feed that could be delivered, but the volume of trading in mill feed was small on account of the inability to make shipments from the mills.

Quotations: City feed bran, $58; middlings, $62, in 100-pound sacks; red dog, $72, nominal in 100-pound sacks; Western spring bran, $57@58; standard middlings, $62; flour middlings, $63@64; red dog, $70@71, all in 100-pound sacks, 30-day shipment. Oat feed, $34; rye middlings, $58; white hominy feed, $66, all in 100-pound sacks. Cottonseed oil meal, $73.50; linseed oil meal, $63, in 100-pound sacks.

Hay and Straw.—There is nothing obtainable at any harbor point and the situation continues extraordinary firm. A river barge is due this afternoon with hay offering to arrive from that boat at from $50 for trash up to $57 for No. 3, and better qualities at any price obtainable. Rye straw sold last from boat at $32@33 and oat straw at $30.

Wheat.—No 2, red, $3.12.

Corn.—No. 2, Yellow, $1.92½; No. 3, Yellow, $1.89½; No. 2 mixed $1.91½.

Oats.—All grades, $1.30 nominal.

Rye.—F. O. B. $2.33⅝; Barley, feeding $1.70.

PITTSBURGH HAY AND GRAIN

Pittsburgh, Pa., April 19, 1920

Owing to the serious railroad strike, it is impossible at this writing, to give accurate quotations. The situation on this market at present, is absolutely critical. Most of the dealers in the Pittsburgh market and its environments, if not absolutely bare of hay and grain, are close to it. If the situation lasts a few days, it will be impossible to procure anything in the hay and grain line in this vicinity.

All goods in the outer yards that can be reached by truck or otherwise, are being hauled into the city at a premium. As soon as matters are settled it can be easily seen that the early arrivals will be readily placed at advanced prices.

We would therefore, advise shippers, who have anything ready to load and can get empty cars in their vicinity, to get their goods ready for shipment and start them as soon as there is any sign of a break.

PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., April 19, 1920

Butter.—Receipts, 239 tubs; arrivals were small, but in view of the probability of an early settlement of the labor troubles, supplies were expected to come forward more freely this week. Demand was light and with holders anxious to sell, prices closed 2c lower on both solid-packed creamery and prints. We quote: Fresh solid-packed creamery, fancy high-scoring goods, 74@76c, the latter for jobbing sales; extra, 73c; do., extra firsts, 70@72c; firsts, 65@69c; seconds, 58@63c; sweet creamery, choice and fancy, 75@77c; fair to good, 59@74c; ladle packed, as to quality, 42@45c; packing stock, 38@41c; fancy brands of nearby prints jobbing at 81@83c; good to choice, 73@80c; fair, 70@72c.

Cheese.—Firmly held. We quote: New York, whole milk flats, held, fancy, 30½@31½c; specials higher; ordinary to good, 25@29c; current make nominal, jobbing sales of fancy held goods, 33@34c.

NEW YORK MILK MARKET

New York City, April 19, 1920

Notwithstanding strike and railroad tie-ups; milk trains have all gotten thru, altho in most cases late. Demand only normal and surplus quite heavy. Sweetened condensed milk manufacturers are not buying to any extent at present. April rate for 3 percent milk in 200 mile zone is $2.55 per 100 lbs.; 3.6 percent is $2.79 and 4 percent milk $2.95.

Receipts of milk and cream in 40-quart cans for the week ending April 17, 1920, were as follows:

Railroad	Milk	Cream
Erie	40,758	3,279
Susquehanna	8,648	116
West Shore	16,006	1,043
Lackawanna	58,244	1,182
N. Y. Central (long haul)	163,245	2,816
Ontario	43,420	2,162
Lehigh Valley	48,167	1,397
New Haven	6,970	55
Pennsylvania	11,480	400
Other Sources	6,500	300
Totals	403,438	12,750
Same week last year	371,971	13,675

INTERSTATE MILK PRICES

The basic price for 3 percent milk within 10 miles of Philadelphia is $3.28 per 100 pounds, and one cent per hundred less for each 10 miles distant. Four cents per 100 pounds is paid for each one-tenth of one percent fat above 3 percent. These are prices for the basic quantity or less. Amounts exceeding the basic quantity are paid for at a less price.

CLOVERSEED

Toledo, O., April 19, 1920

Cloverseed.—Prime cash and April, $27; October, $23.25; December, $22.45.

Alsike.—Prime cash and April, $29.

Timothy.—Prime cash, 1917 and 1918, $5.10; 1919, $5.30; April, $5.30; May, $5.25; September, $5.70; October, $5.60; December, $5.65.

Note.—It is well to remember that these are wholesale prices per bushel paid by jobbers.

TOBACCO MARKET

The 1919 tobacco crop of the state has practically all passed from growers hands. An outstanding feature of the situation is the shortage in weight as compared with expectations and with estimates made from time to time during the season. It is again shown that the best and most conservative crop forecast is subject to more or less uncertainty. A large acreage may result in a very small crop and vice versa.

Another conceded feature of the outcome is the generally desirable quality of the product, a point which from time to time was unjustly disputed by buyers who of course, had a selfish motive in so doing. It is noted that on account of generally satisfactory prices comparatively little of the product was packed by growers or growers organizations but it is very logically claimed that the latter has had a very appreciable influence in establishing valuations. It is observed that in localities entirely without organization values have not compared favorably with those existing here.

From now on there will be an increasing interest in the forthcoming crop which has been in the background owing to a late season including snow and ice up to the middle of April. Temperature below freezing has been no uncommon thing and the only thing that saved tobacco plants from destruction was the fact that in most instances seed had not germinated. However, there is yet ample time for plants to grow and be ready for the field. Practically all tobacco land has been plowed which will allow recent freezing weather to [illegible] from cut worms and other [illegible]

TRUCKS, TRACTORS AND HORSES

The increasing number of trucks and the diminishing supplies of horse manure has led to many inquiries regarding the breeding of horses. The chart shows the number of horses and their value in the United States for the last eleven years.

From this it may be noted that the number of horses increased steadily until the end of 1915, then it remained about steady for two years during which time there were large exports for war purposes, and since 1918 it has decreased severely. On the other hand the price fluctuated during the years 1910 to 1913 and has since decreased steadily and uniformly except during 1916 and 1917 when there was some increase in price probably caused by the entrance of the United States into the war.

In the two years since 1918 the price has dropped from $104.24 to $94.39 and at the same time the number of horses has decreased from 21,555,000 to 21,109,000. This indicates a decreasing demand because both price and number have dropped and possibly that the tractor and truck are displacing the horse. It does not indicate, however, that the demand for good, well-bred horses is any less because there will always be use for the horse.

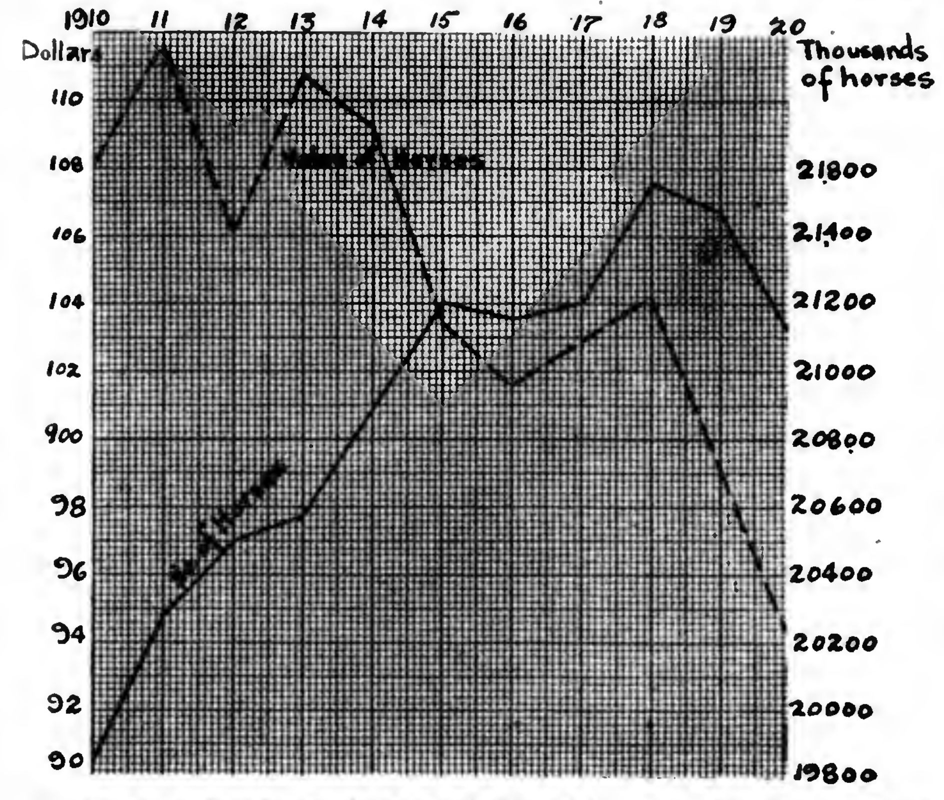


Chart Showing Number and Value of Horses for the Last Eleven Years

To-day tractors and trucks are being used more rationally than ever before. A few years ago it was not uncommon to see tractors stowed away in the shed on farms not adapted to their use for one reason or another. In a similar manner many trucks were bought not necessarily by farmers, but by business concerns as well, which were not adapted to the kind of trucking to be done. Either they were too big or too little, or too expensive for the short hauls and numerous stops. Some of these concerns have gone back to horses. Conditions have brought a great settling down to a rational use of tractors, trucks, and horses, thanks to a broader knowledge of conditions. And there need be no question regarding the breeding of good horses, just as there is no question today regarding the value and usefulness of tractors and trucks when intelligently purchased and operated.

THE GRANGE AND DAYLIGHT SAVING

Since the Legislature of New York took a false step in food legislation by voting to retain on its statute book the war time daylight saving act National Grange Master Sherman J. Lowell of that state has been very active in presenting the topic in its real lights. And now according to him the devotees of daylight saving will have little cause to congratulate themselves on forcing the odious measure on farmers.

The matter is to come up for another hearing and in all probability the bill to repeal will be passed. Mr. Lowell has been in Albany, with New York State Master W. N. Giles, and in conversation with assemblymen formerly opposed to repeal they find that a better understanding of the needs of agriculture will lead them to vote differently next time. Legislators are learning that not only farmers but the general public prefers to work on old time, and that food production very largely depends on recognition of nature's law for working hours.

Massachusetts has a similar bill before its legislature. Mr. Lowell has recently been in Boston to speak before the City Club. He aroused much interest in the matter of bringing farmers and city people closer together, while there he discussed daylight saving and found the people more interested in greater crops than in daylight saving.

Richard Hall, manager of the New York State Grange Exchange protests the injustice done to rural school children many of whom will have to rise before daylight in order to reach school on time.

The forcing of daylight saving on the farmers on its first and second appearances before the Legislature put the farmers of the state into a thoro fighting trim as the action was recognized widely as class legislation directed straight at them. Their failure to accept the action meekly has aroused legislators as no other one thing ever has, the postal injustices and their non-acceptances of a year or so ago being the nearest like it of anything.

It remains to be seen what the Governor's action will be. He entered his office on great promises of work for food production. So far his acts in this line have been of utmost disappointment to farmers and consumers. If he forces this measure on the state for a year it is hard to say where the results of such actions will end.—M. G. F.

MACHINERY IN CORN PRODUCTION

Corn production averaged little more than 2 bushels per farmer's work day of 10 hours in the middle of the last century, when he husked and shelled by hand and turned the crank of a fodder cutter. The average rose to 14½ bushels half a century later when he used a gang plow disk harrow, corn planter, self-binder for cutting, husker and fodder cutter, and a shelling machine. Besides, there has been improvement in agriculture. If the corn was husked from standing stalks and these left in the field, and the corn was not shelled, the gain in production each day of farmer's labor was from 10 bushels in the earlier time to 26½ bushels in the later.

Is the harness all ready, with collars scraped, cleaned, and smoothed for the heavy spring work?

Thresh Your Own Grain AND YOUR NEIGHBORS, IF YOU WISH

THE Huber Junior Thresher and a 12-25 tractor equip you to thresh your own grain with your own men whenever it is most convenient. Your crop is always safe from sprouting if the season is wet, or from shelling out if the season is dry. You can thresh when you *should* thresh.

THE HUBER JUNIOR THRESHER

is just as efficient as the large Huber Thresher, a machine whose many good qualities are known to experienced threshermen everywhere. It threshes cleanly and "saves the grain". It differs only in size from the best standard threshing machines.

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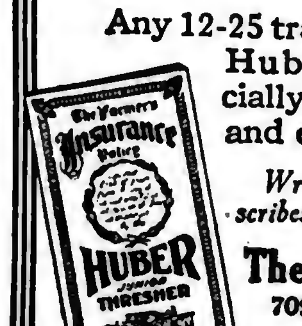

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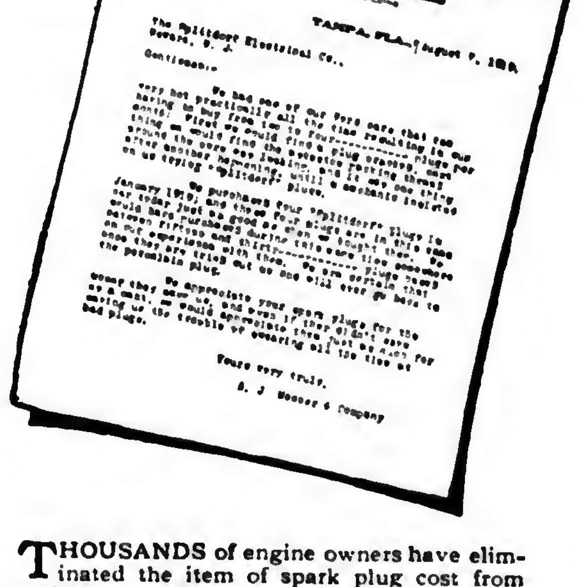

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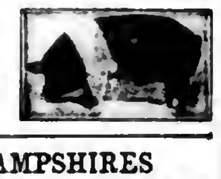

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BELROSE DUROCS— EXPRESS PAID Boars and Bred Sows, bred and open gilts all sizes. Prices right. BELROSE FARMS, RICHFORD, N. Y.

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Large Type Duroc. Boars and Fall Gilts. Also some fine spring pigs. Guaranteed to please or money refunded. B. H. SAGER, BASIL, OHIO

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Fine Big Type Reg. BERKSHIRE Hogs for sale. Outstanding Spring Pigs, either sex, with great stretch, upon toes, and splendid heads; out of exceptionally big sows; Rival's Champion, Lord Premier Successor and Superbus breeding. Also gilts bred to farrow in the fall, from our great boar Highwood Rival 431st. At low prices. Sat. guaranteed. Galen G. Grubb, Palmyra, Pa.

Blue Hogs. Shipments desired the coming summer should be booked at once. Now shipping Spring orders. These hogs are actually Blue in color. They are the largest growthiest and most prolific breeders on earth. Write for information. Mention this paper. THE BLUE HOG BREEDING CO., WILMINGTON, MASS.

Durocs Young pigs, very best of bloodlines. Strictly big type, either sex. Reg. free. Sat. guaranteed. Good enough to ship anywhere. Write your wants and for circulars. ORANGEDALE FARM, Orangeville, Pa. R. 1.

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Berkshire Pigs, sired by States Majestic, one of the best boars ever bred by Penna. State College. Also two extra good boars ready for service. A. B. Kirsch, Nicktown, Pa.

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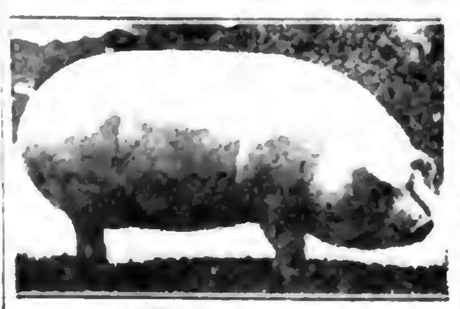

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Crandell's Prize Hogs, Cass City, Mich.

FERTILIZING CORN ON STUBBLE

I would like your advice on the best thing to do to raise a crop of corn on eight acres of ground that was planted to corn last year. I have been thinking of following A. B. Ross' advice in the Farm Journal of 1 to 2.08. I suppose that means twice as much potash as phosphoric acid.

According to Mr. Ross you must use 41.3 pounds of phosphoric acid and 60.9 lbs. of potash to the acre. At this rate it would cost me $85.26 for the potash and $24.25 for the phosphoric acid, or $109.51 altogether. If my calculation is correct I feel it would be too expensive. What would be your method? I have no manure. Would it be better to drill it on with a grain drill broadcast or to drill it with the corn drill at the time of planting? Perhaps it would be better to use a cheaper grade of phosphate and lime. T. E. H., Montgomery Co., Pa.

It is very doubtful whether potash would be profitable for growing corn as long as it sells at prices as high as those prevailing, at the present time. It is also doubtful whether corn would be profitable grown on ground which has already grown a crop unless a cover crop was grown on the ground or manure used to supply organic matter which is one of the most important factors in corn growing.

In such a case an application of lime would prove profitable but it is very likely that the land would be very much poorer after the crop was grown. Fertilizers should be used liberally. No less than 400 pounds of mixture composed of four parts of acid phosphate, one of nitrate of soda, and one of tankage, fish scrap, cottonseed meal, or two parts of bone should be used to the acre. It is a good plan to divide the mixture and apply one-half with a grain drill and one-half with the corn drill at the time of panting.

CO-OPERATIVE FARMING SUCCESSFUL IN FRANCE

The battlefields of France have already begun to yield the harvests which France needs so urgently to repair the waste of war and which looked so remote immediately after the fighting ceased.

Modern co-operative farming methods, imported from America, are used in the reclamation near Rheims under the direction of Major Alexander G. Scott of Mississippi and Captain Robert Hartshorne of Red Bank, N. J. They were detailed by the American Red Cross shortly after the armistice to demonstrate the value of modern methods and to provide employment for the refugees in this district.

The French government set aside 1,000 acres of waste land which was reclaimed and put under cultivation by the Red Cross experts. The venture, involving the pooling of interests and the use of modern American machinery, proved so successful that it has served as a model for the farmers near Rheims.

The balance sheet for 1919, just made public, attests the success of the undertaking. With 1,750 acres already reclaimed, it shows a net profit of 150,000 francs. An additional 3,250 acres were to go under cultivation this spring. The large returns, with a minimum of expense and labor, which the new methods have yielded have induced the farmers to continue their co-operative society indefinitely, altho a two-year limit had been fixed on the arrangement.

VERY TENDER HEARTED

"That girl of mine is the most tender-hearted in the world," said old Mrs. Smuggles.

"She doesn't look it!" thought her hearer, but, aloud, said politely:

"What makes you say that, Mrs. Smuggles?"

"Well, you know," said Mrs. Smuggles, "she stays in her room every Monday—can't bear to see her old mother doing the family wash."—Pittsburgh "Chronicle-Telegraph."

Farmers, like manufacturers, should establish a reputation for honest, uniform, high grade products, and then live up to the reputation. Advertising will do the rest.

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Preventive and curative of colds, roup, canker, swelled head, sore head, chicken pox, limber neck, sour crop, cholera, bowel trouble, etc. Mrs. T. A. Morley of Galien, Mich. says: "Have used Germozone 17 yrs. for chickens and could not get along without it." Geo. F. Vickerman, Rockdale, N. Y., says: "Have used Germozone 12 years; the best for bowel trouble I ever found." Frank Sinka, Chicago, Ill. writes: "I have lost but 1 pigeon and no chickens in the 3 yrs I have been using Germozone." C. O. Petrain, Moline, Ill. "I never had a sick chick all last season." Bernard Horning, Kirksville, Mo., says: "Cured my puniest chicks this spring." Ralph Wurst, Erie, Pa., says: "Not a case of white diarrhoea in 3 yrs. I raise over a thousand a year." Good also for rabbits, birds, pet stock.

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Ducklings Tiffany's Superior Mammoth Pekin, Rouen, Everlay, Indian Runner (all varieties) Eggs. ALDHAM POULTRY FARM, R 39, PHOENIXVILLE, PA.

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Selby Service Satisfies Ship us your duce, poultry eggs, Penna. Potatoes a specialty. Returns day are sold. Ask for our market letter. SELBY PRODUCE CO., PHILADELPHIA

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Hatching Eggs of Pure-Bred Poultry

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Facts in BLACK & WHITE

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Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

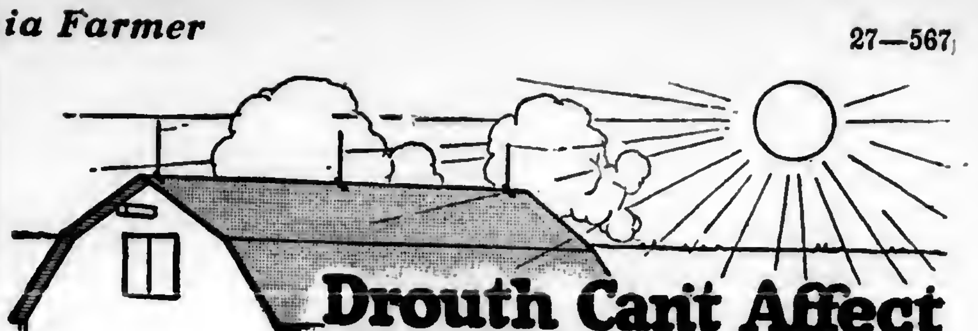
Bruised Hock—About two months ago my 5-year-old mare was kicked by another horse, bruising hock joint. Since then the wound healed, but joint remains considerably enlarged. What had I better apply? E. W., Johnstown, Pa. Apply one part iodin and nine parts lard to swollen parts every day or two. A bunch of this kind is not easily reduced.

Stiffness—Loss of Power—Bruised Face.—We have a pig about five months old and she is so stiff she is unable to walk. Have another in same pen that is fine, same feed and care. Both have good appetite, always hungry, is fed middlings, chop and corn. Have another pig with bunch on face, which I believe will open. D. B. M., Fleetwood, Pa. The quicker you make pork of her the better. Paint bunch with tincture of iodine daily, open when it softnes and wound will soon heal.

Laminitis (Founder)—I have two heifer calves 15 weeks old, that foundered on a grain mixture. One is affected with a stiffness and paralysis of hind quarters. Some time later the other one had spasms. Both of them are now off their feet and can't even stand when assistance is given them. Neither of them bloated. These caves were greedy for a mixture of cob corn meal, whole oats, oil meal, wheat bran and some shelled corn, so much so that they cared little for roughage. We have them on whole milk and calf meal now. They nibble at some corn fodder and hay. They seem to lack bone and muscle-making food. Our local veterinarian says these are singular ailments. What do you recommend? J. C. B., New Galilee, Pa. If they still suffer from soreness in fore feet, apply wet bran poultices. Feed them some well cured clover, or alfalfa and roots. Continue feeding milk and calf meal. Don't feed them much corn and cob meal. Giving them drugs will not do them much good; however, you will make no mistake in following the advice of your vet.

Cow Gives Bloody Milk—I have a cow that gave birth to her second calf some four weeks ago, but two weeks before she freshened her udder was some congested, for which we did nothing. She was dry only one week. The calf sucked for two weeks after she freshened. Soon as I milked her I discovered that she gave bloody milk. I am feeding her corn 2 parts, bran 1 part and cotton seed meal one part. She is also fed clover and corn fodder. H. G. W., Denver, Pa. It is a popular belief with farmers and many dairymen that a stupid calf can take better care of an imperfect or infected udder than a college trained veterinarian, or practical dairyman. Doubtless her udder would be now in much better condition had she been milked once daily up to time she came fresh, then milked cautiously three times a day since she calved. If she is a deep milker, cut down her grain ration, avoid rough milking, bed her well, don't allow her to associate with other fighting cows or kicking colts. Give her a teaspoonful nitrate of potash in feed daily.

Chronic Metritis—Chronic Vaginitis.—Exhaustion.—I have a cow which was fresh last September, since then she has remained thin but has good appetite for food. She gives a nice mess of milk, but fails to come in heat. She has some vaginal discharge. Another one of my cows gave birth to twin calves, but she was too weak to stand and after a few days died. J. R. E., Ligonier, Pa. Give her one dran powdered sulphate of iron, one dram ground capsicum, and half an ounce ground gentian at dose in feed 3 times a day. She should be well fed. Your other cow died of exhaustion and great weakness, or perhaps septic poison, following imperfect cleaning.



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Purebred Holstein bull calves from sire having all dams for 3 generations with records above 30 lbs., except own dam and one granddam, each of which have 25 lb. records.

CALF NO. 1—Born Feb. 20, color largely black, straight back line and fine individual. Dam is untested, but gave 10,488 lbs. of milk last year on ordinary farm care.

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No hired help, must reduce my milking herd of 70 reg. Holsteins, 20 grades. Come at once and get first choice and a bargain. 40 reg. heifer calves, all ages. 18 reg. bulls, grade heifers, ⅞ Holstein heifer calves $20 each, express paid in lots of 5. Farm 19 miles south of Syracuse. John C. Reagan, Tully, N. Y.

Registered Berkshires Big type service boars from litters farrowed in Sept. and Oct. 1919. Four grandsons of Epochal's Progress, sired by a son of Matchless Lee 8th. One grandson of Old Forge Successor, sired by Maybelle's Baron Duke. Three grandsons of Superior Emblem, sired by Winona Lee Champion 6th. Here are eight extra good young boars. Good enough to head any herd. EZRA J. NOLT, R. 2, MT. JOY, PA.

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First prize 2-year-old bull N. Y. State Fair 1919. Dam gave 743 lbs. milk in 7 days, as a 3-year-old world record when made. Two nearest dams average 30.01 lbs. butter, 721.75 lbs. milk in 7 days. Bull and heifer calves for sale at all times. Postal brings full information. Write me before buying a bull calf for your herd. E. G. DORAN, PREBLE, N. Y.

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Reg. Jersey Bull and Heifer Calves for sale. Our entire crop of calves from dams with official and testing association records. Priced from $50 up. Chas. A. Leonard, Troy, Pa.

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King Korndyke Sadie Vale Jr., No. 20391, two nearest dams averaging 36 pounds of butter in 7 days, heads my herd. Butter records from 17 pounds two-year-olds to 34 pounds at full age. Also high grade Holstein calves, either sex, $15.00 each. Write your wants. PAUL H. STEVENS, Prop.

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Every time a tire is left standing in a puddle of water, the tiniest hole is likely to let enough water through to loosen the fabric, separating it from the tread and allowing sand and gravel to work in.

Go over your tires carefully every now and then and seal every cut or hole.

EVERY motorist remembers how it was with his first car. If he heard the slightest unfamiliar noise—a piston slap or a buzzing gear or a creak in the body—it was a serious matter. His friends were always ready with some helpful advice.

But the only time his tires ever made a noise was when he had a blowout.

Then everybody laughed.

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For years the irresponsible tire dealer traded on the good nature of American motorists.

His idea of business was to sell a man two tires to replace an old one and to console him with the thought that after all motoring is a "great game."

Even today *not one motorist in five* is getting what he is entitled to in tires.

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More and more the motorists of this country are learning that the remedy for high tire costs lies in *better tires*—not more tires.

And that getting better tires means first of all going to the legitimate dealer — the man who sells the known article and who does not attempt to substitute the unnamed or the unknown for the sake of more profits.

Since the beginning the United States Rubber Company has been looking forward to the time when motorists everywhere would come to *quality* in tires.

Building more tires every year, but never more than it could build in conformity with the highest standard of quality.

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AGRICULTURE THE KEYSTONE OF NATIONAL PROSPERITY

ESTABLISHED 1880

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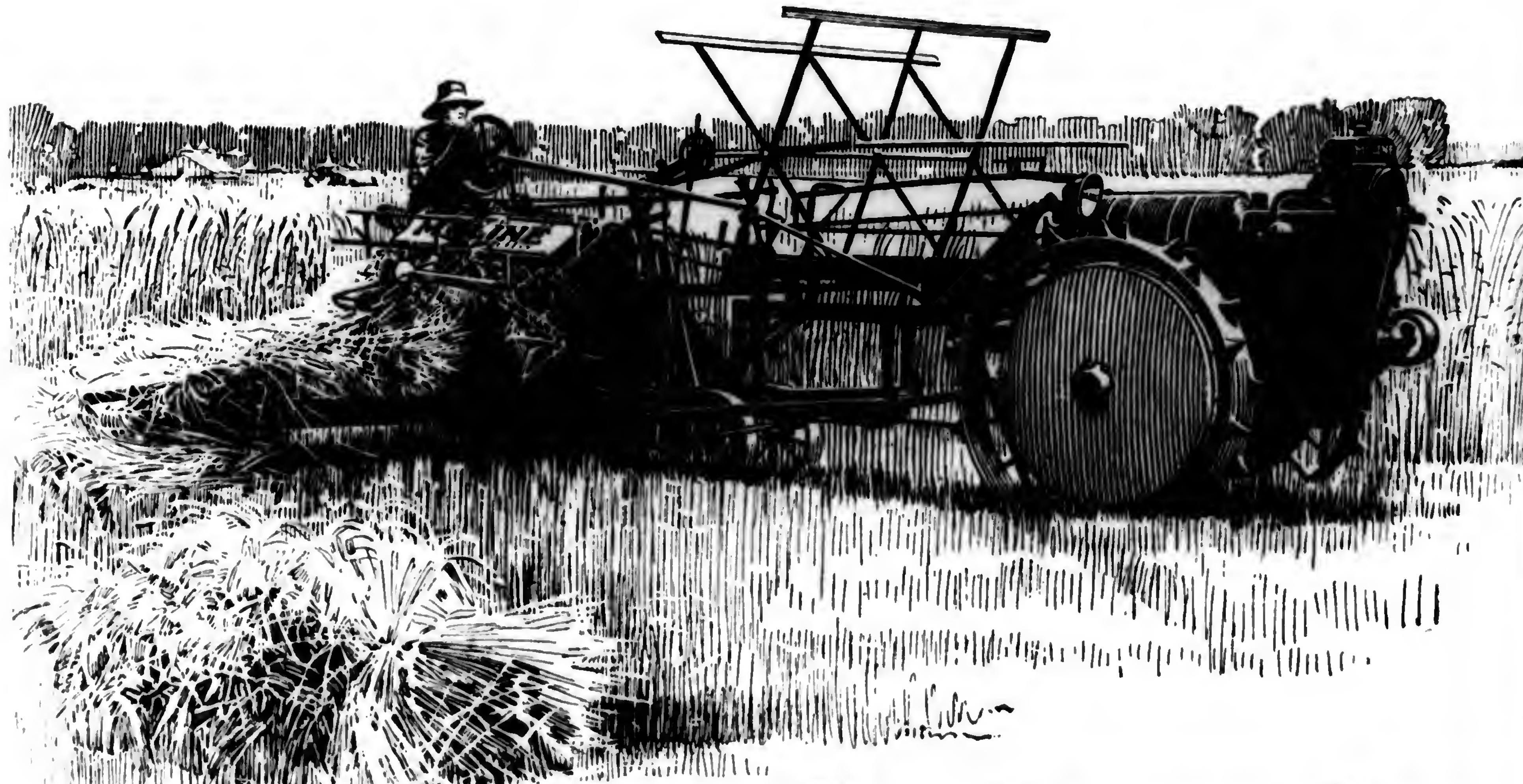

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ESTABLISHED 1880
PUBLISHED WEEKLY

The Lawrence
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What Dairy Organization Has Done

This Article Tells of the Development of the Dairymens' League

By ELMER E. REYNOLDS

The Dairymen's League is the product of evolution. It is the outgrowth of several attempts of producers who supply New York City with milk to organize their forces for the purposes of securing fair prices for their products. The history of this movement of which the present powerful and highly efficient organization is the outcome, is tersely told in these lines:

"Tis weary watching wave on wave,
And yet the tide heaves onward;
We build, like corals, grave on grave,
But pave a pathway sunward.

We are beaten back in many a fray,
But newer strength we borrow;
And where the vanguard rests to day,
The rear shall camp tomorrow."

Forty years ago the milk supply of New York City came from a few nearby counties. The famous "Orange County butter" was still quoted in the market reports. The manufacturers of creamery and dairy butter was carried on extensively within a hundred miles of the Metropolis. All of Northern Central and Western New York was devoted to cheese and butter making.

Then came a period of rapid development in the market milk trade. Consolidations of many small milk dealers into large business organizations was the rule and the milk supply came under the control of a combination of large dealers now known as the Milk Conference Board. The milk train came into existence. Milk shipping stations owned by the city distributing companies took the place of the creameries and cheese factories, until few are left except in the extreme northern and western sections of the state.

This combination of distributors, having control of both the city distribution and country shipping stations, fixed prices to the producer and consumer, and vast fortunes were made by the dealers, while thousands of farmers, unable to continue in the business of producing milk at a loss, sold their herds and abandoned their farms. Farmers more favorably situated, who were able to hold on, after years of individual effort to secure fair prices, made various attempts to organize for mutual protection. The Five States Milk Producers' Association flourished for a while, but as with its predecessors dissentions crept in, the membership dwindled away, and it passed out of existence without having accomplished its mission.

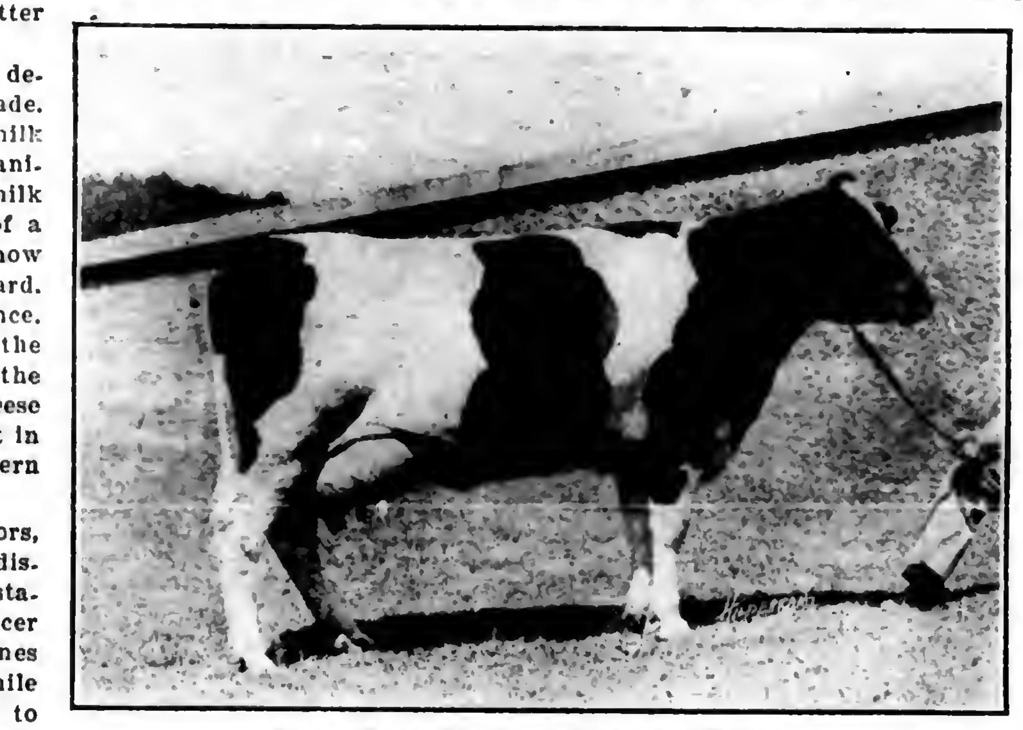
Twelve years ago a number of progressive dairymen, representing several different sections of the milk territory, met and organized the Dairymen's League. This organization met with little support from the disheartened dairymen. It was seldom heard of during the first nine years of its existence; but all these years the league was laying the foundation for its present remarkablo success in co-operative marketing.

In September, 1916, the officers, backed by a few determined members, decided to make a final stand for a price for their milk which would save the industry from ruin. They made an offer to the distributors and it was promptly refused. Then they called a strike to begin the following month. How the dairymen rallied to the support of the league and won the strike is well known to the readers of the Pennsylvania Farmer.

This first battle was the beginning of the Dairymen's League's control of the milk supply of the metropolis and several of the up-state cities. The League membership grew rapidly. When the strike was called it had only a few hundred members, and $1,500 in the treasury. Four months later, according to President R. D. Cooper, it had 33,000 members and a surplus of $42,000. At present nearly 80,000 dairymen are members of the League.

The strike of 1916 was also the beginning of a bitter war between the distributors and the producers. The dairymen secured better prices for their milk, but the distributors began seeking means of disrupting the League.

There was a New York State law known as the Donelly Act, which made collective bargaining by farmers a crime. Under this law, President Cooper and the other League officials were placed under arrest and held for trial. Then the allied farmers' organizations of the state brought their political influence to bear with such force in the Legislature during the session of 1918 that the Donnelly Act, so far as it concerned farmers' organizations, was repealed. With the repeal of this law the cases against the League officials were withdrawn.



Pioner Segis Queen, A Delaware Winner

This was a victory for the League; nevertheless the increased cost of feeds, labor and equipment made the League prices unprofitable, and there was much dissatisfaction. In the fall of 1918, owing to complaints made by the producers, an investigation was begun by the Federal Milk Commission to reach a just basis for estimating the cost of milk, and as a result the Warren formula was developed, which was accepted by the League as a standard of cost estimates; but it was turned down by the dealers. It is claimed that they had been making preparations for a fight for a long time.

The League agreed on a price of $4.01 for January milk. The dealers offered $3.60 as their ultimatum. The League officials on December 31st, notified the farmers that the milk was not sold. The producers refused to deliver at the stations, and the second great milk strike was on.

The farmers stood firm in spite of the efforts of the city officials and dealers to intimidate them. Not only members of the League but non-members fought side by side, the sentiment being that never again would the farmers sell their milk at the dealers' terms.

The producers won, the distributors agreeing to pay the League price. The dairymen demonstrated that they could hold together, in the face of the strongest opposition. They also realized the seriousness of a milk strike to all parties; that while the victory was theirs, it had cost them heavily in reduced consumption and demand. And they also were deeply impressed with the fact that one great problem still unsolved was what to do with the surplus. There is sure to be a surplus in the flush season, and as long as this condition exists, with no means of utilizing it in the country, the dealers can make use of this surplus as a means of hammering down the prices.

Soon after the January milk strike was ended, the League leaders called in their best legal talent to devise a plan for handling the surplus. Their investigations convinced them that no plan would be satisfactory which does not include in its scope control of the country end of the milk handling and shipping business.

After much deliberation a plan was adopted which included the organization of the Dairymen's League co-operative Association embracing the league organization in New York State; regional co-operative associations covering one or more counties, and local co-operative associations. Each of the regional and local associations are to be held responsible to the central organization.

At a meeting of the League in Utica in March, 1918, the co-operative plan was unanimously endorsed, and Bradley Fuller, a Utica farmer-lawyer, was elected chairman of the board of directors. Mr. Fuller was a member of the Federal Milk Commission and has spent much time in perfecting the League plan some of the objects of which he says are as follows:

"First. To provide a method whereby League stockholders may care for their own surplus milk.

"Second. To regulate the supply of fluid milk and milk products to meet the demands of the market.

"Third. To pool the proceeds of the sale of such fluid milk and milk products, to the end that each producer may receive the same price, less the usual differentials of freight rates, butter fat, etc. This last object is fully as important as any, for one of the difficulties of the present method of selling milk is to get each member on the same basis as every other member.

"The plan of the local associations shall be:

"To afford Dairymen's League, Inc., stockholders who become members, the means of buying and selling farm produce and farm equipment co-operatively, except milk.

"The sale of milk by the members of such local organizations shall be kept separate from the sale of other agricultural products, and such sale shall be contracted for directly with the Dairymen's League Co-operative Association, Inc., which is known as the parent company. Contracts covering the handling of such milk will be supplied by the parent company, to be executed between the producers and the parent company, so that the handling and sale of milk and milk products may be centrally controlled in order to regulate the supply demanded by the market and to equitably pro rate the returns.

"There shall be organized regional co-operative associations incorporated under the Membership Law of the State of New York, with a membership of incorporated local associations. These regional organizations have the same purposes as the local, and shall also serve for the purpose of providing a method of selecting the directors of the parent organizations.

"The co-operative plan provides for a central organization, composed of all the regionals and organized for the objects permitted by the law, this parent company to act as agent for the producer in selling his milk and milk products under the uniform contract provided by it. The parent company shall receive all the proceeds of the sale of milk and milk products of the producers, which shall be blended into one general fund and from this fund the net proceeds for his product shall be paid the producer. This puts every member of the organization on the same basis.

When this plan is fully in operation the league will control the supply of milk until it reaches the city distributor but does not include the retail distribution of milk. The surplus will be manufactured in to butter, cheese, condensed milk and other products to be sold under the league brand.

After a trial of several months the league abandoned the Warren formula, adopting in its stead a plan for basing its liquid milk price on the highest market quotations of the wholesale delivered products, including butter, skimmed milk, cheese and whey, and averaging these quotations for a period of thirty days preceding the 28th of each month. To this are added differentials to allow for costs of production. The present plan has worked favorably for the producers up-to-date, owing to the prevailing high price of manufactured milk products, but with a decline in butter and cheese, it will not be so satisfactory to the dairymen.

The Dairymen's League is conducting several important activities in addition to selling the milk produced by the herds of its members. It prints a dairy paper, ably edited by E. R. Eastman. It is backing the farm bureau in all counties in league territory. It employs practical publicity men to show city folks the farmers' point of view and demonstrate the food value of milk.

It has met strong opposition from the milk distributors combine in New York and the little combines in the up-state cities. It has been opposed by an antagonistic city press and by city politicians. One or two would-be leaders of the farmers, who could not control the league for the advancement of their own selfish interests, have undertaken to create dissentions in the ranks. But it has had the loyal support of the farmers. The farmers have consistently backed every move by their chosen leaders.

The Dairymen's League has accomplished a great work. It has shown the milk producers the value of team work. It has secured for them better returns on their labor and investments than they received before the league became a factor in milk price control. It has saved the dairy industry of New York State from stagnation and serious loss. The farmers generally appreciate what the Dairymen's League has done for them, and by their loyalty and support I believe they are going to see it thru to victory and permanent success in its varied undertakings for the betterment of the great dairy industry.

Note.—A discussion of activities of the Association appeared in our April 17th issue.—Eds.

Results of Steer Feeding Experiments

Showing the Production Costs at State College, Pa., by Using Different Combinations

The 140-days steer feeding experiments at The Pennsylvania State College closed April 6th. On April 8th, the Annual Cattle Feeders' Meeting was held, and the results of the experiments discussed. The cattle were appraised by Mr. James Denholm, a Pittsburgh packer. The cattle used on the experiments were grade Shorthorns and Herefords purchased on the Chicago market late in October.

The initial cost of the cattle at the feed lot at the beginning of the experiment was $11.45 per hundredweight. Five lots of twelve steers each were used to compare the value of corn silage supplemented with ear or shelled corn for the entire or a part of the feeding period. Cottonseed meal or linseed oil meal were used as protein supplements.

Lot I received an average daily ration of 33.54 lbs. corn silage; 1.8 lbs. mixed hay (the first 23 days); 7 lbs. corn stover (the last 117 days); 12.5 lbs. broken ear corn (first 84 days); 12 lbs. shelled corn (last 56 days); and 2.88 lbs. cottonseed meal. This lot made an average daily gain of 2.02 lbs. The cost of making 100 lbs. gain being $27.14. They were appraised at $11.75 per hundredweight, in the lot at the end of the feeding period, the loss being $40.94 per head.

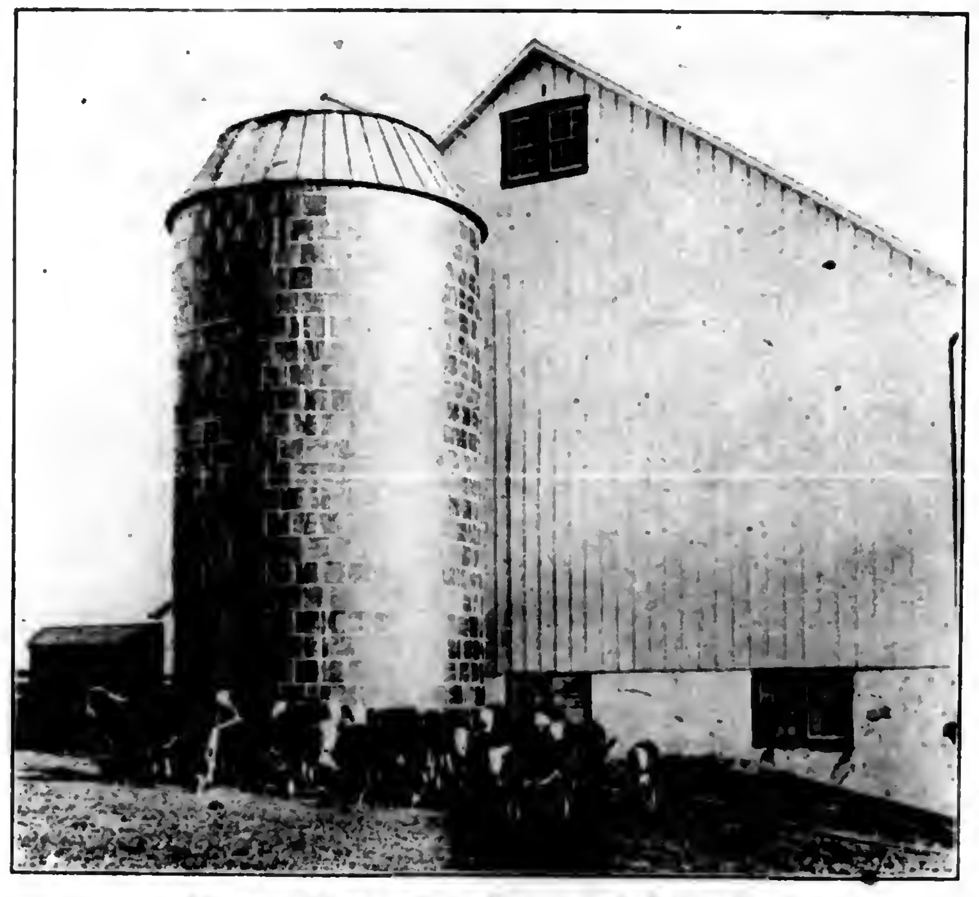
Lot II received an average daily allowance of 48.49 lbs. corn silage; 2.37 lbs. mixed hay (first 23 days); .83 lbs. corn stover (last 117 days); 9.98 lbs. shelled corn (last 56 days); and 2.88 lbs. cottonseed meal. The cattle in this lot made an average gain of two pounds per day. The final appraised value in this lot was $11.50 per hundredweight, resulting in a loss of $32.50 per head. The cost of gain was $23.20 per hundredweight.

Lot III received daily 50.41 lbs. corn silage; 2.53 lbs. mixed hay (first 23 days), .88 lbs. corn stover (last 117 days). 9.98 lbs. of shelled corn (last 56 days), and 3.08 lbs. linseed meal. The average daiy gain per steer was 2.27 lbs. at a cost of $21.40 per head.

Lot IV received a daily ration of 57.18 lbs. corn silage; 2.41 lbs. mixed hay (23 days); .85 lbs. corn stover (last 117 days), and 2.88 lbs. cottonseed meal. These steers made an average daily gain of 1.93 lbs. The final appraised value of this lot was $11.50 per hundredweight. The cost of gain being $21.22 per hundredweight, the loss was $26.00 per head.

Lot V received daily 57.23 lbs. silage, 2.9 lbs. mixed hay (23 days) .94 lbs. corn stover (117 days), and 3.08 lbs. linseed meal. This lot made an average daily gain of 1.95 lbs. at a cost of $21.05 per hundredweight. The final appraised value was $11.75 per hundredweight, with a loss of $23.20 per head.

From this date, it is seen that a heavy loss was incurred with all lots. The heaviest loss was with lot I, receiving a full corn ration during the entire feeding period. Lot I, II, and IV received the same roughage and protein supplement, and the loss per steer was in direct proportion to the amount of corn allowed. Lot III and V received linseed oil meal as a protein supplement, and showed a smaller loss than Lot II and IV, which received the same ration except that they were fed cottonseed meal as a protein supplement.



Silage is Essential to Economical Cattle Feeding

A test was conducted to determine the value of cane molasses as a substitute for part of the corn ration for two year old steers. The initial cost of these cattle was $12.00 per hundredweight.

Lot I received a daily ration of 36.87 lbs. silage, .57 lbs. mixed hay; .23 lbs. corn stover; 12.96 lbs. broken ear corn (first 84 days); 14.96 lbs. shelled corn (last 56 days); and 3.18 lbs. cottonseed meal. This lot of cattle made an average daily gain of 2.27 lbs. at a cost of $26.21 per hundredweight. The final value, as appraised, was $12.50 per hundredweight, resulting in a loss of $37.62 per head.

Lot II received daily 35.69 lbs. corn silage; .58 lbs. mixed hay; .27 lbs. corn stover; 8.94 lbs. ear corn (first 84 days); cane molasses, 4.66 lbs., and cottonseed meal, 3.18 lbs. The molasses was fed at the rate of one third of the corn allowance in Lot I. The average daily gain for this lot was 2.55 lbs. per steer, and the cost of gain was $24.26 per hundredweight. The final appraised value was $13.00 per hundredweight, making a loss of $27.15 per steer.

Prices Allowed For Feeds

Ear Corn,	$1.30 per bushel
Shelled Corn	1.35 per bushel
Cottonseed Meal	84.00 per ton
Linseed Oil Meal	82.00 per ton
Mixed Hay	20.00 per ton
Corn Stover	4.00 per ton
Corn Silage	10.00 per ton
Molasses	38.00 per ton

PRODUCTION OF LIVE STOCK

Figures prepared by the Bureau of Markets of the United States Department of Agriculture show that on January 1, 1920, there were fewer meat animals on the farms than there were on January 1, 1919.

The number of head of meat animals on the farms for the two years are as follows:

	January 1.	
	1920	1919
Cattle	44,385,000	45,085,000
Sheep	48,615,000	48,866,000
Hogs	72,909,000	74,584,000

Did you ever think how little it costs to operate a tile drain after it is installed? It works for you day and night while the ground is wet.

The shining hoe is he best badge of the good gardener.

Fillers or Make-Weights in Fertilizer

The Farmer May Avoid Their Use by Mixing Raw Materials at Home

By A. W. BLAIR

New Jersey Experiment Station

In the minds of a good many farmers there has been an element of uncertainty, and suspicion in regard to "fillers" or "make weight" materials used in connection with the manufacture of commercial fertilizers.

If a fertilizer analyzes 4 percent ammonia, 8 percent phosphoric acid and 6 percent potash—a total of 18 percent plant food—it is quite natural that the purchaser should want to know of what the remaining 82 percent consists.

Raw materials of which fertilizers are made are chemical compounds, or by-product materials which contain chemical elements, and must be dealt with as such. A fertilizer of the formula mentioned must contain 4 pounds of ammonia in each 100 pounds, or 80 pounds to the ton. It must also contain 160 pounds of phosphoric acid and 120 pounds of potash to the ton.

Having determined this it is next in order to calculate how much of the given raw materials will be required to furnish these quantities of ammonia, phosphoric acid and potash, and whether or not these will make the full ton.

If the fertilizer is being put up for a potato grower he may have specified the following materials:

Pounds	Am. lbs.	P. A. lbs.	Pot. lbs.
250 Nitrate of soda, 18% Am.	45	...	...
100 Dried Fish, 10% Ammonia	10	...	...
100 Tankage, 7% Ammonia	7	...	...
50 Dried Blood, 16% Ammonia	8	...	...
40 Ammonium Sulphate, 25% Am.	10	...	...
1140 Acid Phos. 14% Phos. Acid	...	160	...
250 Muriate of Potash, 48% Potash	..	...	120
1930	80	160	120

We have in the 1930 pounds of the mixture, the 80 pounds of ammonia, 160 pounds of phosphoric acid and 120 pounds of potash which the formula calls for, but the manufacturer proposes to sell a ton of 4-8-6 goods and he is 70 pounds short altho he has in the 1930 pounds all the plant food that he has agreed to furnish in one ton. If he uses the materials specified he must add 70 pounds of filler.

This 70 pounds is 3½ percent of the whole. This with the 18 percent of plant food make 21½ percent, leaving 78½ percent which is not plant food in a commercial sense, neither is it filler. It is, however, necessary combining material, just as much as water is a part of the milk which we drink, tho the water is not purchased for its food value.

Ammonia for example is a poisonous gas which the farmer could not handle, even if the manufacturer were willing to supply him with it, but when combined with other elements to form ammonium sulphate it becomes a high-grade nitrogenous fertilizer which is easily handled. Phospohric acid and potash are likewise strong chemicals which cannot be used as such, but when combined with other elements to form acid phosphate and muriate of potash respectively, they become valuable fertilizers.

In the above mixture we therefore have 18 percent of plant food, 78½ percent of combining materials and 3½ percent of filler. A small amount of filler used in this way is entirely justifiable. It may be any material which does not in any way damage the mechanical condition of the mixture or injure the soil or crop. Ground oyster shells, ground limestone, dried peat or even sifted coal ashes could be used in this way. In practice much of the filler is supplied by using low-grade nitrogenous materials as a source of a part of the nitrogen.

It would be possible to make a ton of fertilizer of the same formula but having a much higher percentage of filler. Such a fertilizer may be made by using the following materials:

Pounds	Am. lbs.	P. A. lbs.	Pot. lbs.
222 Nitrate of soda, 18% Am.	40	...	...
160 Am. Sulphate, 25% Am.	40	...	...
1000 Acid phos., 16% phos. acid	..	160	...
240 Muriate of potash, 50% Pot.	..	...	120
1622	80	160	120

We have in the 1622 pounds all the plant-food required for the ton of fertilizer. In this case it will be necessary for the manufacturer to add 378 pounds of filler, which is about 19 percent. This also is justifiable if the added material will not injure crop or soil and will aid in making a good mechanical mixture that will give no trouble in the drill.

The farmer may well ask if he cannot avoid the expense of handling inert material and at the same time have a good fertilizer.

This can be done by buying the raw materials and mixing them on the farm, thereby saving several dollars on the ton. He should understand that a mixture made from the last mentioned materials, without any organic matter is likely to become hard if allowed to stand in a pile or in bags. If he can arrange to apply it soon after mixing it is a safe and an economical way of handling fertilizers.

On the other hand if it must stand sometime before being applied, it would be necessary to substitute tankage or some other organic material for a part of the mineral nitrogenous compounds or to use peat or rich earth to give the material a good mechanical condition.

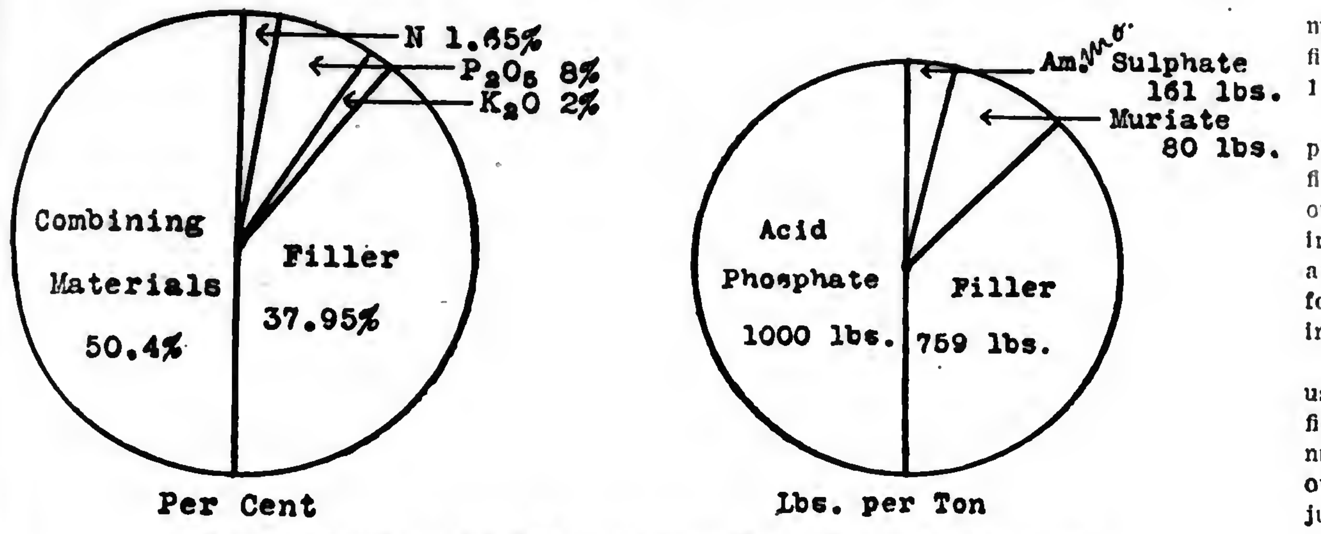
Figures 1 and 2 illustrate a method of making a fertilizer analyzing 2 percent ammonia, 8 percent phosphoric acid and 2 percent potash from high-rade materials. It will be noted that 759 pounds to the ton or nearly 38 percent of filler is required.

Figures 3 and 4 show how the same fertilizer may be made from low-grade materials with a filler requirement of only 29 pounds to the ton or 1.45 percent.

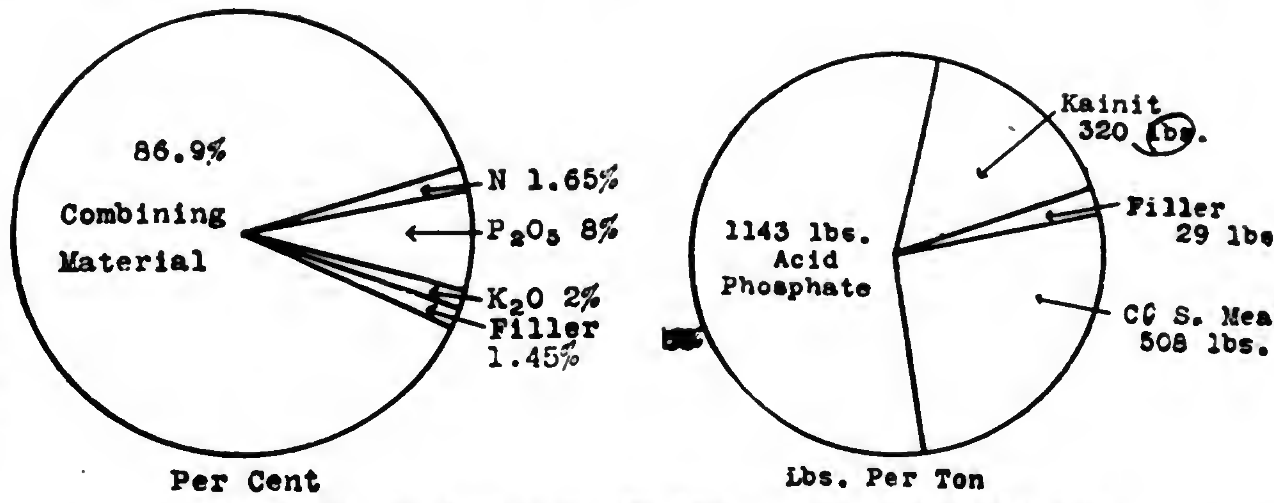
Both contain equal amounts of nitrogen, phosphoric acid and potash, but by mixing the first without filler, making the 1241 pounds go over the ground for which the entire ton was intended, there would be a distinct saving in the amount of material handled. If this plan were followed, the precaution with reference to applying soon after mixing would have to be followed.

The fact that very much of the fertilizer used in experimental work is hand-mixed if sufficient proof that it is possible to make a uniform mixture in this way. The farmer who mixes his own fertilizer has the satisfaction of knowing just what goes into it.

It is clear that the use of fillers in commercial fertilizers may be entirely justifiable and fair and it is likewise clear that their use may under some circumstances make an unnecessary tax upon the farmer.



Figures 1 and 2.—A 2-8-2 Fertilizer Made From High-Grade Materials.



Figures 3 and 4.—A 2-8-2 Fertilizer Made From Low-Grade Materials.

HOW I KEEP HIRED-MEN SATISFIED

After having much experience handling hired-men, I can truthfully say, that I have never had one to quit the job or become dissatisfied. Therefore, I will submit a few rules, which others might follow.

First, I make the rest hours of my hired help comfortable, by good sleeping quarters, and a comfortable sitting-room of his own.

Second, I furnish him with a reading table with plenty of good books, etc.

Third, when a friend calls on our hired-man, he knows he is welcome to take him to his room.

Fourth, our hired-man greatly enjoys music, so our phonograph is at his disposal at any time.

Fifth, we furnish him regularly with good nourishing food.

Sixth, when we go to church or visiting, we always ask our hired-man to accompany us, and he seldom refuses.

Seventh, if he makes a mistake, I do not get angry with him, as many bosses do; I merely tell him of it, in a kind way, and the same mistake never happens the second time.

Eighth, when work is not pushing, I let him have a day off, and in the hot summer days, I let him go to the shade for several minutes each day.

Ninth, if my hired-man leaves his work for a few minutes without my permission, I do not get angry with him.

Tenth, Last, I pay by check, the last day of each month.—G. A. Gilliam.

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Our Job is to serve our readers. Whenever and wherever we can help you, write us.—The Editors.

To the Wise and the Otherwise

PROPHETS have never been respected nor heeded by their contemporaries. The vast majority of mankind often insists upon pursuing a hell-bent course in utter disregard of the advice and warning from those whose better understanding enables them to see the end of the race. Those who have understood the problems connected with agriculture and who have had a sympathetic interest in the well-being of mankind have for years been urging a saner treatment of the problems related to that industry. But to a great extent they have been unheeded. Farming has not received the same consideration by business men and lawmakers as has other business, and the result is that in this day of unexampled high prices and expansion' agriculture is in a state of decadence. In spite of this condition and the evident necessity for encouragement, repressive efforts continue. The farmer is arrested for endeavoring to cooperate for self-help; his banking laws are threatened with repeal; bills to levy a federal tax upon his land to relieve the excess-profit taker are proposed; efforts to legalize his business associations are attacked as class legislation in spite of the universal example found in other lines. Yet, in the midst of impending calamity, the ever mounting prices and the ever increasing wages, the strikes, lock-outs, the unexampled extravagance, the public cry is, "on with the dance." But the fiddler must soon be paid.

* * *

The old fable of the man who had his wish granted when he wished that everything he touched would turn to gold should be remembered. For a short time he reveled in the possession of great riches. But he found that when he became hungry even the food turned to gold when he touched it and he could not eat. He soon died from the pangs of starvation. It needs no stretch of imagination to apply the lesson of the fable to the present tendency. Other industries by the offer of abnormal wages are fast drawing the men and women from the farms, because their labor there will return more gold. But gold is not food.

* * *

People forget in times of plenty that food is the primal necessity. The fate of the contending armies in the Great War hinged not upon the supply of ammunitions, but on the food supply. The only reason France and England could continue so long was because America kept them supplied with something to eat, else they would have been on their knees the second year. The reason why Germany finally sued for peace was because her people were on the verge of starvation, not because they were short of powder and shells. What a pity that mankind should so soon forget what it learned during the war about the fundamental necessity of an adequate food supply!

* * *

Secretary of Agriculture Rasmussen is not playing the role of an alarmist when he says that we are living in a fool's paradise. His reports show that Pennsylvania farms are short 81,000 hands. Three-fourths of all the farms in the state are under-manned. The farm labor shortage is greater now than at any time during the war. Secretary Meredith of the federal department solemnly calls attention to the lessening food supply. The prospects of the winter wheat crop indicate a yield of about two-thirds that of last year, and that the labor shortage and the high wages demanded preclude the sowing of a large acreage of spring wheat. Figures show that during the past year the number of cattle has decreased three-quarters of a million, sheep one-quarter of a million, and hogs one and one-half million. We would respectfully call attention to the results of the cattle feeding experiment published on page four of this issue as a possible explanation. If the most intelligent feeding of good cattle brings such disastrous results, what of the average man?

* * *

But the public must not depend upon the departments of agriculture to solve the problem of providing an adequate food supply. They can and do assist by advice and the enforcement of laws, but the greatest service they can perform is to popularize agriculture by placing before the consuming public the essential needs of the farmer so that the public shall be willing to accord economic justice to him. Departments of agriculture have no power to direct labor to the farm. The only force that can do that is the drawing power of returns and wages that will over-balance the attractiveness of the big wages afforded in other callings. Q. E. D. The net returns to the farm must be greater than they are or have been in the past. This does not necessarily mean that the public should pay more for all of its food. It means that there must be less of the retail price absorbed between the farm and the city table. In other words, unnecessary tolls must cease.

* * *

One of the unfortunate factors in the food problem is the ignorance on the part of the consuming public about the costs and profits of farming. It thoughtlessly assumes that the farmer receives the price it pays for food. For instance, the public feels when it pays 35 to 48 cents a pound for steak that it is paying a big profit to the farmer. Let it read the article referred to. The consumer is filled with indignation at the farmer when she pays 80 cents a dozen for eggs. Let her turn to the wholesale market reports. The city dailies will not truly render their boasted service as public educators until they are wise enough and honest enough to publish the truth about farming, and all the business connected with the handling and transportation of its products.

* * *

Altho the situation is gloomy for the public as a whole until there is a radical change, the cloud has a silver lining for the farmer. He of all people may well feel reassured. He and his family are assured of enough to eat, and of receiving good prices for almost everything he has to sell. The scramble for food on the part of the consuming public is bound to continue, simply because the demand is greater than the supply. This is an opportunity farmers should embrace and plan to produce to the limit of their limited capacity. Adoption of the best methods, the substitution of tools and machinery wherever possible, the selection of good seed and the best stock, the judicious use of lime, manure and fertilizers will enable those who keep their heads and stick to the farm to not only live but to "cash in" on the results of the insane efforts on the part of others to get the most gold for the least possible service. Some day the Jasons will tire of their chase of the golden fleece and there will be a treking back to the old farm. Sometime the public will learn that their own best interests are wrapped up in the well being of agriculture and will be willing to do justly by it. In the meantime, let farmers who have hay to make, make it while the sun shines.

Our Washington Letter

If the Capper-Hersman farmers' collective bargaining bill is ever reported out of the House Judiciary Committee it will undoubtedly be revised to such an extent that the authors of the original bill will hardly recognize it. Representative Andrew J. Volstead, of Minnesota, chairman of the Judiciary Committee, has prepared a tentative bill which he hopes will be a satisfactory substitute for the Capper-Hersman bill, giving the farmers a law that will meet their demands, without certain objectionable features the committee is said to have found in the original measure.

Mr. Volstead's bill is designed to authorize by law the association of producers of agricultural products. It provides that farmers may act together in associations, corporations or otherwise, with or without capital stock, in collective processing, preparing for market, handling and marketing in interstate and foreign commerce the products of their members, provided that each member has an equal voice in the management of his association irrespective of the amount of capital he may have contributed thereto, and that no one is entitled to be a member or to share in the profits of the association unless he is a farmer engaged in the production of agricultural products, and also providing that the association is for the mutual help of its members and not for profit upon the property of the association or upon the stock or share owned by members, and such profit shall not exceed seven percent annually upon the amount invested.

Gray Silver, Washington representative of the American Federation of Farm Bureaus, regards the Volstead bill as supplementary to, rather than a substitute for the Capper-Hersman bill. He refers to a case in Tennessee where it was shown that several dealers in lumber who were members of an organization formed on the open competition plan, exchanged with one another thru a common secretary, reports showing their respective rates of production and stock in hand, and also the prices which each member had received on actual sales of lumber. The Federal District Judge, after hearings were held, last month, decided that this was a violation of the Clayton amendment to the Ani-trust law.

All farmers who when assembled in groups, discuss the prices of farm products, costs and actual sales made, are guilty under this decision; and who ever saw a group of farmers together who did not discuss these matters? We can have co-operative work done only thru a common secretary, so that the decision of the Federal Judge forbids all co-operation of farmers and provides jail sentences for the violators. In fact it places a jail in every farmer's yard.

Mr. Silver thinks the Volstead bill should supplement the Capper-Hersman bill. The first thing to be done is to remove the jail from the farmer's yard, and the Volstead bill in its present form only partly does this. Neither the Capper-Hersman bill or the Volstead bill is complete. It is thought that we should have both for the protection of the farming interests.

If the National Grange, American Farm Bureau Federation and National Board of Farm Organizations representatives give their endorsement to this bill, I am told that there are strong probabilities that it may be reported out onto the floor of the House—sometime; but not until after the election. The Cold Storage bill, packer legislation, and other bills in which farmers are interested are being held up, and a man who is in close touch with legislative matters tells me that he does not look for any of these bills to pass until next winter. However good the intentions of the average Congressman may be, he realizes that this is election year, and it is safer not to vote at all than to record his vote for or against a measure upon which his constituency may be divided in sentiment.

* * *

Every farmer who possesses land, the value of which, exclusive of improvements, is in excess of $10,000, will be subject to an excise tax of one percent cent on all above the $10,000, if the Nolan bill, H. R. 12397, should become a law. This bill is already meeting the strong opposition of the organized farmers. Dr. T. C. Atkeson, Washington representative of the National Grange, says the Nolan bill "is a deliberate effort to shift federal taxation to the land. No account is taken of present taxes on real estate or on the farmers' incomes. They are to remain as at present, and in addition to that a further burden of a billion dollars a year is to be placed on the shoulders of the farmers of the country by this bill. The propaganda for this bill is addressed to "Business men." It is claimed that thirteen hundred million dollars in capital is represented by the firms and corporations that endorse the Nolan bill, and demand its passage." Men prominent in the American Federation of Labor are among the backers of this scheme to put the taxes on the land.

* * *

The most recent development in "Truth in Fabric" legislation is the appointment of a sub-committee of the House Interstate and Foreign Commerce Committee, to go over the French "Truth in Fabric" bill, the Rainey "Stamped Fabric" bill, the Barkley "Misbranding" bill, and the Rogers bill, and report back to the full committee their recommendations. The most authoritative statement I have been able to secure from a member of the committee is that there will be some legislation along the line of misbranding, but it will differ somewhat from the French "Truth in Fabric" bill.

* * *

The Migratory bird act of 1918, designed for the protection of migratory birds, was held constitutional by the Supreme Court, the other day. The statute was attacked by Missouri authorities who alleged that it was in conflict with the sovereignity of the state. This decision will be hailed with delight by all bird lovers.

* * *

That there will be a bitter fight over the methods proposed for raising the funds to pay the soldiers' bonus, is indicated by several clashes that have already occurred during the discussion of this proposition. The House Ways and Means Committee recommends a tax of one-half of one percent on all purchases. Some Congressmen profess to see in this a scheme to substitute a sales tax for the excess profits tax, thereby unloading the burdens of government directly onto the shoulders of the people. These representatives insist that a retroactive tax should be levied on war profits of the men who were enriched by the war.

* * *

Representative Rainey of Illinois presented estimates submitted to him by the Treasury Department, showing that 69,000 men made more than three billion dollars in addition to their normal income during the war, and figures from the Internal Revenue Department showed that 21,000 new millionaires were created.

* * *

As Congress seems unable to cut down government expenses to fit the income, it is evident that various attempts will be made to devise means of taxing the people other than those now in use, and it will be well for folks on the farms as well as elsewhere to keep close watch on the proceedings of Congress. The Government is now spending nearly two million dollars a day, the total for the year ending June 30th, being estimated at $6,750,000,000.

* * *

The Army and Navy expenses are still exceedingly high notwithstanding the attempts to get back onto a peace footing, and the men in charge of these departments are continually asking for more. One Senator, in speaking on the army appropriation bills, said that "our appropriations for agriculture and for many other worthy and necessary objects were cut to the bone, apparently because they had no paid bureau of lobbyists to urge their cause."

* * *

If there is anything which will force Congress to take action on some of the demands made by the farmers, it is the present and prospective food situation. The inability of the farmers to compete with the railroads, mines, factories and building trades in the labor market, because of a lack of remuneration from the sale of their products to pay the increasing wages, is depleting the farms of labor. Assistant Secretary of Agriculture Clarence Ousley says that there are actually fewer laborers on American farms today than there were when we had five million men under arms.—Elmer E. Reynolds.

HARRISBURG LETTER

No Labor Improvement.—A careful survey of farm conditions by State agents fails to show improvement in the supply of farm labor and indications are that the shortage to which Secretary of Agriculture Fred Rasmussen called attention a few weeks ago will grow worse instead of better unless some concerted means are taken in the cities and towns. In a number of counties farmers have let it be known they will not plant in corn and potatoes any more acres than they can take care of either by themselves or such labor as they are sure of. In the central counties, where the drain due to the establishment of industries in the smaller towns has been severely felt, business men's organizations have taken up the subject, but nothing practical appears to have been devised. The shortage of labor is acute in eastern counties and knowledge that the purely rural counties are not any better off does not seem to have produced anything but discussion. There are communities where trucks are sent out into the country to haul to factory work, people living on farms.

Mr. Smith To Leave.—Guy C. Smith, chief of the State Bureau of Markets, is to leave the state service to enter the Chicago office of one of the big packing firms. Mr. Smith has had unusual experience in organization of markets and has studied the problem all over the country, while he has been in charge of important work in Washington for the Federal Government and had charge of market services for the states of Massachusetts and Connecticut. Mr. Smith organized the Pennsylvania State service and his leaving is another instance of how business which pays the salaries is taking from the public service trained men.

Heading Off the Fires.—Commissioner of Forestry Gifford Pinchot, who got the big timberland owning companies into a cooperative plan to patrol their forests and to clean up the "slashings" so that the fire menace can be reduced, has asked the 33 or 34 railroads in this State to help out. Representatives of the railroads will meet him here next week to discuss plans for abating the dangers due to sparks and it is believed big steps towards removing a prolific cause of fires can be taken.

Wheat Doing Fairly Well.—While some counties report poor condition of wheat and rye the general indications are that the grain will produce almost what was turned out last year, given fair weather conditions until harvest and hands to get it in. The average period of snow covering was longer last winter than usual and in some counties the alternate melting and freezing has produced backward conditions.

Cooperative Contracts.—The state market authorities have been able to secure adoption of numerous contracts in regard to cooperation and the adoption of a uniform system. The standard contract is designed to protect the members and while there has been some opposition the justice of the plan has been apparent.

Urban measles.—The figures for the first quarter of the year show more measles than known in a similar period and the percentage of rural cases is small, in fact smaller than known for some time, speaking from a comparative standpoint.—Hamilton, Harrisburg, April 26.

NEW YORK LETTER

Children Set 10,000 Trees.—Ten thousand three-year-old pine and spruce trees will be set out on an 8-acre area by the children of Watertown on Arbor Day. The state is furnishing the trees.

Bankrupt Milk Concern.—The Chemung Valley Dairy Products Company, Inc., of Big Flats has gone into bankruptcy, owing farmers of the vicinity $45,000 for milk purchased in 1917-18.

Clean Cattle.—The New York State Holstein Breeders' Association has declared that the State should aim to establish a reputation for "clean cattle," meaning that the association will do all it can to have local breeders take up the accredited herd plan in earnest. A motion was unanimously carried that all members of the state organization at once place all their animals under federal supervision. Buffalo will try to get the National Holstein Convention for 1921. This place of meeting has been endorsed by the State Association.

Dairymen Without Market.—One hundred and fifty dairymen of Syracuse and vicinity are ready to deliver milk in cans to any part of the city at League prices. But there is no market for it, and they are obliged to manufacture or feed it at a loss. The distributors of the city in the winter brought into the city milk from new sources, and when the flush came on continued to buy of these sources, refusing to accept milk from farmers who had furnished it for years.

Farmers' Last Trump.—Both houses of the Legislature have passed the bill to veto daylight saving, with a surety of the Governor's veto of their repeal. In that case the farmers' organizations will take out an injunction to prevent the attorney general's enforcing the statute, which conflicts with the federal law.

Eggs in Crates By Parcel Post.—During the railway strike thousands of cases of eggs went into New York City by parcel post, also many tubs of butter. In many local sections of the state the egg market was ruined by the tie-up.

State Fair Cattle Department.—Prof. E. S. Savage of the State College has been named to superintend the cattle department at the state fair, and E. S. Hill, a well known breeder will superintend the swine and sheep departments.

Corn Not Germinating. — Many farmers of the state find that the exceedingly cold winter has hurt the germinating qualities of seed corn that was not stored in a warm, dry place. There is considerable uneasiness over the situation, aggravated greatly by the recent strike and the failure to deliver seeds of all kinds badly needed at once by the farmers.

Breeders Organize. — About 180 farmers of Onondoga County owning fine pure bred herds will organize a Holstein Breeders' Association. The Farm Bureau of this county is to engage in a campaign to induce herd owners to adopt the accredited herd plan.

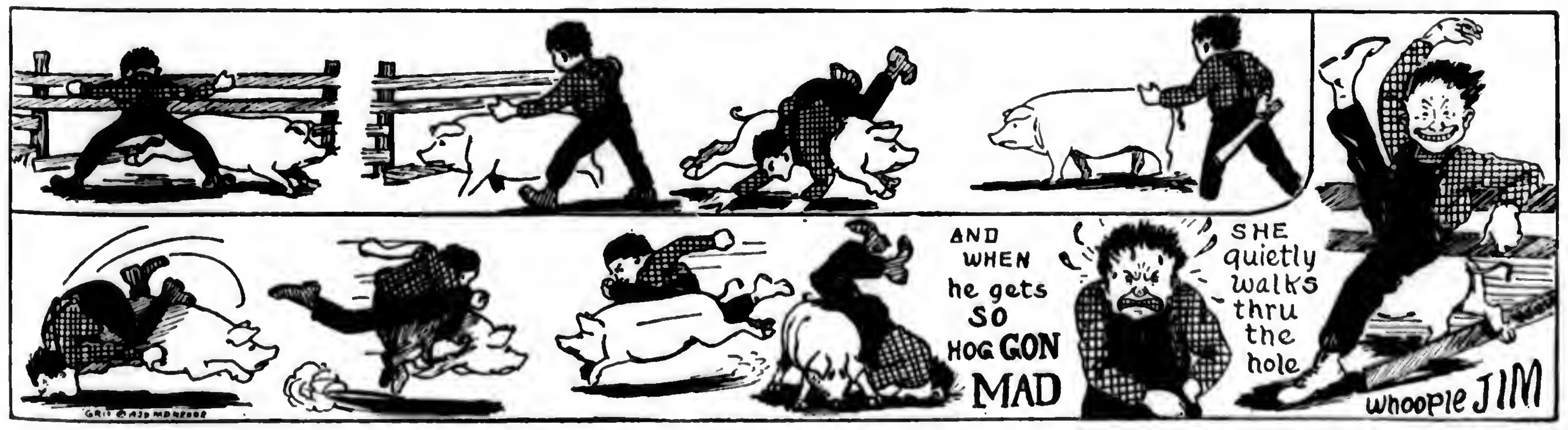
State in Overalls.—One city after another has joined the "Overall Club" until this movement has spread from New York City to Canada.—F.

NEW JERSEY NEWS

Legislature Delays Adjourning.—Owing to political quibbling between Governor Edwards and the legislature's Republican majority, adjournment of the 1920 sessionwas not taken last week, and it may be a week or two before a resolution to adjourn is adopted. Extension of the session is due to the Senate amending the Delaware Bridge and Hudson Tunnel bill, so that payment of interest on $28,000,000 bond issue would be by State tax instead of from the State Treasury. Late measures signed by Governor Edwards are: From the Senate.—Appropriates $11,500 for salary increases for county school superintendents; making it a high misdemeanor to encourage hostility to the New Jersey or Federal Governments; includes township committeemen in board for jurisdiction over drainage of meadow-land; validates sales of lands under court decree where advertisement of property has been defective; increases, the salaries of court attendants or constables in counties with a population between 175,000 to 250,000 inhabitants to maximum of $1,500; increases salaries of district court deputies from $1,200 to maximum of $2,000 per year and allows such officials to sign name of clerk of court in his absence; allows counties to advertise escape of prisoners and to offer $150 reward for apprehension; authorizes State Commissioner of Education to pass upon educational qualifications of candidate for nursing and increases the fee for examination to obtain degree of registered nurse from $5 to $10; allows director of boards of freeholders to fill vacancies on county insurance fund commission; amends school bond act of 1916 by removing ambiguity stated to exist in the act for the acquiring of lands and erection of buildings; allows commission-governed cities with no local boards of health to be represented on board of managers of County Hospital for Contagious Diseases; provides for public record of all collateral inheritance tax receipts and fixes fee for indexing by clerk of county; removes from law of 1898 provision requiring that ten days elapse after death of testator before presenting will for probating; permits Orphans' Court to allow executors, etc., to continue business of a decedent person; provides for fixing amount of bond by executor under Orphans' Court Act after court confirmation of sale of lands; gives $3,000 to Bordentown Industrial School for elevation of farm buildings; allows freeholders to lease buildings to incorporated historical societies; makes guilty of misdemeanor prisoners who escape from sheriff; fixes fee for documents prepared by district court clerk and allows $11.75 for jury of twelve men; makes unlawful catching of eels in creeks, etc., in Dennis and Upper Townships in Cape May County with net or seine from August 1 to December 1 of each year.—Kelly.

Little Sara Brown, on her way to school, fell into a pool of water, with the result that she had to turn homewards again, all dripping wet. The next day her mother sent the following note to the teacher:

"Please excuse Sara, as she fell in the mud. By doing same you will greatly oblige."


AND WHEN he gets SO HOG GON MAD
SHE quietly walks thru the hole
whoopie JIM

Our Son, GRIT, Tried to Drive a Pig Thru a Gap. Grit Thinks He Did. Older People Know Better.

Where Butter Profits are Made or Lost

YOU know better than we can tell you that the bowl of the separator is the place where butter profits are made or lost. Right there you have the big fundamental reason why over a million dollars was spent in bringing the bowl of the EMPIRE-BALTIC to its present state of perfection. Years of constant study and experiment on the part of the world's foremost centrifugal engineers stand back of the EMPIRE-BALTIC—the Separator with the Million Dollar Bowl.

And here's what we have accomplished: A bowl that is absolutely self-centering and self-balancing—a bowl that is **free from vibration.** We have solved the problem of self-centering and self-balancing by the unique method in which the bowl rests on the flange of the spindle instead of on the top of it—it adjusts itself.

Vibration unfailingly shakes the cream back into the milk after it has been separated. Possibly you thought that a bowl free from vibration could not be manufactured. **But we have accomplished it,** in the EMPIRE-BALTIC—the Separator with the Million Dollar Bowl.

Many other exclusive features make the EMPIRE-BALTIC stand out as an-above-the-ordinary separator. For instance, the rope neck-bearing absorbs all shocks and wear and tear—the ratchet coupling avoids the "jerk in turning"—the great simplicity of the driving arrangement means easier turning and smoother running—the oiling system is as simple as it is efficient, and so on.

Your experience enables you to judge separators as accurately as you can judge cows. Knowing this, we ask you to call on the nearest EMPIRE-BALTIC dealer. And—write for our literature 104-S

Empire Cream Separator Co., Bloomfield, N.J.

Manufacturers of Empire Milkers and Gasoline Engines

Chicago, Denver, Atlanta, Toledo, Syracuse, Minneapolis, San Francisco, Montreal, Toronto

EMPIRE-BALTIC
THE SEPARATOR WITH THE MILLION DOLLAR BOWL

The "Family Coat of Arms" of the leading line of Dairy Machinery—EMPIRE.

EMPIRE-BALTIC

The Separator with the MILLION DOLLAR BOWL

DAIRY

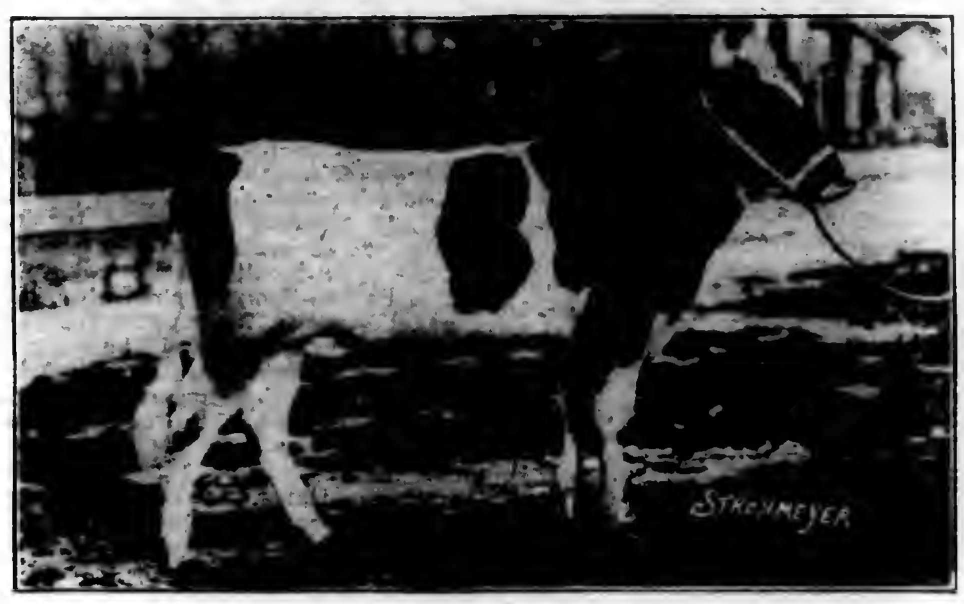
SOYBEANS VALUABLE

The past few years I became very much interested in the growing of such crops as alfalfa, soybeans, sweet clover and Canada field peas.

I find that many farmers who see the soybean stalks matured and dried with bean and all on them, seem to be very much surprised that cows, heifers, horses, sheep and pigs will eat such coarse stuff and many will almost doubt my word when I tell them that these animals by frequent tests prefer the soybeans to clover hay. To prove this fact I enclose a snapshot to show that free choice tells the tale.

In the summer of 1918 I sowed about 6 quarts of soybeans from which I harvested about 10 bushel of threshed beans for seed. The same season I also planted about 3 acres of corn and soybeans together which was cut with corn binder for silage this proved favorable as cows liked it and it made a very nice ensilage. I was well enough pleased with my new crop that I sowed inoculated soy beans with all my corn at the rate of about three quarts to the acre thru a soybean attachment on corn planter in the summer of 1919.

I intend to sow about three acres for hay and two or three acres for threshing. I hope to see more soybean attachments on corn planters. —I. Elwood Moyer.



Sir Inka Prilly Segis Augment

Cattle Leave Shelter of Stable to Eat Soybean Hay

SIR INKA PRILLY SEGIS AUGMENT

The young bull shown above was recently purchased from Winterthur Farms, Delaware, by the Boys' and Girls' Holstein Heifer Club of Schuylkill County, Pa. The bull will be bred to the ten pure-bred heifers now owned by the club members, as well as to other cows in the community. He is a fine individual and is well bred. His sire is Sir Inka Prilly Segis, a son of King Segis, and his Dam's sire Johanna King Segis is a grandson of King Segis. The dam at 4½ years has an official record of 18,172 pounds of milk and 710 pds. of butter for 365 days.—W. L. Bollinger, County Agent, Pottsville, Pa

SEPARATOR MILK FOR CALVES

We think there is no feed quite as good for calves as the warm milk from the separator. I think feeding the foam with the milk may cause illness, but I pour the milk out from under the foam, holding back the foam with one hand. We have fed our calves on this kind of milk for several years, and so far we have never experienced any bad effects, but instead we have had fine, large, healthy calves. The foam is air, or wind, and if an animal is allowed to drink its fill there naturally would be a spell of colic and bloating.

We believe that the ones who advocate not feeding the warm separator milk must have fed it foam and all. We have raised calves, also vealed calves, on separator milk, the veals bringing only two or three cents a pound less than those fed on whole milk direct from the cow.

We have fed separator milk also to young pigs, with equally good results. But we are careful to exclude the foam. Let the unbelievers try feeding separator milk this way, and note the splendid results. The foam is thrown into a receptacle and left to settle back to milk, before we use it. It pays to feed more separator milk to calves and young stock.—M. I. C. A.

THE FARMER HIS OWN COW DOCTOR

No farmer can be sure that he will not sooner or later have sickness of some kind among his cattle. Just as in the case of the folks at the house, so with stock. All animals are subject to disease of one kind or another.

This places upon the farmer the burden of being to a greater or lesser extent his own doctor; for it is not possible always to get a skilled veterinarian in time. Some simple

remedy may well have a place on the shelves of every farmer, for himself and for his horses and cows.

But there is a better way of insuring the health of animals; that is by good care in feeding, stabling, exercising and watering. This is the simplest and the most efficacious method of keeping stock in good physical condition. The animal which is regularly fed good feed, given the needed amount of water at the right temperature, exercise and kept in a well ventilated stable will scarcely know the meaning of sickness.—E. L. V., Broome Co., N. Y.

INTERESTING DAIRY COMMENTS

Dairy interests received much attention at the recent New York Farmers' Week meeting, and considerable new data was made public.

Professor Misner, of the department of farm management, gave several talks on dairy products and prospects. He told some results of a study made last summer of milk production costs in Herkimer Co. The average size of the 40 farms studied was 142 acres. There were 21.5 cows per farm, with an average value of $132 per head.

The production per cow was 4,808 pounds of which 33 per cent was produced during the six winter months. In 1918 grain cost $61 per ton; silage was valued at $7 per ton; hay, etc., at $18 and manure at $2.63 per ton. Wages were $32 per per hour for human labor and 20 cents per hour for horse labor.

The average loss at these figures was $33 per cow for the year. Only 20 per cent of the cows showed a profit. If these farmers received interest on their investment and the farm value of grain roughage and all their costs they then received 5 cents per hour for human labor.

Despite these overwhelming figures, Prof. Misner believes that conditions will balance matters later, especially along labor lines. The results turned out by the dairymen annually generally despite present obstacles, shows a high grade of efficiency and demonstrates that farmers are using more business sense in specializing on dairy products.

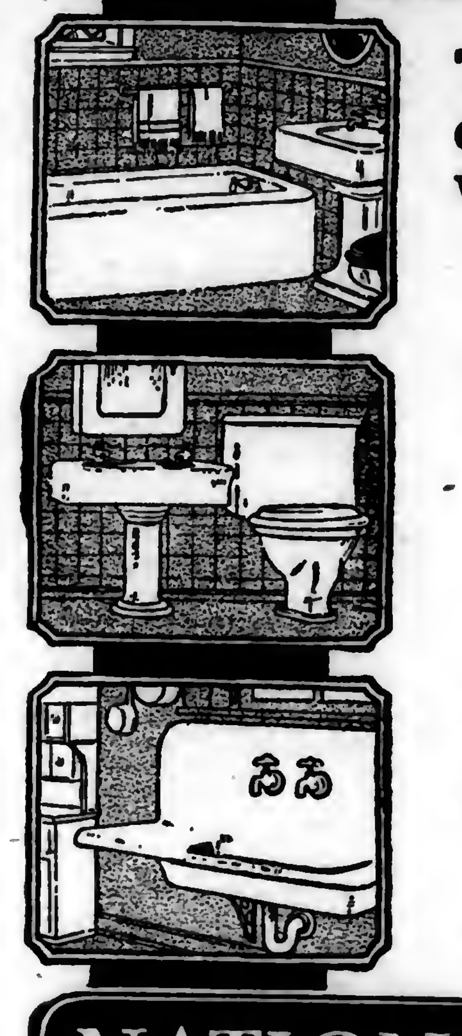
For each hour spent in milk production there were sold over 10 quarts of milk for city use. This ratio contained as much manpower energy as is required by 23 workingmen for a day.

Professor G. F. Warren gave some facts on the dairy situation and the future outlook. He said that under present conditions producers of summer milk were favored more than producers of winter milk. The Dairymen's League method of price fixing gives a relatively low winter price and a relatively high summer price. He believes it will be several years before this basis is equalized. He said that the price of milk was lower than that of any other food crop. Proof of this may be found in the lessened prosperity of dairy farmers, in the few heifer calves being raised, and in the great number going out of dairying.

The only refuge for American dairymen is cutting down the cost of production and better selling methods. Better breeding and selection will accomplish much along the former lines, as is shown by the cow-testing association of Bradford Co., Pa. The Canton Association leads in the number of quality cows.

During the recent big snow storms dairymen have lost thousands of dollars worth of milk which could not be delivered. The efforts to protect them against such loss are active, the new Auburn plant receiv-

(Continued on Page 12.)



The increased earnings of your herd will pay for these comforts

$25 more a year, from every cow in your herd.

That's the added income dairymen tell us they have secured by giving their cows water the National way. Not stale water from a storage tank, but pure, fresh water, right from the depths of the well, evenly temperatured the year around. An increased milk yield of from two to ten pounds per cow per day.

These new earnings will equip your house and barn with the latest plumbing conveniences.

Consider Your Family's Health and Comfort

Think what fresh, running water would mean to you and your family. Fewer steps in the kitchen—no more exposure, carrying water from the well—real bathing and shaving comfort in the bathroom.

Keep Your Children on the Farm

The National fresh water system will make your home far more attractive to your boys and girls. Keeps hired help on the farm, too. Less drudgery around the kitchen, barn and cow-shed—more solid enjoyment within the home.

We want you to know more about the National non-storage water system. Send for illustrated booklet today.

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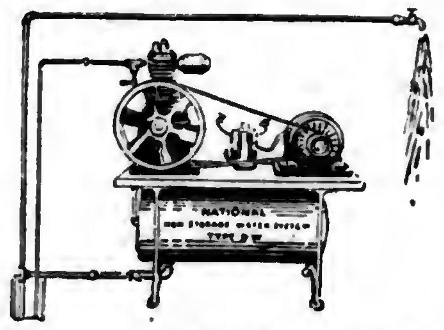
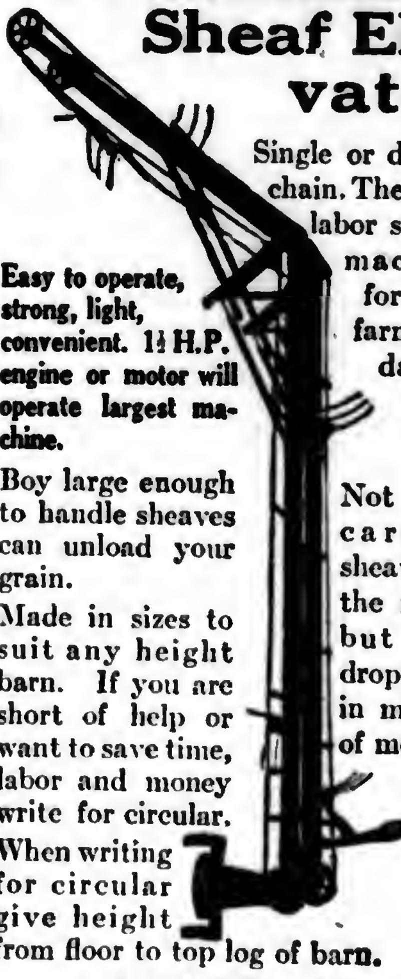


A small and inexpensive type of "National." Large enough for small farms.

NATIONAL NON-STORAGE FRESH WATER SYSTEM



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Single or double chain. The great labor saving machine for the farm today.

Easy to operate, strong, light, convenient. 1½ H.P. engine or motor will operate largest machine.

Boy large enough to handle sheaves can unload your grain.

Made in sizes to suit any height barn. If you are short of help or want to save time, labor and money write for circular.

Not only carries sheaves to the mow, but will drop them in middle of mow.

When writing for circular give height from floor to top log of barn.

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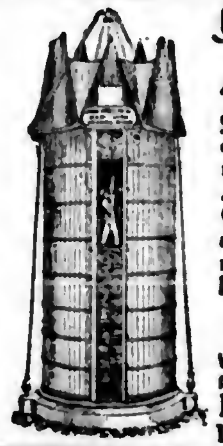

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Cools Milk—Kills Germs

Stop waste and loss—improve milk quality—insure uniform product. Use THE GENUINE CHAMPION

Saves time—and saves its cost in one week. Folder Free.

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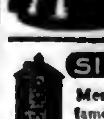

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Men wanted in every locality to own, show and sell famous Cincinnati Silos. Liberal spare-time profits. Full details free with special introductory offer.

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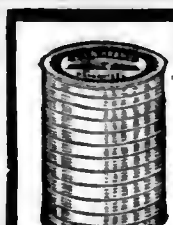

Contractors to the Government

TAPES

FOR TYING CELERY ASPARAGUS IN FAST COLORS

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Rider Agents Wanted

Everywhere to ride and exhibit the new Ranger "Motorbike" completely equipped with electric light and horn, carrier, stand, tool tank, coaster-brake, mud guards and anti-skid tires. Choice of 44 other styles, colors and sizes in the "Ranger" line of bicycles.

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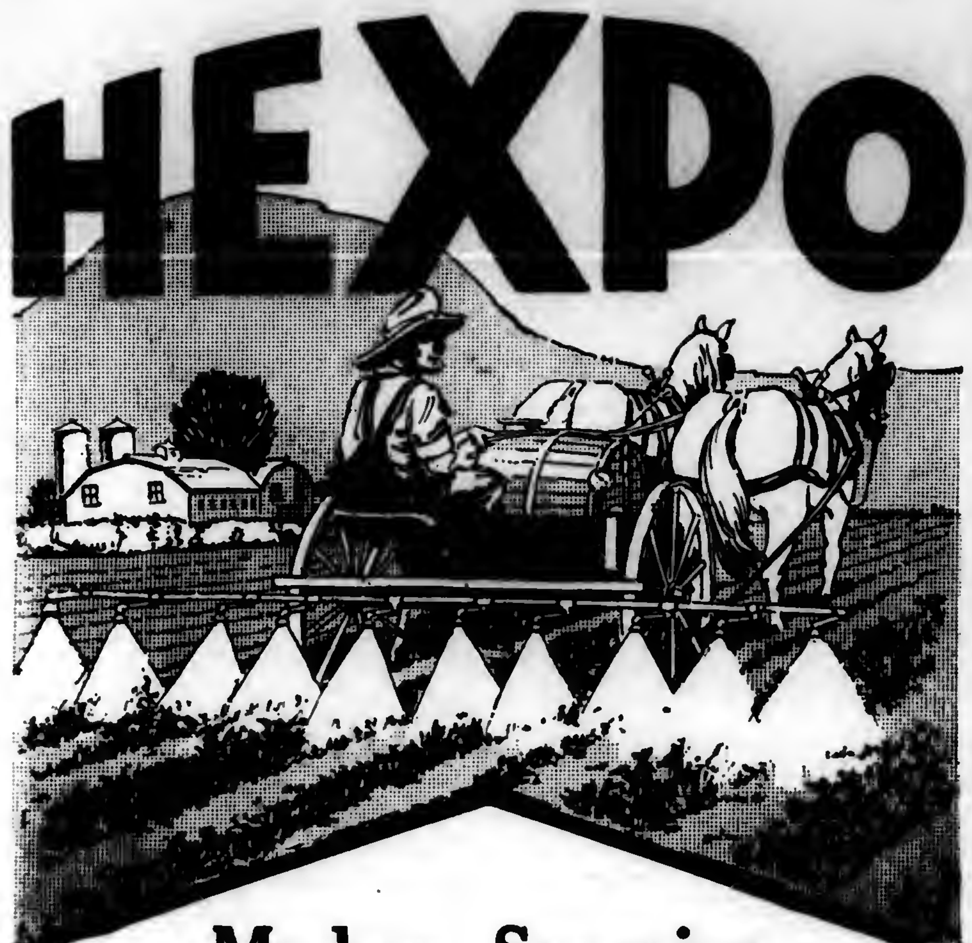

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DIRECTIONS FOR USE

HORTICULTURE

Suggestions on Tree Planting

By J. P. STEWART

The general lateness of the season has caused some uneasiness on the part of those whose tree planting is still to be complete, and some of them are wondering how late they can be in this work and still "get by" as the saying is. In answer to this, we would say that while in general the earlier the trees can be properly planted in the spring the better, yet one may continue planting with confidence as long as his trees can be kept reasonably dormant. In other words, it is the condition of the trees to be planted, rather than the exact stage of the season which determines the limit of safety in lateness of tree planting.

In this connection, we may also say that one of the best places to prolong the dormancy of the trees is a cool dark cellar, such as many of the large, old, stone houses in southeastern Pennsylvania are equipped with. If one is fortunate enough to have such a cellar, he can practically defy the weather man to prevent him from getting his trees planted in good shape, regardless of other conditions. In such a case it is best to remove the trees from the shipping box and pack them in the cellar as soon as received, and pack the moss or excelsior in which they were shipped around the roots, and then keep the roots moderately moistened from time to time as their condition requires. If no such storage place is available, one can often get along very satisfactorily by simply placing the shipping box in as cool a place as may be available, leaving the trees in it, and then moistening the roots as before and replacing the cover. Too much moistening is always objectionable, however, as it is likely to encourage molds and other noxious growths. Thoro heeling in of the trees, preferably in a shady place, followed by a quick transfer to their permanent positions is the most satisfactory method of dealing with this situation.

Most Efficient Number of Men for a Planting Gang.

When one reaches the actual planting operation, he is often undecided as to how many men to use in planting a single tree. I have seen old and generally efficient orchardists using all the way from one to four men around a single tree in its planting. With the larger number one or two of the men are usually employed in sighting. Where a proper system of staking or marking is used, however, I am of the opinion that by far the most work per man can be accomplished by using only one man to a tree. In other words, four men, each with a shovel and row of trees of his own to plant, will accomplish far more in a day than the same bunch working together on one tree at a time.

It is also very easy for one man to do the planting alone, after a little practice. He can hold the tree in place and kick in enough dirt at the start to hold the tree for any later shovelling that may be needed. He can also carry the trees or the fertilizer along his row, if any is being applied. He can also do the sighting if he is reasonably careful, without any appreciable loss of time, but for a gang of several men working on as many rows, it is usually desirable to have one man do all the sighting across the line of march and then hold each man responsible for the straightness of the trees in his own row. With such a system, a gang of five men and one sighter can regularly plant from 125 to 150 trees an hour in average soil and keep it up indefinitely. The other plans, involving more men to the tree, always result in too much waiting on each other, with consequent loss of time.

Methods of Staking or Laying Out

For extensive plantings, there are only two practical methods of laying the orchard out. One of these is by means of furrows, preferably in both directions, and the other is by means of a limited number of stakes commonly known as the Oughtred Method. In the former, if the field is irregular in outline, it is usually best to start somewhere near the center with two furrows at exact righ angles and then work outward in all four directions. One man and team with a sufficient number of stakes for sighting a single row, and preferably with an equal number of measuring poles for resetting the stakes as he reaches them are all that is necessary for this operation. A single furrow each way is also all that is needed, and even one of these can be dispensed with, if desired. Its equivalent should be secured, however, by dragging a chain or similar marker across the field to locate the cross rows.

In the Oughtred Method, which is still quite popular in some commercial sections, a line of stakes about three to five feet high is placed around the field at the proper distance for the trees, but outside and directly back of the actual tree positions, and two or more similar lines, depending on the size of the field, are placed across the central portion of the field at right angles. These rows of stakes need not be exactly straight themselves, and they should not be in any of the real tree rows. They should, however, be the proper distance apart and should be sufficiently high and conspicuous so that they can all be seen from any part of the field. This arrangement enables one to locate accurately every tree in the field and if properly laid out in the first place, not a stake will need to be moved during the planting. In other words, one can find two stakes in line with him from two directions, at the position of any tree in the entire field, and every stake can be standing in its original position after the field is planted.

The plan may sound complicated, but it is really very simple, as any one can readily determine by laying it out as described, on a sheet of paper, and noting the ease with which the position of any tree may be located after the stakes are set. As a matter of fact this plan usually results in a much straighter final effect on the tree rows than the furrow method, as one always has something fixed and definite to sight on, and is not dependent on the rather variable direction of the tree rows and furrows.

Plant Only One Variety At a Time

Another thing that is rather important, especially in mixed plantings, is to plant only one of the varieties in the mixture at a time. This will avoid the not uncommon sight in such plantings, of a bad break in the rows where the different varieties have become interchanged.

Use of Fertilizer

In general, we are not very optimistic over the value of any kind of fertilizer at planting time. Some large growers have used ground with apparently good results, but none of these cases have been carefully or properly checked, so far as I have been able to determine, and hence we really have no definite evidence of the value of this practice.

No type of fertilizer can do any good until the tree gets started growing, and the very slow availability of the plant food in the bone may be commendable for that reason. In our general orchard-fertilizer tests over Pennsylvania, however, we found practically no influence from phosphorus alone on either growth or fruiting, in orchards of any age, even when applied in relatively available forms. We did find, however, that nitrogen in readily available forms, often exerted a marked influence on both growth and fruiting, and that this effect was often increased by the addition of either phosphorus or potash, but rarely required the addition of both of the latter elements.

It would seem therefore, that no important results should be expected from phosphorus practically alone in the form of bone at planting time, and that the only way to run even a fair chance of getting any benefit at all from such an application, would be to add a little soluble nitrogen after the trees have got well started. For this purpose, probably nitrate of soda, at the rate of not over a quarter of a pound per tree, would do as well as anything. It should be placed on top of the ground and be kept from direct contact with any part of the tree.

Where the bone is used, it is usually placed in the hole at the rate of about two pounds to the tree, which is about a quart measure full, and it is probably best to put about a third of this amount in the bottom of the hole and the remainder about halfway up, or after the first dirt is thoroly tramped in. Such a course, if followed by the more soluble nitrogen, should enable one to secure any benefits that may be possible from early fertilization. Whether the results will justify the expense, however, is not clear from the present evidence, and for trees of this age, I would much prefer a reasonable mulch of rather strawy stable manure, whenever available.

ANSWERS TO SPRAY QUESTIONAIRE

At the last conference of New York State extension workers, Prof. P. J. Parrott, of the Geneva Experiment Station, was requested to summarize the replies to a questionaire sent out by him concerning the results obtained with certain insecticidal materials. Information was asked of extension workers in all sections on insect and disease control. Mr. Parrott's summary of replies follows:

Dry Lime-Sulfur

Melander, Washington — Needless luxury; only for growers willing to pay heavily for a doubtful convenience.

Gourley, New Hampshire—Station tests apparently satisfactory; experience of largest growers very unsatisfactory.

Flint, Illinois—Fairly effective when used in excess of manufacturers' directions against scale.

Merrill, Kansas — Unsatisfactory results as an insecticide and fungicide at manufacturers' strengths.

Gossard, Ohio—Against scale not quite as good as solution.

Darlington, Washington — Good results if used in sufficient amounts.

Gillette, Colorado.—Not as satisfactory as liquid.

Dean, Washington—Damaging reports regarding the product.

Calcium Arsenate

Ross, Canada—Own experiments satisfactory. Farmers report serious injury.

Bourne, Massachusetts—Apparently satisfactory with apples; burns foliage of stone fruits.

Lovett, Oregon—Safe, practical and in emergency satisfactory on truck crops; good control in orchard work; doubt extensive use of it by growers.

Green, Indiana—Variable results.

Patten, Michigan—Reports of foliage injury constantly increasing.

Darlington, Washington—Not a commercial factor; no striking results one way or other.

Dean, Washington—Used to some extent; some spray burn.

Flint, Illinois—Not quite as good control as with lead.

Quaintance, Washington—For orchard spraying not the equal of lead arsenate.

(Continued on Page 16.)

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Send us your order today for any of these items shown here. It will be filled as carefully and shipped as promptly as though you made your selection from our salesroom floors. Also, ask for our General Catalogue and new "Spring Bargain Supplement," showing engines, cream separators, farm, garden, poultry and bee keeping supplies, at prices equally low. A postal request will bring them. Mail it today.

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Early Jersey, Charleson Wakefield and Flat Dutch Cabbage and Stone, Earliana and Livingston Globe Tomato. 100 for 30 cents; 500 for $1.75; 1000 for $3.25 postpaid. By express collect, 1000 for $1.75; 5000 for $7.50. Satisfaction guaranteed.

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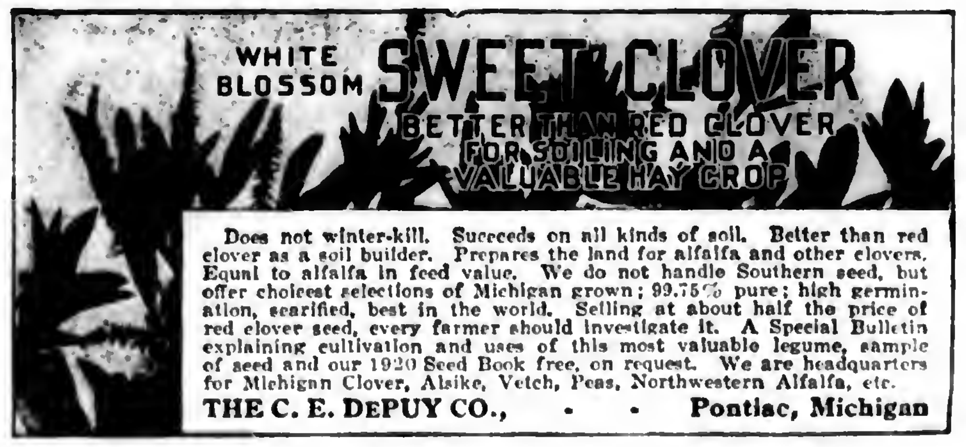

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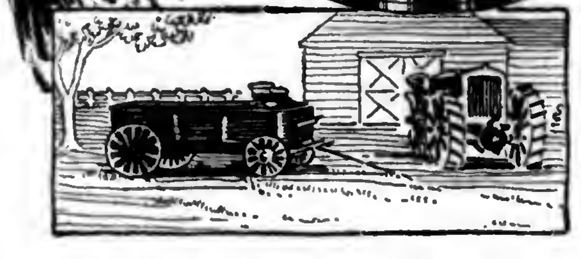

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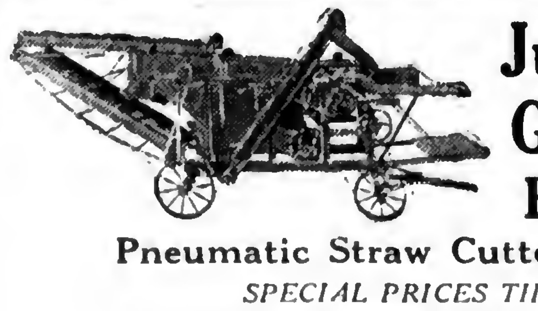

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INTERESTING DAIRY COMMENTS

(Continued from Page 9.)

ing cream to be made into butter, to be sold under the League brand.

Milton, Pa., is planning a similar plant and so is Clinton and Northern Essex counties in New York. At the latter's center, Plattsburg, 300 dairymen have pledged $200,000 for the erection of a plant.

A consumers' organization of New York finds that 1322 cars of food come into the city daily, produced by 600,000 farm families, and that 400,000 people distribute it. Also that between $75,000,000, and $100,000,000 is lost annually by the eastroad companies thru so-called sham refrigator cars which lead to vast waste of valuable foods. These companies last year were compelled to pay $32,000,000 for food destroyed by neglect, and bad refrigeration. This was charged up to operating expenses and increased freight rates resulted. Within the past few years $250,000,000 has been expended in building up the passenger coach approaches to the city, while only a little has been spent to improve freight terminals.

These conditions will be found to apply in proportion in smaller cities and milk is not the least affected by poor distributing methods. So far consumers have done nothing to remedy matters, and instead of co-operating with dairymen who are anxious to remedy the situation, moneyed milk dealers foster a class hatred between the two. The Grange will do all it can as will the League to overcome this hatred.—M. G. F.

HOW TO PREVENT GARLIC FLAVOR IN MILK

Dairymen and creamerymen in many states are troubled every spring by garlic or onion flavor in the milk. This is due to the cows feeding on garlic or wild onion, one of the first plants to start in the pasture in the spring. The trouble from garlic is not likely to last very long, as this weed is soon cropped off and the grass becomes beautiful enough for the cattle to feed on it in preference to the onion.

Garlic flavor in milk can be removed by heating the milk to 145 degrees F. and forcing air thru it at this temperature for 30 to 60 minutes, according to Farmers' Bulletin 608. As this method requires a certain amount of equipment, it is much more satisfactory for the average dairyman to keep the odor out of milk by a few simple precautions in herd management.

There are two ways of protecting the milk from garlic flavor. First, prevent the cows from obtaining garlic; and second, manage the herd on garlic pasture, so that there will be the least possible chance of getting the flavor in the milk.

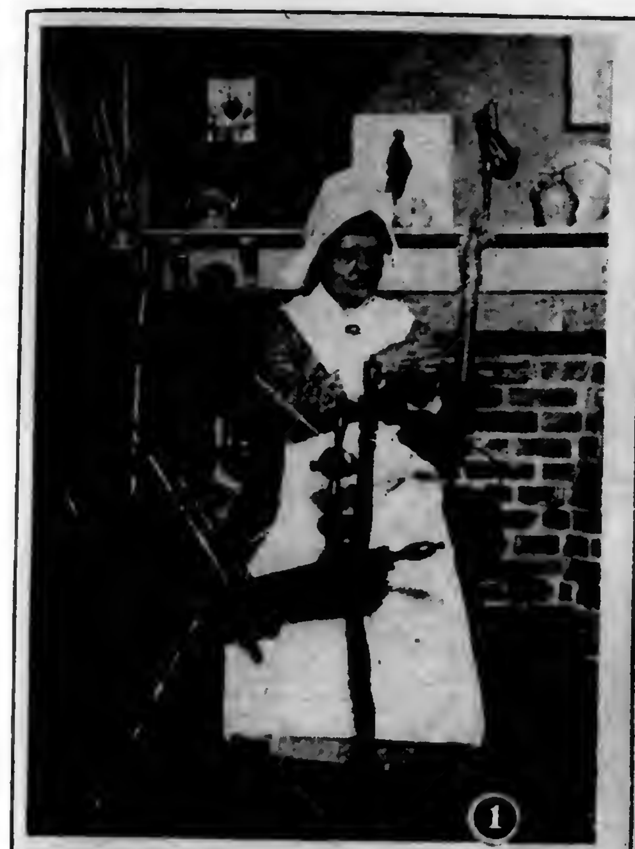
Often the garlic is found only in one patch in the pasture, and this can be temporarily fenced off and pastured with other animals not producing milk.

Where garlic is scattered all over the field it will be impossible to keep the cows away from it, but by removing them to some other field three or four hours before each milking the flavor will be reduced to a minimum. The odor in milk is strongest from cows which have just eaten garlic, and the odor is reduced as the time between the eating of garlic and milking is increased.

In case no garlic-free pasture is available, it would be advisable to drive the cattle to the barnyard three or four hours before milking and feed them on hay and silage. As the season for garlic trouble is short, this should not cause much inconvenience.

The best plan for avoiding trouble from this weed on the dairy farm is to kill it out completely. This can be done with little trouble, and those interested should write for Farmers' Bulletin 610 U. S. Dept. of

PASSING EVENTS IN PICTURES



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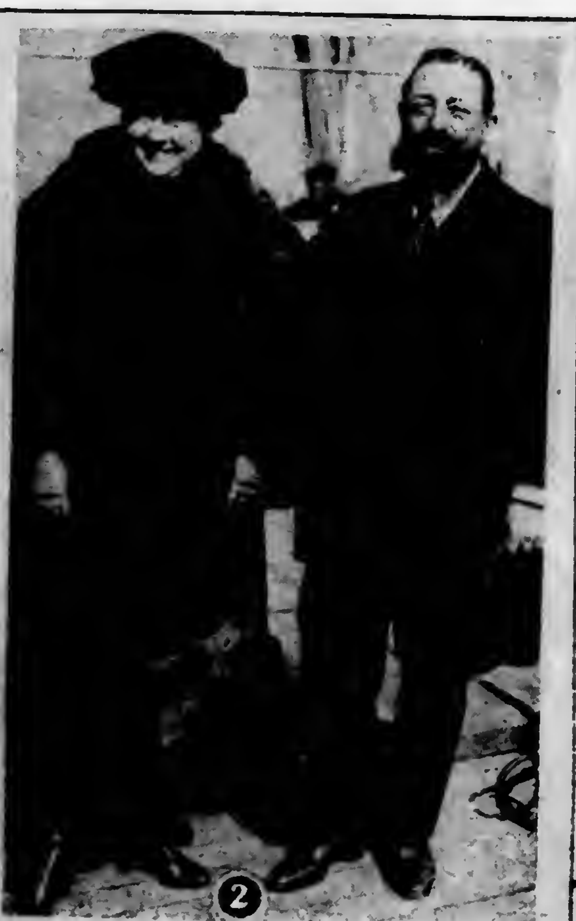

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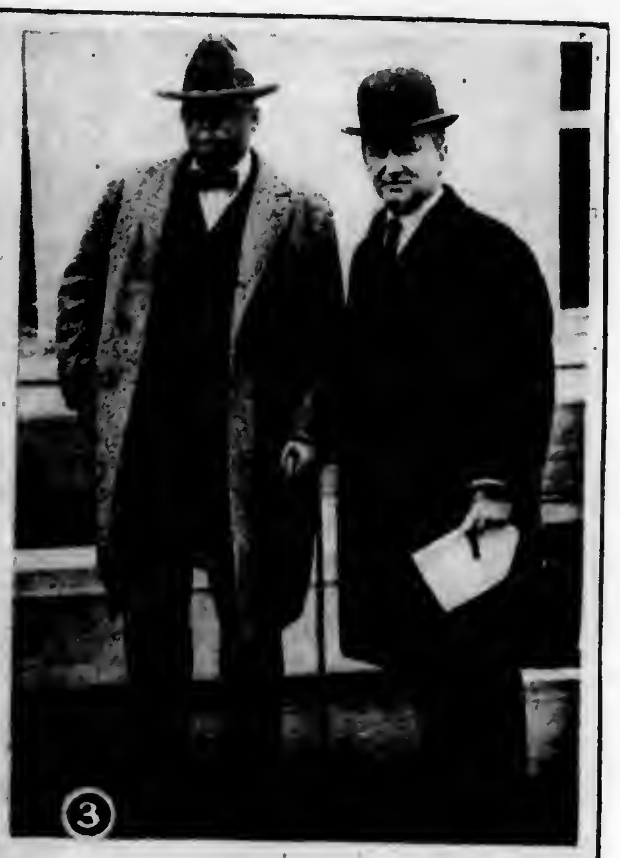

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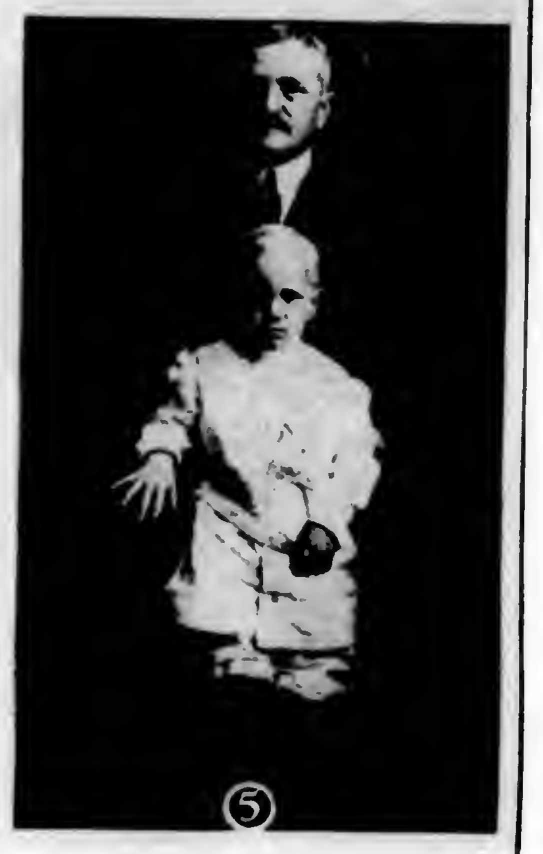

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1.—Member of the Society to Revive the Ancient Art of Spinning.

2.—The Author, Iva Caryll of Normandy, France, and his Wife, Visiting America.

3.—Irvin Cobb, the Noted Writer, and J. P. Tumulty, Secretary to President Wilson.

4.—All Wool But Not a Yard Wide. A Lamb from the Flock in Central Park.

5.—Gen. Pershing in Civilian Clothes 5 years ago, and his only living child. Mrs. Pershing and three other Children Were Killed in a San Francisco Fire.

6.—The Big Spring Flood in the Merrimac River at Lawrence, Massachusetts.

7.—Scenes Along the Historic 187-Mile Canal between Washington and Cumberland, Md.

8.—Ruins of a Department Store at Elgin, Ill., after a Tornado Had Swept By.

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Strong, sturdy—from Record Layers. Four big hatches weekly

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HILLPOT QUALITY CHICKS

POULTRY

SUCCESSFUL EARLY HATCHES

The campaign for early hatching which is being carried on among the poultrymen of the country this season must necessarily be followed by unusually careful attenion to the details of incubation and brooding. Otherwise there will be a heavy loss, for it is more difficult to handle chickens which are hatched very early than those which come out of shell after the weather gets warmer. There seems to be no reason to question any of the arguments in favor of early hatching which are being put forward.

Every poultry keeper knows that chickens which are hatched in March or early April are much more likely to lay in the fall than those which do not come out until May or June. There has long been a belief among poultry keepers everywhere that pullets hatched unusually early, in February, for example, will molt in the fall of the same year. This is very likely to be the case, but after several years of careful experiments, Professor Graham of the Massachusetts Agricultural College, declares with the greatest emphasis that this molting will not seriously affect the laying of the chickens. He says that he has proven that while they may not lay quite so heavily during the molt, they will lay at least a few eggs, and that the molt is quickly over.

It is not to be expected that the eggs set very early will be as fertile as those which come later. March, and April, should be the months for poultry keepers with the American breeds to get out their chickens. Those keeping smaller breeds, like the Leghorns and Anconas, can hatch into May, as the pullets of these breeds mature more radiply. This practice should result in heavy egg production in fall. Many poultry keepers are maintaining a good average all thru the fall by getting out pullets at intervals. This is an exceedingly important matter for the poultry keeper who has regular customers and whose production should be uniform.

Naturally early hatching is going to mean a more general use of incubators and brooders, for it is difficult to get setting hens early in the year. One factor of success lies in having fertile eggs which are not kept too long, never over ten days. While being stored, the eggs should be moved about daily, and kept at a temperature not below forty or over sixty.

If an incubator is to be operated in a dwelling house or a house cellar it is most important that the insurance company be notified, even tho a slight premium must be paid. Otherwise it may be difficult to obtain damages if the house be burned, no matter what the cause.

There is no better place for an incubator than a well ventilated cellar. The matter of ventilation is of more consequence than most people realize. It has much to do with success in hatching. A good way to ventilate a cellar is to have a window with hinges at the bottom which opens in. Muslin cloth can be tacked to the sash and sill to fill the space where the window is open and prevent a rapid inrush of cold air.

Be sure that your incubator is perfectly clean before you fill it. The commercial disinfectants are effective and cheap. Take pains to obtain the best oil possible, and fill the lamp daily before you turn the eggs so that you will not be in danger of getting kerosene onto them. Never fill a lamp quite full, and keep all charred material removed from the wick.

There is no question about the necessity of turning the eggs from the third to the eighteenth day, but whether or not they should be aired for a considerable time is a matter in dispute. Some very careful experiments seem to indicate that airing of the eggs, except for that incidental to turning them, is absolutely unnecessary, and that as many chicks, with equal vitality, are hatched when the eggs are not aired.

There are many different egg testers on the market, some of them having electric lights. When the large machines are being used, expert operators find they can test the eggs very satisfactorily by running a strong electric bulb under the trays when the latter are pulled out of the machine. One very easy way to test eggs in the daytime is to cover the cellar window with a shutter that will exclude all light. This shutter should contain a small hole against which the eggs may be held.

Many people do not seem to realize that the eggs which are tested out on the seventh day are perfecly good for food. Possibly they will not be quite so palatable as fresh eggs, but they are just as wholesome and nutritious. If you are hatching white eggs, you can test them on the fifth day, altho it is usually well to wait until the seventh day with brown eggs.

The operator should not be tempted to interfere with the thermostat of his machine unless the temperature runs to more than 104½ just as the chicks are due to hatch. This increase is natural, and will cause no trouble up to about 105. With a good hatch to come out within a few hours of each other, but this is not always so. It is well to remember that the incubation period is always likely to run a little longer in February and early March, and some experts advocate running the machine with the temperature half a degree higher than later in the season.

There seems to be no doubt about the fact that uniform hatching depends largely upon moisture in the air. When there is plenty of humidity the shells will usually be broken right around the center and separate readily, while if the air is too dry the chicks will have to work themselves out slowly. In large hatching plants the floor under the machine is often kept drenched. Many incubators have sand trays, the sand being moistened with water. Sprinkling the eggs with warm water is sometimes done.

Removing the chicks from the incubator before they are thoroly dried is one common cause of disaster, especially among amateurs. If the door is opened at all, even to help out chicks which are having a hard time in extricating themselves from the shells, the whole hatch is likely to be chilled.—E. I. Farrington, Mass.

KEEPING DOWN FLOCK LABOR COSTS

Labor is one of the greatest cost factors in keeping poultry and every plan or means to save labor is earning dollars for the owner. Especially should the busy farmer—whose flock of chickens commonly receives very indifferent attention at best because the feeding of live stock and the performance of the general farm work demands most of his time—endeavor to arrange the poultry yards and buildings to the end that the work of caring for the birds can be done with the least possible expenditure of labor and yet not be slighted in any detail.

Even tho the fowls generally are permitted to range widely, on every farm the means should be at hand to control the birds quickly and effectively whenever it is necessary. Strong woven wire fencing with stays two to six inches apart is the most suitable type of fence to use around yards for adult fowls. Fencing may be secured in heights up to six feet, with line wires sufficiently close at the bottom to turn small chicks. When properly erected it makes a fence that is satisfactory under the conditions which prevail on the average farm. A four-foot fence for the heavy Asiatic fowls,

five feet high for the American breeds, and six to seven feet for active Mediterranean breeds will be found about right in most cases.

Even if a flock is only of moderate size, a light pushcart or wheelbarrow is an invaluable aid in the performance of the daily routine work in the poultry yard. A pushcart in particular will effect a tremendous saving in labor. The number of steps necessary to accomplish any item of the daily work may be reduced to the minimum. It can be used advantageously in cleaning the houses, in transporting articles of equipment from place to place, in collecting the eggs and in gathering shipments of stock for market. As a rule, the use of a simple hand-operated conveyor, such as a wheelbarrow or pushcart, into which the droppings can be scraped each morning and conveyed at once to the garden, truck or berry patch for immediate distribution, will encourage the practice of daily cleaning of the henhouse.

A storage bin for considerable quantities of feed, grit, dust and similar supplies right in the henhouse will, of course, greatly simplify the work of the fowls' caretaker. Such a bin should be lined either inside or outside with some rat and mouse proof material.

An automatic scratch-grain feeder is almost an indispensable part of the equipment in the farm poultry house. Besides regulating the feeding of scratch grains far better than can be done by any system of hand feeding, the automatic feeder makes it possible for the members of a flock to secure a meal at any time during the day that their appetities prompt them to feed. The birds operate the device themselves, by means of a "bait" at which they peck, thereby causing varying quantities of grain, according to the adjustment made by the caretaker, to be scattered in the litter on the henhouse floor. As long as the feed compartment of the self-feeding device is kept filled, there is never any waiting by the hens for a meal as there often is when the hand system of feeding is employed exclusively; the flock's caretaker may even be absent for an entire day and the birds will still get their proper allowance of grain. The automatic feeder encourages exercise on the part of the hens; and exercise is essential for egg production.

The proper arranement of the interior fixtures of a henhouse greatly facilitates the work of the attendant. Especially should all nests be easy of access and at a convenient height. During the height of the laying season there should be provided a nest for every four or five hens in a flock, a large number of nests usually are demanded. For the sake of convenience these should be installed in "batteries," either on shelves along the rear and side walls of the henhouse or on platforms outside the building, preferably on the coolest side of the house.—W. F. Purdue, Indiana.

GOOD BREEDING STOCK PAYS

It is surprising how fine a poultry flock can be developed in two or three years from the purchase of a trio of fine birds. Sometimes the difference of five or ten dollars between a trio of first class birds and a trio of poor stock induces a breeder to buy the cheap birds. Look ahead three years and the results that can be achieved with good stock will be worth many times the extra money invested in the good breeders.

A good pullet is worth more than broiler prices. She has cost more to produce than the broiler stock which has been sold when two or three months of age. She should bring at least two dollars or more as a breeder or egg layer and if she is not the kind of pullet which is worth at least two dollars, she is not good enough to keep out of the fattening pen.

Never expect to make fine breeders out of a flock of undersized late hatched pullets. Sometimes they can be purchased for a low price but they will be expensive at any price. They will consume a great deal of feed before they lay and by spring, they will not be matured enough for breeding stock. The finest breeders are the year-old hens and not the pullets.—K.

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BRAENDER

Little Things Are Biggest

The biggest enemies of tire mileage are Little Things. A vulcanizing chamber that is a few degrees too hot or too cold—a few minutes under or over-cure—a pound or two difference in the pull on cord or fabric—these Little Things may cut your mileage off in its prime, for even automatic machinery cannot *Think*. Some *person* must decide.

BRAENDER TIRES are the product of an organization trained and inspired to Think, and decide right every time. The conscience of this Company will not permit the Little Things to slip by. That is the main reason why you can expect a little more from BRAENDER TIRES—and *get* it.

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Head-lice kill young turkeys. Black Flag will save them. Blow Black Flag into feathers of setting hens and over poults once weekly after hatching and turkeys will be free of lice. Black Flag kills insects by inhalation. Bugs don't eat it—they breathe it, and die. Destroys flies, ants, fleas, roaches, bedbugs, some moths, and lice on animals, birds and plants. Harmless to people and animals. Look for BLACK FLAG trademark and red-and-yellow wrapper. At grocery, drug, department and hardware stores, or direct by mail on receipt of price.

U. S. Gov't (Bulletin 771, Agri. Dept.) shows that glass containers keep insect powder freshest. Buy Black Flag in SEALED GLASS BOTTLES instead of "insect powder" in paper bags or boxes.

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127 Acres $2800 With 2 Horses, 6 Cattle, Tools

Big money here; fine rich soil, brook-watered pasture, 500 cords wood, market near by, fruit trees; 8 room house, maple shade, good barn, new poultry house; owner throws in stock, machinery, tools. All only $2800, easy terms. Details page 24 Strout's Spring Catalog Bargains, 33 States, copy free. STROUT AGENCY, 1122 B E. Land Title Bldg., Philadelphia, Pa.

FARM— 250 Acres, 100 acres woods, 150 acres pasture and cultivated. Good house, new tobacco barn, stables, cabin, etc. Only 1 mile from village with banks, churches, schools, etc.
E. ROWELL, JR., LOUISA, VA.

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All through the blustry winter months, our WHITE WYANDOTTES lay eggs, and lots of them. We offer a limited number of carefully selected eggs from this flock at $15 per 100, $8 per 50, $2.50 per sitting of 15. Also chicks at 40c each. We advise the purchase of this stock for those who want the best from our high production, trapnested birds. Terms—cash with order. Eggs and chicks forwarded parcel post prepaid. We know you will be pleased with our stock. Book your order early. J. V. BITNER, GORDONVILLE, Lancaster Co., Pa.

10,000 Baby Chix AND EGGS

for May, June, July and August delivery by prepaid parcels post. Safe delivery guaranteed on greatly reduced prices. Only Bred-to-Lay S. C. White Leghorns. Catalog free.

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CHICKS from large, pure white, two-year-old hens. Wyckoff strain, 18 cts. Extra fine, Brown Leghorns, 20 cents. White Rocks, Barred Rocks, Orpingtons, R. I. Reds, Black Minorcas, 25 cents. Postpaid. Eggs; Half price of chicks.
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Chicks

White Leghorns	$20—100
Barred Rocks	25—100
R. I. Reds	25—100
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Tappan Poultry Farm, Tappan, N. Y.

Sicilian Buttercups

Farm range, prize winning Buttercups. Investigate this wonderful variety. Write for circular.
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Baby Chicks S. C. Rhode Island Reds and White Leghorns. Improve your flock by buying chicks from these heavy laying strains. Bred for twelve years for heavy egg production. Write for delivered prices.
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Baby Chicks and hatching eggs from our high-egg-laying strain White Leghorn baby chicks $20.00 hundred. Hatching eggs $10.00 hundred. Safe delivery guaranteed. We invite your inspection of our birds, if possible.
TENACRE POULTRY FARM, Princeton, N. J.

CHICKS
WHITE LEGHORN RHODE ISLAND RED
BLACK MINORCA
Increased incubator capacity enables us to fill your order for Pratt's "Superior" chicks. Three varieties bred for highest combination of practical qualities and standard requirements. A farm—not a hatchery. Booklet.
PRATT'S POULTRY EXPERIMENT FARM
Morton, Delaware County, Pa.

BABY CHICKS
Three millions for 1920, delivered anywhere by Parcel Post. Catalog free.

Barred Rocks	White Wyandottes
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Buff Leghorns	Assorted

SMITH HATCHERIES, Dept 8,
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LOOK! Barron Pedigreed 300 Egg Strain S. C. White Leghorn baby chicks. Big, husky, pepful chicks that live, grow, pay and lay. $18 per 100, $85 per 500. June 14th delivery by prepaid parcel post. Highly fertile hatching eggs, $9 per hundred delivered.
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BABY CHICKS White and Barred Rocks, White Wyandottes, Reds, Anconas, White and Brown Leghorns and Broiler Chicks. Send for Free Catalog and prices before ordering elsewhere. Trial convinces.
NEW WASHINGTON HATCHERY,
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HATCHING EGGS
A specialty, from the leading varieties of poultry. Prices very reasonable. Meadow Brook Poultry and Stock Farm, Gordonville, Pa.

200,000 Chicks Reds, Rocks, Leghorns, Minorcas and Broilers at low prices. Shipped by Parcels Post, charges prepaid. Safe delivery guaranteed. Our 11th year. Fine catalog free. THE KEYSTONE HATCHERY
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Ducklings Tiffany's Superior Mammoth Pekin, Giant Rouen, Fawn & White Indian Runner (all varieties). Eggs. ALOHAM POULTRY FARM. R 39. PHOENIXVILLE, PA.

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NOWADAYS, interior woodwork makes the home. Paneled walls, beamed ceilings, built-in features and polished floors, lend character that can be secured in no other way. North Carolina Pine is peculiarly fitted for all interior purposes. Being free from resin, it takes stains and enamels with beautiful effects. And it costs you *less* than any other wood of equal worth.

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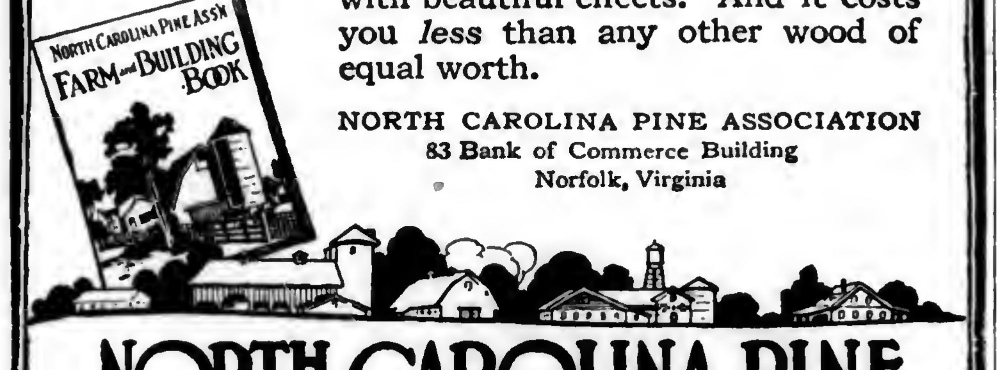

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There's Wear, Comfort, and Convenience too. That's guaranteed by the pig on the label of every Finck garment.

Finck garments fit—that's why they wear so well. They are first cut over extra size patterns and *fit after they are washed.* No matter how long you wear Finck's—no matter how many times they go to the tub, they never become too tight. They never cause any binding. The buttons even won't come off. Finck's garments are constructed perfectly—designed accurately—and satisfy absolutely. And there are a dozen other good reasons why you should wear Finck's "Pig's Nose" brand—and no other. Try them and see for yourself.

Ask your dealer. If he can't supply you, write to us.

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Manufacturers of High Grade Overalls, Men's and Women's Combination Work Suits

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BRANCHES:
St. Louis - - Mo.
Dallas - - Texas
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Chattanooga - Tenn.
Livingston - Mont.

ANSWERS TO SPRAY QUESTIONAIRE

(Continued From Page 11.)

Schoene, Virginia—Severe burning of leaves and loss of apples.

Cory, Maryland—Recommend calcium arsenate equally with lead.

Gossard, Ohio—Without serious injury on apple, potato and grape. Hesitate to recommend it.

Parrott, New York—Efficient in control of codling moth and various leaf-eating insects. Do not advise its use on fruit trees.

Magnesium Arsenate

Lovett, Ore.—Got serious burn on apples in first treatment. Safe in subsequent applications.

Bourne, Mass.—Hardly safe for general use in its present state.

Patten, Michigan — Considered unsafe.

Gourley, N. H.—Considerable material used in state. Serious damage to leaves and fruit.

Darlington, Wash.—Tested in a small way, no definite opinion.

Peairs, W. Va.—Excellent control of potato insects.

Gillette, Colorado—Good results against codling moth and webworm.

Dean, Washington—Used to some extent, variable results, spray burn in some instances.

Flint, Illinois—Observed no differences between it and lead arsenate.

Cory, Maryland—Disastrous results on peaches; on apples apparently all right.

Gossard, Ohio—Used material, no striking results with it one way or the other.

Orchard Insects and Diseases. Dusting Materials.

Quaintance, Washington — Fair control of insects by use of arsenicals applied in dust form. Bureau of Plant Industry is convinced that numerous diseases of apple, as scab, bitter rot and like cannot be controlled by dusting preparations. Believe there is distinct future for peach dusting.

Cory, Maryland—Judging by commercial standards in large plantings, fairly good results. In careful experiments, insects and fungous diseases outrun same character of injuries from sprayed plats. Peach dusting more feasible than apple dusting.

Gossard, Ohio—Results against codling moth with dusting preparations as good as those with liquid sprays. Results against fungus diseases poor, and there has seemed to be very little check in development of scab.

Flint, Ill.—Dusting has been very satisfactory so far as leaf and fruit eating insects are concerned. Experiments by Horticultural Departments have not given satisfactory results on scab or blotch.

Gourley, N. H.—Growers becoming enthusiastic over dusting. Apparently good control of codling moth and caterpillars. Much scab in orchards visited.

Quayle, California—General opinion of state is that dust is not as satisfactory for codling moth on apples as liquid sprays.

Green, Indiana—For two seasons excellent control of codling moth but dust is not the equal of lime-sulfur in control of apple scab.

Gudebrod, Va.—Quite efficient against codling moth and tent caterpillars. No value for apple diseases or other insects.

Hughes, Arkansas—Poor results against scale. Fair results against curculio. Dusting is a failure against blotch and bitter rot.

Heaton, Illinois—In a pinch, where codling moth infestation is extra bad would dust, otherwise, would not.—Alvah H. Pulver, Wayne Co., N. Y.

This is from a washing machine advertisement: A man will pay $225 for a binder, use it two days a year; $65 for a planter, use it two days a year; $130 for a wheat drill, use it two days; and let his wife rub, rub, rub, on a washboard all day long fifty-two to seventy-five days a year. A power washer will do its work as well as a binder or any other machine.

Apples Free From Scab, Fungus and Worms

TWENTY-FIVE acres of apples "free from scab, fungus and worms" is evidence of the effectiveness of Fruit Kil-Tone both as an insecticide and as a fungicide. Many orchardists have found after careful tests that

Fruit Kil-Tone

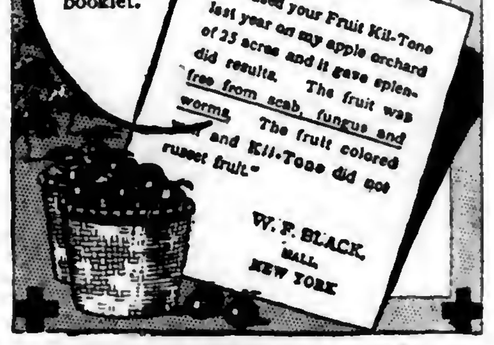
is superior to many Bordeaux mixtures. It is smooth and does not clog nozzles. It does not clog leaf surfaces nor burn leaves. It contains a poison which destroys insects.

Effective against codling moth, canker worm, tent caterpillar, bud moth, brown-tail moth on apples, quinces and pears.

We also make **Green Cross Arsenate of Lead**—the leading insecticide for fruit.

The Kil-Tone Co.
Vineland, N. J.

Ask your dealer or write for booklet.



"I used your Fruit Kil-Tone last year on my apple orchard of 25 acres and it gave splendid results. The fruit was free from scab, fungus and worms. The fruit colored and Kil-Tone did not russet fruit."

W. F. BLACK,
HALL,
NEW YORK

"KIL-TONE" DISTRIBUTORS IN PENNA.—
Reading Bone Fertilizer Co.

Farmers in Pennsylvania are well acquainted with our line of high-grade Fertilizers. We are now Pennsylvania distributors for "Kil-Tone"—a product that we are proud to sell because we know it to be good—Farmers who have used it say so without stint. Spray this year with Kil-Tone. Write for prices and literature, or ask any of our agents.

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DIG YOUR POTATOES THE FARQUHAR WAY

A Farquhar Digger will get you more marketable potatoes, and besides save much labor. These machines are sufficiently strong to stand the strain of hard continuous usage. They dig clean, and leave the potatoes convenient for picking.

No. 1 Elevator means larger profits for growers.

The No. 1 Elevator shown above has paid for itself in one season for some users. Rigid tongue construction holds Digger steady on the row avoiding cutting. Either Cross Bottom or Angle Bucket Elevator to suit different soils. Larger size Elevator Diggers for deep planting and bad conditions. Engine drive, if desired.

Our Success Jr. is the peer of Plow Diggers. Price so low within reach of the smallest grower. The Gilt Edge for those who desire a more elaborate Walking Digger.

Large illustrated Digger Catalog free on request. Every grower owes it to himself to send for this booklet.

"Success Jr." The plow that pays dividends on an acre patch.

A. B. FARQUHAR CO., Ltd., Box 246 York, Pa.

Also Engines and Boilers, Tractors, Sawmills, Threshers, Cider Presses, Grain Drills. Ask for literature.

Raspberry Plants King and Cuthbert Red Cumberland and Gregg Black $3.00 per 100. $27.00 per 1,000.
JOHN F. BOYER, MIDDLEBURGH, PA.

Haul on Pneumatics

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"IT is of distinct advantage for us to use Goodyear Cord Tires instead of solid tires on our trucks hauling from orchards, because these big pneumatics track nicely through loose soil or plowed ground and do not really pack it. Solid-tired trucks are assessed $10 a ton here—pneumatic-tired trucks are assessed only $5 a ton because they save roads."—A. M. Edwards, of Edwards & Patillo, Fruit Growers and Truckmen, Fullerton, California

THE gripping and agile qualities of Goodyear Cord Tires on trucks have won for them many significant rural endorsements like the one presented above.

Whether an orchard lies in soft soil, or fencing is to be done in a grassy field, or a mud-bottomed hollow separates the back acres, the big Goodyear Cord Tires go through quickly.

So today farmers frequently point to the tracks of these tires in miry hog lots, soggy meadows and acres strewn with fertilizer, where they have made short cuts and saved time many times.

In all parts of the country, the observer can note crop loads, cushioned on the husky Goodyear Cord Tires, being hauled through sand and bogs, across furrowed earth and up slippery hillsides with impressive ease.

This intense serviceability of the pneumatic truck tire, founded on the supple toughness of Goodyear Cord construction, has been built out of that ceaseless endeavor to improve, which protects our good name.

Now a large amount of information, supplied by farmers and describing the advantages of pneumatic truck tires, can be obtained by writing to The Goodyear Tire & Rubber Company, Akron, Ohio.

GOODYEAR
CORD TIRES

Asparagus Cookery Suggestions

Asparagus may be enjoyed as a simple vegetable or, in combination with different sauces and substantial additions, it can serve as the main dish of a meal. This first green vegetable to appear in our gardens after a long course of canned, dried and root vegetables is one of the very most delicious of the whole season's offerings. It is one of the most convenient vegetables to raise, as its quarters do not have to be shifted often—in fact a bed may be used for 20 years. Asparagus beds should be well fertilized each year and kept free from weeds. The salt water from the ice cream freezer should be saved to pour over the bed to kill the weeds. As the roots are so far down the salt does not injure them. One of the easiest ways to keep the weeds out is to spread salt on the bed.

Asparagus has been developed from small green stalks to thick juicy tender shoots. A bunch of standard size has been grown in my own town consisting of but seven stalks, but I do not consider this very large variety so satisfactory as the medium-sized stalks. Asparagus has little fuel or energy or tissue building value, but is very important as a body regulator because of its mineral matter. It is also valuable as an appetizer and is very easily digested. When served as a vegetable it should be simply dressed, that its flavor may be its own. But it adds good flavor to other foods when used with various sauces and products rich in nutriment. There is really nothing more tempting than plain asparagus dressed liberally with melted butter but it is well to vary our method of serving it that in its "last estate" it may be as highly esteemed as in its first. Fortunately there are many unique and "different" combinations.

The Stalk Way of Serving

I must confess to a dislike of this method. To my mind it savors too much of the "eating with your fingers" than which there was no blacker violation of table etiquette in our childhood days. I refer to the fashion of boiling it without cutting off the whole of the tougher part, then holding with the fingers to eat the tender tips. I prefer to cook only the tender tips. I cut off the hard portions, tie in bundles and boil gently about 20 minutes. One authority advises standing the bunch upright in the boiling water, which should cover only two-thirds of the bunch's length; thus the tender tops are merely steamed and are less liable to break. Serve on buttered toast which has been first dipped quickly in the hot asparagus water and spread with butter.

Asparagus A la Creme

Cut the tender part of the stalks into inch lengths, reserving the tips. Boil in salted water 20 minutes or until tender, adding the tips the best part of the time. Drain, mix with a good cream sauce and pile on rounds of buttered toast—all very hot. Asparagus cut this way may be served plain with butter dressing.

Asparagus Hollandaise

Cook only the tender part of the stalks, lay neatly on small oblongs of hot buttered toast, and just before serving arrange a line of thick Hollandaise sauce down the center of each portion.

Hollandaise Sauce.—To 2-3 cup butter and the yolks of 2 eggs, mixed thoroly, add slowly enough boiling water to make of the right consistency, then add enough lemon juice to taste. This is particularly delicious Hollandaise.

Fruit Fluff.—Reserve the whites of the eggs for fruit fluff for dessert next day. To make this, whip the egg whites stiff, adding a little powdered sugar as you beat, and then stir into the mixture, beating consantly, a little grated apple or peach pulp, or minced fruit of any kind. Pile in glass dishes and top with a whirl of whipped cream and a square of any bright jelly or both. Very nice.

Asparagus Soup.

There is no more delicious soup than that made of asparagus. The following old English rule is a little different and very appetizing. To 1½ quarts highly seasoned veal stock add 1 bunch of asparagus cut in small bits, reserving the tips. Simmer until the asparagus is in rags, adding enough boiling water to keep the original quantity of liquid. Rub every bit possible thru a colander, return to kettle, add the tips of the asparagus and boil until they are tender. Thicken slightly with 2 tablespoons each of butter and flour rubbed together and let boil up. Then add a very tiny bit of green vegetable coloring, salt and pepper to taste and a bit of cayenne. Serve with a little whipped cream on top of each serving.

Asparagus Cream Soup

Cut a bunch of asparagus into small pieces and boil it until it rags in just enough water to cover well, reserving the tips to boil separately in as little water as possible. Rub every bit possible thru the colander, add to it quart of thin cream sauce made thus: 2 level tablespoons each of flour and butter rubbed together and added to quart of hot milk. Boil up and cook 10 minutes in double boiler, season to taste with salt, cayenne, a grate of onion and a tiny pinch of mace. Add a very little green vegetable coloring and the cooked asparagus tips. Serve very hot with a bit of whipped cream on top, and with crisp buttered crackers.

Several combinations of asparagus with other hearty ingredients may as suggested above, take the place of honor in the meal. For instance, as in this menu:

Menu for May or June Lunch or Supper.

Asparagus Chowder Hub Crackers,
Small Pickles,
York and Lancaser Salad Corn crisps,
Candied Bread and Black Coffee.

Asparagus Chowder

Dice a good-sized slice of fat salt pork, and fry until light brown in the kettle in which the chowder is to be made. Remove kettle from the stove, and put in it alternate layers of finely minced onion (2 good-sized onions in all) and thinly sliced potato (six or eight medium-sized ones) and several stalks of asparagus cut into inch pieces. Cut the slices of potatoes in quarters. Sprinkle each layer with pepper and salt. Barely cover with boiling water, and simmer 20 to 30 minutes, or until the vegetables are tender, but not broken. Then add 1 quart hot milk, let just come to a boil, thicken slightly with 1 tablespoon each of flour and butter, or 2 of each if preferred thicker. Let just simmer two or three minutes to cook the flour.

York and Lancaster Salad

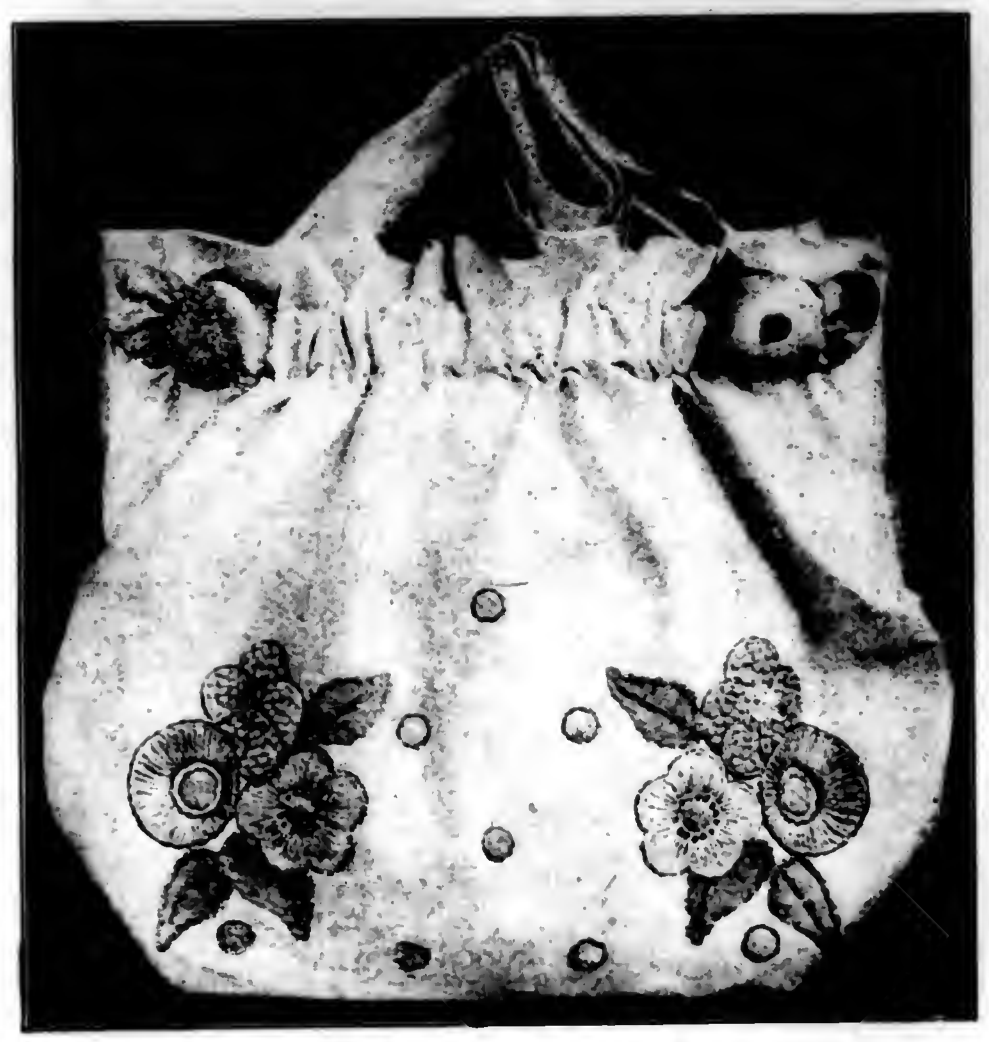
This is where your canned whole tomatoes will be needed. Select as many uniform-sized tomatoes as servings wished. Boil the same number of eggs, remove the shells and put all on ice if possible. When required, with a sharp knife slice each tomato and egg carefully, and insert a slice of egg between each slice of tomato so that only the white shows. Arrange each tomato on a leaf of crisp white lettuce and top with a whirl of thick mayonnaise. This is a particularly ornamental and delicious salad, and also quite hearty and nutritious, because of the egg and the oil, also the egg in the mayonnaise.

Corn Crisps

Mix together ½ cup corn meal, ½ cup barley flour or oatmeal, ¼ cup shortening, ½ cup milk with ⅛ teaspoon soda dissolved in it, 1 teaspoon salt, 1 tablespoon sugar. Then remove to a molding board and roll thin, adding a little more flour if necessary. Sprinkle with grated cheese and press it lightly into the dough. Roll a groved roller over it, cut in oblongs or strips and bake quickly.

Candied Bread

Dip neat uniform-sized slices of bread in syrup and brown lightly on a buttered griddle on each side. Serve at once very hot.—Mrs. F. T. E.


Handy Work Bag Made of Crash

HANDY WORK BAG MADE OF CRASH

This is easily made. The length of crash is sewed up until near the top, then the ends are turned back and hemmed down with a double row of stitching, making the two rows far enough apart to let a draw strap as wide as indicated be run thru it easily. Previous to sewing up the bag, the figures should be embroidered on as indicated.—Louise Dew.

TEACHING PITTSBURGERS TO USE MILK.

Allegheny County, Pa., farm agent N. S. Gnibbs, recently suggested to a group of public spirited citizens of Pittsburgh that it would be a good thing for the health of the city population to get it thoroly into their heads that a more liberal use of whole milk would not only be good for them physically but good economy. Accordingly an educational milk using campaign was put on March 14 to 27. Pearl MacDonald, head of Penn State extension service and her corps of helpers, directed the instruction. First there was chosen a central committee, headed by Helen Grimes, president of the congress of women's clubs of the city. Under this committee two sub-committees worked, a finance and a publicity committee.

The campaign was financed by public subscription. The publicity sub-committee selected three committees to arrange for exhibits, printing and distribution of literature, and for speakers. An official letter head was used, naming the organizations and individuals sponsoring the campaign.

A large part of the work was done thru the schools. The school art supervisor arranged a poster contest offering $50 in prizes for crayolas and paintings calling attention to the food values of milk; 800 posters were submitted.

An essay contest on the food value and comparative money economy of milk was also arranged for the fifth, sixth, seventh and eighth grades, with $100 in prizes offered.

The school domestic science supervisor had the cooking classes work on dishes using milk, and in various schools there were interesting exhibits showing why and how to use milk, which the parents were invited to come and see, and ask questions about.

Speakers gave 10-minute talks at 130 schools, telling the children what milk does for the body, and why every child should eat at least one quart a day. The talks were well illustrated at make them attractive to the children.

Thru the Kindergarten-Mothers Association 40 groups of mothers were given talks on the use of milk. At these meetings the children gave songs and recitations and little plays all dealing with milk's value and place in the diet.

These speakers also talked to various women's clubs, at factories, settlement houses, Y. M. and Y. W. C. A. lunch rooms, stores, men's clubs, etc.

At all these meetings literature repeating what the speakers had discussed and made more graphic, and giving a lot of recipes for using milk in dozens of different ways, was given to the people to take home. The kitchen card showing the comparative food and money value of milk and other foods proved very popular. The children were given a specially written and illustrated story about milk. One of the leaflets suggested daily food plans for feeding children during their growin periods.

The children were given a blue button containing a pretty picture of a child on a milk bottle and the legend, "A quart of milk a day for every child."

In the restaurants, attached to every menu card was a small card with suggestions for selecting the various milk dishes served, for instance: "Eat a dairy dish today;" or "Have a cream soup today," etc.

You can get similar milk literature by applying to Penn State College extension service, and also to the National Dairy Council, 910 S. Michigan Ave., Chicago.

CONTROLS FOR ANTS.

Ants in houses are considered as distinct nuisances and pests, altho in their proper sphere they are extremely important beings in nature's plan where they destroy certain insects and aid others, says the Pennsylvania Department of Agriculture.

House infesting ants may be black or red in color, several species being commonly found attacking pantries, ice-boxes, larders, cellers and kitchens. Black ants generally prefer sweets and the tiny red ant is partial to greasy feeds such as meats, lard, butter and cake or cookies.

The most effective and complete control is destruction of the nest and inmates which may be found in the walls of the building or in the adjacent ground. Fumigate nests in the ground by pouring two or more tablespoonfuls of carbon bisulphide in holes made with a sharp stick. For a large mounded ant nest use two or three ounces and cover with a heavy blanket for a time.

Ants in houses may be readily poisoned by means of sweetened bait. One part tartar emetic and 10 parts sugar dissolved in 100 parts of water and placed about in shallow dishes in pantries will be effective. Ordinary tape soaked in corrosive sublimate solution and dried is an effective barrier when wound about legs of tables or fastened along the edges of shelves and baseboards.

Permanent relief from ant annoyances can be secured only by destroying their nests and inmates including the queen ant.

BUTTERMILK LEMONADE

With the driest of the "dry days" still to come, manufacturers of thirst quenchers are almost daily turning their attention to new fields to satisfy the great demand that is growing beyond all expectations. The dairy husbandry department at the Pennsylvania State College has recently been flooded by requests for the best use to which milk and milk products can be put in supplying the craving for a first class thirst chaser.

To most of these queries the college department is recommending a trial of "buttermilk lemonade" and from all appearances this new beverage will be in great demand during the coming summer. It is easily made at the soda fountain or in the home, being nothing more than a glass of buttermilk with lemon juice and sugar "added to taste." The flavoring extract may be used when the beverage is made in quantity, but better results are obtained by using the fruit juice. Scores of letters arrive at the college dairy department every week asking for the buttermilk lemonade formula.

"Milk drinks are attractive delicious and palatable," says A. A. Borland, head of the college department of dairy husbandry. "They are also healthful and vitalizing, because milk is the most nourishing of all foods. More than thirty varieties of milk drinks can be made, such as 'milk bossoms,' containing milk, flavoring and charged water; 'milk juleps', containing milk, flavoring, egg and charged water; 'milk frappes,' containing milk, flavoring, ice cream and charged water; and 'milk sparkle,' containing milk, egg, sugar and charged water. The omission of charged water can be made without detracting much from the palatability. Buttermilk lemonade is bound to be a popular drink, and is easily made in the home. Prohibition has already given cause for a great increase in the dairy industry thruout the country, and it can be expected to grow more and more within the next few years."

ALL LIKE THAT

Salesman (Who had been annoyed by little Billie Jones). "Say, Mrs. Jones that little boy of yours is a "spoiled" kid.

Mrs. Jones (Mother of large family). Oh, no, he's alright, they all smell that way.

The most profitable and the most interesting study for women is the home, for in it center all the interests of life.—The Home Economics Creed.

ICE CREAM

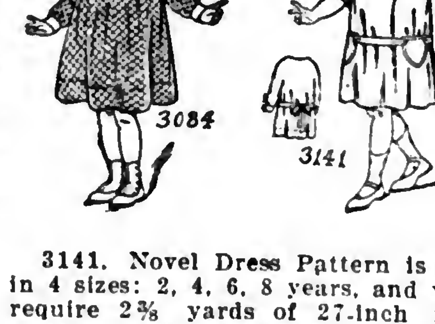
1½ qts. milk, 1½ cup sugar or more if desired sweeter; ¼ teaspoon salt. This I heat in a double boiler and when hot add 3 level tablespoonful of cornstarch, mixed with a small quantity of milk. Allow this mixture to cook about 15 minutes. Then remove from fire and cool, then add ½ can of pineapple then freeze. This quantity serves 12 people.

In place of the pineapple a good brand of canned peaches may be used—or the sour red cherry.—Mrs. J. D. C.

PENNSYLVANIA FARMER PATTERNS

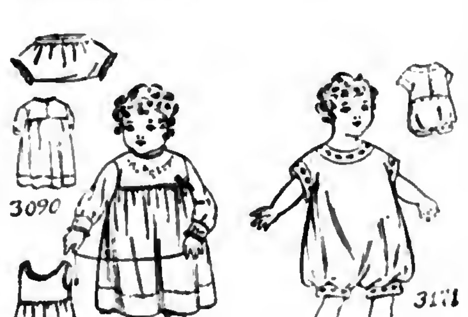
Give figures and letters of each pattern exactly as printed at beginning of each description or we will not be responsible for correct filling of orders. Give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261 S. Third Street, Philadelphia, Pa.

3084. For the Little One.—Make it of soft silk, poplin, repp, batiste, or nainsook; or for service and utility, of check or plaid, gingham, chambray, or kindergarten cloth could be employed. The sleeve may be in wrist length with a band cuff, or cut short and finished with a turnback cuff. The pattern is in 4 sizes: 2,3, 4 and 5 years. Size 4 will require 3 yards of 27-inch material. Collar and cuffs may be of contrasting material.—Pattern, 10 cents.



3141. Novel Dress Pattern is cut in 4 sizes: 2, 4, 6, 8 years, and will require 2⅜ yards of 27-inch material for a 4 year size. As here shown, natural shade shantung was used with embroidery in red, and bright red buttons for trimming. Pattern, 10 cents.

3090.—Set of Short Clothes.—For the dress nainsook, lawn, poplin, repp or voile could be used. The drawers and petticoat could be made of lawn, longcloth, muslin, cambric, domet or canton flannel. Pattern is in 4 sizes: 6 mos.—to 1 year, 2, 3 and 4 years. Size 4 will require 2⅜ yards of material 36-inches wide for the dress, ⅞ yards for the drawers, and 1⅞ yard for the petticoat. Pattern, 10 cents.



3171.—A Becoming Play Garment. —Cut in 5 sizes: 1, 2, 3, 4 and 5 years. A 4-year size will require 2⅜ yads of 36-inch material. Tan chambray embroidered in blue and red; striped seersucker or checked gingham combined with white pique or cambric, would be attractive. Pattern, 10 cents.

Why the Sewing Club always met at Aunt Mary's

"Even the extra wraps and overworked coal piles didn't bring comfort to many last winter.

"But when icy blasts sent the thermometer downward on Sewing Club days, we were sure to find comfort at Aunt Mary's. And no wonder. Aunt Mary installed a Novelty P peless.

WARM AIR (UP)
COLD AIR (DOWN)
One register heats the house

NOVELTY
BOILERS-FURNACES-RANGES

"The coldest days found every room in the house cozy and warm—filled with fresh, healthy and dustless heat."

There is no magic about the Novelty Pipeless. It is built just as sturdy as it is humanly possible to build it—from the best material obtainable and in a plant where for 73 years the manufacture of Heating and Cooking Apparatus has been under the direct supervision of Heating Engineers. That means correct heating principles, hence less fuel consumed—more heat produced.

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We make all types of Heating and Cooking Apparatus. Consequently we can give you unprejudiced advice.

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Makers of Novelty Hot Water, Steam and Vapor Systems. Hot Air and Pipeless Furnaces. Coal, Gas and Combination Ranges. Garage Heaters, Laundry Stoves and Hot Water Heaters.

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This $12 Officer Shoe
Hand sewed. First Grade. The factory price — direct to you at only $6.89

The retail price of this shoe is $12.00. It is made of the best waterproof mahogany calf leather. Guaranteed to give the best wear. If these shoes are not just as we say, send them back. You don't lose a cent.

If you are sending money order or check, do not include postage. Pay only $6.89 for shoes. We pay postage. State size.

These shoes are built to be good for work and dress at the same time.

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FROM WHOLESALER DIRECT
In 5-lbs. Lots or Over Delivered Free within 3rd zone (300 miles) 4th zone 37c lb.—5th zone 39c lb.—6th zone 41c lb.—7th zone 43c lb.—8th zone 45c. lb.
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FELLOW LODGERS

By W. E. NORRIS

Arthur Bertram, out of all patience, jumped up and rang the bell violently. For more than an hour the lady upstairs had been practicing violin exercises, and during the whole of that time he had been sighing, burying his head in his hands and distractedly rumpling his hair in the vain endeavor to put final polish on an article of which copy had to be delivered the next morning. Forbearance and courtesy must have limits, and, after all, when one takes rooms in the extremest outskirts of Bronxville, it is precisely in order to escape the hideous din of modern traffic, not in order to have one's nerves set on edge by the caterwauling of contiguous catgut. So when stout Mrs. Stone, his landlady, appeared, he said:

"Please present my compliments to Miss What's-her-name, and say that since she must scrape that accursed instrument at a time of night which is most inconvenient to me, I should esteem it a personal favor if she could manage not to play a quarter-tone flat."

He looked so agonized and so fierce that Mrs. Stone abstained from conciliatory words, tho anxious to utter them, and only said she would give Miss Foster the message. Bertram heard her creaking upstairs, heard her enter the room overhead, and then heard no more, for prompt silence ensued.

Well, if you are making a noise and are asked, no matter how rudely to stop, you cannot very well go on. But none the less was Gladys Foster furious. She had not been playing false; it was that grubby old penny-a-liner's accusation that was false, and it rankled. She had never seen Bertram (who, as a mere matter of fact, was neither old or grubby); she had not been long established in the modest second-floor apartments which surmounted his more pretentious suite; all she knew about her neighbor was that he pursued literature as an avocation, and that he smoked a great deal. This latter circumstance afforded her an opening for the retaliation which self-respect demanded. When Mrs. Stone came to clear away her breakfast on the following morning, she said blandly:

"My compliments to the gentleman downstairs, please, and since he must smoke at a time of night which is most inconvenient to me, I should esteem it a personal favor if he could manage to refrain from the use of common, coarse tobacco."

This time Mrs. Stone felt that she really must intervene. She had let lodgings for many years, and by means of tact had averted more than one threatened quarrel between the inmates of her restricted premises.

"Tact, miss," she began—for she was proud of possessing that quality and fond of inculcating it—"tact, you may depend, is what is wanted in an establishment like this. As I was saying to Mr. Stone only this morning, there must be given and take—"

"There shall," interrupted Miss Foster. "Be sure, Mrs. Stone, that I shall always give as much as I take, and perhaps a trifle more, so as to be on the safe side."

"Yes, miss, but—"

"Be so good as to deliver my message," said Miss Foster briskly.

Mrs. Stone withdrew. She was a little afraid of his very resolute and independent young lady, who knew the exact price of food, and those eyes were quick to detect every speck of dust. On the other hand, she was not in awe of Mr. Bertram, who paid a much higher rent for his rooms, never examined the items in his weekly bill, and did not notice dust. Of the two lodgers it would certainly be less distressing to lose Miss Foster than Mr. Bertram; but why part with either? It was in the interests of both alike, not to mention her own, that Mrs. Stone decided to keep to herself certain remarks which fell from Mr. Bertram on the receipt of Miss Foster's counterblast. Naturally, a young gentleman does not like to be charged with using common, coarse tobacco. Neither would such a thoroly nice young man as Mr. Bertram like any lady to be told what he said in the heat of the moment about her manners.

For the rest, Bertram, who, when not molested in the throes of composition, was good-humored enough, might have overlooked that insult about the tobacco if the form of its conveyance had not been so deliberately insulting. His own message, it was true, had not been too civilly worded; but then his grievance had been a genuine one, whereas Miss Foster could not really have been incommoded by his smoking with the door shut and the window open. So, altho for several nights in succession never a squeak from the fiddle upstairs vexed his ears, he did not forgive the fair fiddler, nor did he believe that she had forgiven him. If it had been his privilege to be acquainted with Miss Glayds Foster, he would have been quite sure that she had not.

Lending a Helping Hand

Left an orphan, with a very small income, that typical feminine product of today had declined the offer of a home extended to her by anxious relatives, and had proclaimed her intention, as well as her entire capacity, to take care of herself. Hence the second floor in Bronxville, nebulous projects of becoming a professional violinist, more or less successful work as a miniature painter, altogether successful player at golf and lawn-tennis, and other kindred developments. Miss Gladys liked to describe herself as a bachelor girl, enjoyed a wide popularity amongst her congeners, and passed for being—as, in the main, she was—a "good fellow." However, she could not endure to be told that she played out of tune, nor could she flatter herself that she had got quite even with Mr. Bertram by her tautological retort. She practised no more at night (because it is a sorry task to cast pearls before swine and be grunted at for your pains), but lest this abstention should be misconstrued into an act of surrender, it seemed good to her to assert in some unequivocal fashion her right to do what she pleased in her own rooms. One evening, therefore, she assembled half a dozen of her girl friends and encouraged them to engage in athletic contests on a small scale. They fenced with the fire-irons, which was great sport; they put on the gloves and had some merry bouts; finally a steeplechase on all fours was arranged over cushions and other obstacles, which naturally resulted in croppers, screams, and much shrill laughter. The party broke up about midnight, and the hostess, rubbing her hands, wondered how the old curmudgeon downstairs had liked that.

He disappointed her by despatching no overt protest; but on the following evening, just as she was settling down to serious study of a work on missal painting in the Middle Ages, there arose from below such an uproar that she was fain to drop her book and thrust her fingers into her ears. She had not until then been aware that Mr. Bertram owned a piano; but it seemed that he did, and that somebody else possessed a cornet, while a third person could thump a drum at irregular intervals with a vigor worthy of better employment. This was terrible, but it was almost worse when the revelers began to sing. There were choruses, there were solos, there were outbursts of full-throated masculine hilarity, compared with which the poor little cachinnations of Miss Foster's girl friends had been but a whisper. The hubbub, too, was prolonged until a much later hour than hers had been, and when at length it ceased she had to acknowledge, as she lay with her mortified head smothered beneath the bed clothes, that she had been overtrumped.

Of course, either she or Mr. Bertram would have to go. It was hateful to own defeat, but it was impossible to dwell any longer under the same roof with a double-distilled brute. It might not be impossible, tho, to inflict some punishment upon him. The outcome of protracted reflection during breakfast the next morning was that she decided to take the opinion of a solicitor with whom she was acquainted, and she was about to set forth on that errand when she espied the disturber of her peace emerging on the landing beneath her. The steep, narrow staircase was rather dark, so that she could not see him very distinctly; but she received the impression that his shoulders were shaking, as with silent laughter, and what more natural than that she should at once toss up her chin? Natural, but, under the conditions, unwise, and poor Miss Foster's pride was promptly followed by the proverbial fall. She missed the first step, clutched wildly at the banister, which eluded her grasp, and was precipitated down to the first floor, bumping her head, losing her hat, and—worst humiliation of all—being picked up by Mr. Bertram, who hoped, in accents of deep concern, that she was not much hurt.

Save for a few contusions, she was not hurt at all, but she was dazed, shaken and dreadfully afraid that she might be going to cry. How it came to pass that she found herself reclining in Mr. Bertram's armchair, with a bottle of salts in one hand, and a tall glass of something strong in the other, she could not afterward have explained; but there she was, and as soon as she felt sure of being able to control her voice, she said:

"Sorry to have behaved in such an idiotic way. Where's my hat?"

"Close beside you; but please don't stir until you feel a little better," answered the young man considerately.

She noticed that he was a young man, and a slim, trim, good looking young man to boot. She may also have noticed upon his face a reflection of the surprise which she could not help displaying in her own; for he had pictured Miss Foster to himself as a plain-featured, big-limbed virago, whereas the small person who was doing him the honor to occupy his chair had the bluest eyes, the whitest teeth, and the most charming bronze-colored hair that he had ever beheld in all his days. He was to find out presently, tho, that her speech could be a good deal less engaging than her aspect.

"I need scarcely tell you," she began, after swallowing a mouthful of the restorative, and handing him the glass with a grimace, "that I did not plunge down two flights of stairs, head first, for the pleasure of introducing myself to you; but, since we have met, I should like just to say that I thought your message of the other day rather clumsily discourteous. Altho I am anything but a first-rate violinist, it so happens that I am never—all my masters have remarked it—never off the note."

"Aren't you?" asked Bertram suavely. "Then let me hasten to withdraw. It so happens that I never, never smoke cheap tobacco; but such details are very unimportant. I trust that you have not been annoyed since you remonstrated.

"I can't say that I have observed any smell of smoke since. Miss Foster reluctantly conceded. "Of course there have been other—disturbances."

"Not of my creating, surely! You can't allude to your own—was it a gymkhana?"

"I allude to you—I'm afraid I can't think of any name for last night's horrors."

"Oh, my little concert? I thought perhaps you, being musical, would enjoy that. Tetrazzini and Scotti threw me over at the last moment—just like them! But I daresay you recognized Caruso's voice. It's a rather penetrating one."

"It penetrated all right," answered Miss Foster drily. "So did the orchestra. I have an impression that that sort of thing is actionable; but, not being quite sure, I am just going to see my lawyers and find out."

"Ah, don't!" pleaded Bertram gently. "I should hate to think of your running up a lawyer's bill over a matter which might be so much more pleasantly and inexpensively settled out of court. Wouldn't the case be met by a full apology on my part and adequate damages—say fifty dollars down? Then we might shake hands."

A little against her will, Miss Gladys began to laugh. "I don't want your fifty dollars," she answered, "but I am willing to accept your apology and shake hands if you will promise not to do it again."

Her hand was instanty grasped, and was rather needlessly retained while Mr. Bertram gave the required pledge. He could do so with all the more readiness, he said, because he would be under no temptation to repeat his offence. "In point of fact, I shall very soon be clearing out of this."

"Oh!" said Miss Gladys; and why an announcement which ought to have been so welcome should have had a suddenly chilling effect upon her is one of those obscure psychological problems which defy analysis.

"Yes," Bertram went on complacently. "I've had an unexpected stroke of luck. I heard this morning that I had been appointed editor of a rather important magazine, and, as this will mean considerable increase of income, I think I shall have to set up a house of my own." Of course, such purely personal affairs could not interest Miss Foster, who was at a loss to imagine why she should be informed of them. She rose and said: "Well, good morning. Thank you for picking me up. Also for the pick-me-up."

Bertram opened the door for her, extended his hand again; but perhaps she thought once was enough, for she did not seem to notice the gesture.

It was really very odd—or at any rate Gladys thought it so—that the fellow lodgers, who had never before met face to face, should after this have been perpetually encountering one another on the stairs. It seemed as if she could neither leave nor return to her rooms without coming across Mr. Bertram, and as he was so shortly to depart forever out of her sight and her life, there was no reason why she should not stop and engage in the brief conversations for which he always appeared to be eager. Nor was there now any reason for denying that he was a pleasant, likeable sort of man, as men go. Furthermore, he had plenty of common sense, which was evidenced by his thirst for advice and docility in accepting it with regard to household economy and furnishing—subjects upon which the competent Miss Foster loved to dilate. The conversations tended to prolong themselves; sometimes (for there were questions relating to the removal of bookcases and pictures which could not be answered without personal inspection) they led to Miss Foster's spending a little time upon the territory of her former foe. At the end of a fortnight Mrs. Stone began to smile and wag her head in an extremely knowing manner.

"Tact," said she to her husband, a heavy, taciturn personage who earned a little as an occasional waiter and habitually minded his own business, "tact, as I always tell you, Stone, will remove mountains. If it hadn't been for me—but there! I leave you to judge. Look at them two—ready to fly at one another's throats, as you may say, the other day, and this morning he was sending flowers up to her. Mark my words, Stone, more'll come of this than what you think."

"I don't think nothing about it, Maria," answered Mr. Stone, which was doubtless true.

But he had a pertinent comment to make when, a few days later, his wife skipped triumphantly into the kitchen with the announcement that all was happily settled.

"They're to be married in a month! I had it from her own lips, and I says: ' Well, my dear,' I says, 'you owe everything to me. I don't mind you're knowing now,' I says, 'that 't was me that put him up to raising that awful shindy after you come near to bringing the ceiling down on his head. For, mind you,' I says, 'them as can look a little forward knows that the next best thing to peace is war.' And Miss Foster, she says, 'You're a wonderful diplomatist, Mrs. Stone,' says she."

"You may be that, Maria," observed Mr. Stone, removing his pipe from his mouth; "but what strikes me is this: If all you get by tact is to lose your first floor and your second at one go, why you might in future do more justice to yourself and me if you was to give tact a good long rest."

The End.

MR. HAYSEED SCORES A POINT

Fresh City Tourist.—Say, old Hayseed, how far is it to Hicksville, if I keep going straight ahead?"

Farmer.—(Cutting brush along roadside). Well, pard, if ye keep going straight ahead it's about 25,000 miles, but if ye turn around it's only about four."

NOT A GAMBLER

Clarissa.—Our minister is so good that he won't even perform a marriage ceremony.

Melissa.—What's that got to do with him being so good?

Clarissa.—He says his conscience won't let him participate in any game of chance.—"Bystander."

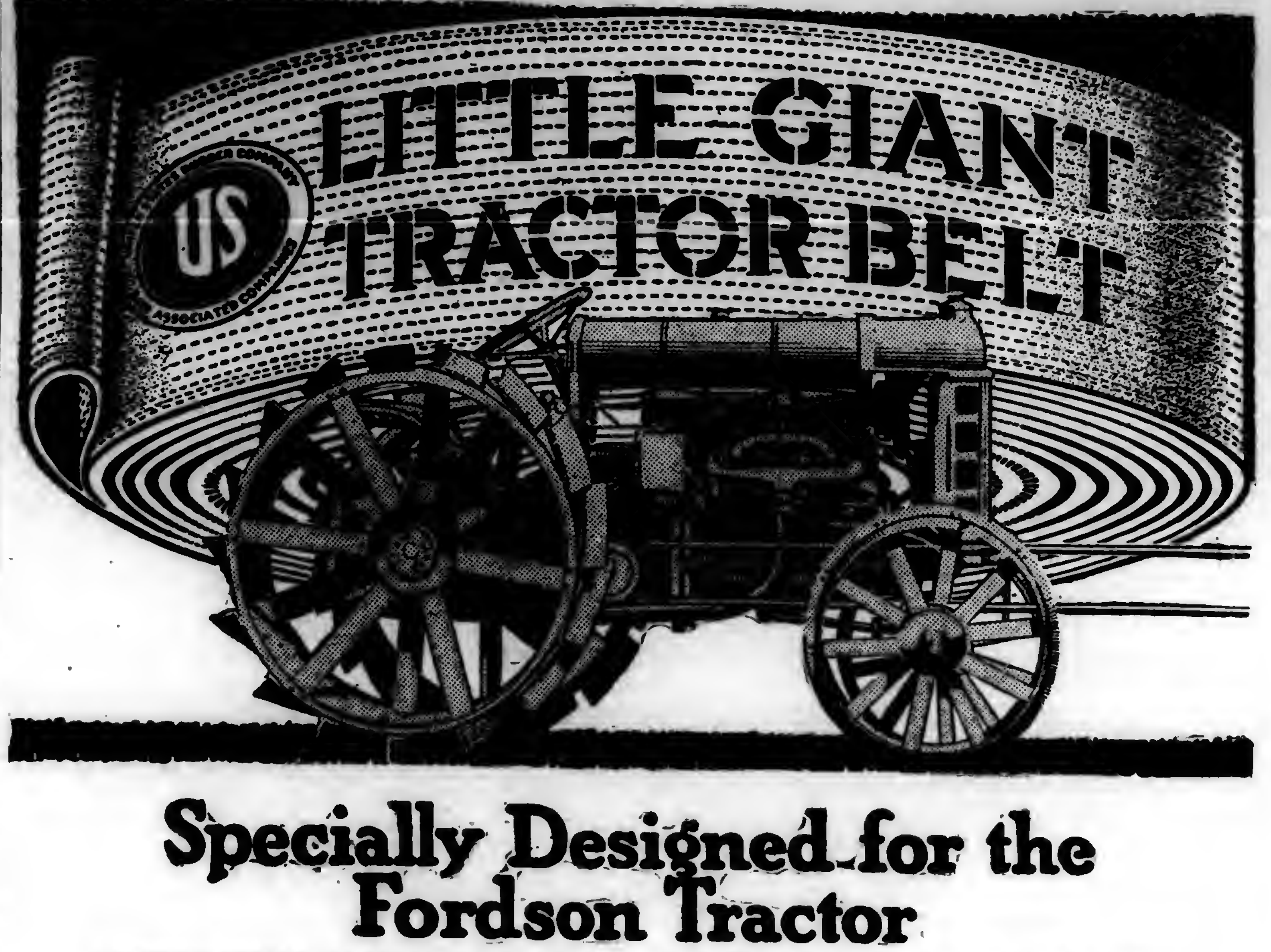
MIGHT BE FOUND GUILTY

"Is the professor in?" she asked, entering the door of a courtroom by mistake.

"What professor?" asked the attendant.

"The professor of music, of course. I've come to have my voice tried."

"Well, you'd better not have it tried here, ma'am. This is a court of justice."—Houston "Post."



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AGRICULTURAL engineers and designers of motor driven farm machinery have proved that better results can be secured from tractor operation by using equipment specially designed for the make of tractor employed.

For the Fordson tractor, there has been specially designed the Little Giant tractor belt — and thousands of farmers have found that it is the most satisfactory belt to use with the Fordson.

If yours is an average farm, over 40% of your tractor work should be belt work. Your tractor can be used every month on some kind of belt driven machinery, thus giving you a greatly increased return from your investment in the tractor as well as getting the work done quicker, better and more profitably.

The Little Giant tractor belt is endless and is built of four-ply of extra weight, highest grade canvas, specially treated to increase its toughness and wearability. The Little Giant Belt, because of its extra stitching on the edges, is practically free from the effects of edge wear. Because of its special design the Little Giant belt will run straight and true, always.

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Your Fordson dealer has a stock of the three lengths of Little Giant belts—50 ft., 75 ft. and 100 ft. If he hasn't, write us direct.

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GASH-STULL & CO., Philadelphia, Pa.
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The quality of these remnants is same as first grade roofing and contains same amount of roofing, 108 sq. ft. with all fixtures.

Our supply of remnants never equals demand, so place your order now. We guarantee satisfaction or return your money.

1-ply Remnants 80c per roll (Just like $2.15 regular grade)
2-ply Remnants $1.10 per roll (Just like $2.80 regular grade)
3-ply Remnants $1.35 per roll (Just like $3.50 regular grade)

Also extra special bargain in Red and Green slate surfaced remnants at $2.00. This just like first grade which sells for $5.00 per square except that slate surface is not put on as smoothly.

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We teach you the business and pay a salary commensurate to your ability. Write today for full particulars giving two references.

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SWINE BREEDERS PLAN.

Recently two pure bred Duroc-Jersey Swine Associations have been organized in Clinton County, Pa., with a total membership of ten men, five in each association.

At a joint meeting of these two associations it was decided to appoint a committee for the purpose of investigating some of the best herds in Ohio and elsewhere, with the idea of securing the very best sires obtainable. This committee, along with Dr. Havner, the swine specialist of State College, will take this trip early in May.

On April 22, all the members of both associations will take a trip by machine to Northumberland County, where the best sow pigs will be purchased from the association in that county. The dams of these pigs contain blood from the three great strains of pigs, viz. Perfection, Colonel and Defender, and they are bred to Orion Cherry King the Second, whose popularity and qualities are almost unexcelled.

This procedure on the part of our Clinton County men is bound to place them among the top notch breeders on the market so far as foundation stock is concerned. We want it generally known that the men in both associations have unanimously agreed "not to sell any individuals for breeding purposes except those which have been passed on and approved by the swine extension specialist of State College." It is generally agreed that such action will be for the good of the breed, and will build up a reputation for the associations of selling only good stock.—Birch R. Ober, County Agent.

RID SHEEP OF LICE BY DIPPING

Dipping is the only practical way to rid sheep of ticks and lice, say experienced sheep men, who further point out that lice cause sheep to pull their wool and thus injure the fleece.

Bad as ticks are, lice are even more dreaded. Sometimes it is even difficult to find them. If a sheep has pulled its wool badly, however, and the farmer looks closely at the skin over the spots where the wool is most disturbed, he will likely find small black spects which at first he may take for timothy seeds or chaff. As he watches them closely, however, he will see that they move.

After the sheep has been shorn it should be dipped. The lambs also, as soon as they are of any size, may be given the same treatment. In order that the sheep may go into winter quarters in good condition and free from ticks, it is well to dip again in the fall.

Beginners with sheep will find that, while they are not difficult to handle, there are a number of small matters that must be looked after religiously if success is to be attained. It is much easier to avoid trouble by preventing it than by curing it.

THE SHEPHERDS ARE BANDING TOGETHER

A New Era for the Sheep Growers

New customes and practices replace the old. This phrase has its application to the farmers who grow sheep as it is having to the dairymen. The day has almost passed for the local wool buyer who for years has driven a thriving trade in handling the wool clips of the sheep growers. The wool growers are banding together into county and state associations and because of this we are going to hear much concerning their activities in the way of collective marketing of wool, and lambs and for aught we now know, in championing the ever rising demand that woolen cloth shall be branded by the manufacturers so that shoddy which may originally have been wool shall no longer be allowed to be substituted for virgin wool.

Foremost among the activities of the sheep men has been the rapid increase in the number of county wool growers associations organized in the past two or three years. This is especially well illustrated in New York State where 35 county wool growers associations have been organized. In many counties these associations comprise as high as ninety per cent of all the wool growers. Another activity that bids fair to grow is the practice of purchasing and using paper twine for the wool.

The county associations in New York have done their best work thus far through their county-wide wool pools and sale consignments. This is now almost the universal practice. While a few counties still follow the practice of pooling their wool and throwing it on the market-selling it immediately to the highest bidder—the most enterprising county associations consign their clips in one lot to reliable commission houses where the wool is sold to the very best advantage. Frequently the returns from the sales of this wool are slow and some wool growers who have not yet learned that with consigned wool they must expect to wait until the the wool is sold before complete settlements can be made. Their confidence in this method of selling their wool is growing, however, and in the main they are supporting the plan.

Another valuable practice has grown up from this method of selling wool. This is in the matter of grading. As the wool from each grower's lot is unloaded at the receiving point it is immediately graded into the leading market grades either by the buyers representative or by the growers, and sometimes by both. Thus the wool grower learns how good or how poor his wool is and it has the tendency to make his take better care in the future simple because he sees that it pays. They no longer say "wool is wool." They speak in terms of quarter, blood, seedy, and reject wool and know whereof they speak for the price they received has taught them the lesson.

After three years of experience in handling county wide wool pools the several associations have learned much of the necessity for carefully prearranged plans in order that on the day the growers deliver their clips they all will not arrive at the same time and place and thereby cause a glut at the unloading point and much wasted time and adverse criticism on the part of the growers.

For an ordinary gang of men it has been found inexpedient to attempt to handle much more than 15 to 18 thousand pounds of wool in one day. Doubtless, this amount could be greatly increased with proper conveniences for receiving and packing. Of course the magnitude of the business of handling these wool pools is not great and with the usual conveniences available many makeshifts have to be utilized.

Generally at the receiving door of the wool house the wool is thrown to the grade who in turn throws the fleeces into their proper grade piles. As soon as this is done and everyone satisfied, the different piles in turn are thrown into the weight racks and each grade weighed separately. Plenty of help should be available so that the wool may be graded and weighed rapidly. One man attends to all of the weighing. He keeps an original record of each grade and its weight. These he announces to the book-keeper who makes a corresponding record entry on sheets ruled in columns for each grade of wool. Where the owner of the wool is to receive an advance payment on his wool a third man, usually the association treasurer, figures the values of the grades and makes out checks to be given to the owner. Thus the individual records are kept and the work of receiving dispatched with rapidity.

Where the wool is to be placed on board cars and shipped the same day another gang of men is ready to pack the different stacks of wool into the sacks—one grade of wool in each sack—weigh and mark them.

The New York State County wool growers associations decided to organize a state-wide federation somewhat more than one year ago. This Federation is supported by membership dues paid by the county associations at the rate of 20 cents per member in the county association. Thru this state wide organization steps are being taken to keep the county associations better informed concerning conditions and policies of state wide interest. They have recently established a News Bulletin service which is being issued semi-monthly or as frequently as the occasion justifies. The Federation also plans to put on at the State Fair one of the biggest wool exhibits that has ever been attempted in the state.

The wool growers of the east have never consciously tried to protect themselves, aside from an occasional sally at the dog laws, nor have they tried to advertise their wares. There is just as much reason for the growers of wool to advertise their business as there is for those farmers who produce other products to advertise theirs. It is the duty of every wool grower to get into the fight for this "Truth in Fabric Legislation" for the shoddy and other substitutes that the manufacturers are permitted to incorporate into so-called "all wool" cloth comes into direct competition with virgin wool. If I am not mistaken the manufacturers claim that they use 41,000,000 pounds of shoddy a year. This would be practically equal to 10 per cent of the national wool clip. It is equal to about 82,000,000 pounds of wool in the greas.

Our wool growers do not object to the use of shoddy if it is branded in cloth for just what it is. Shoddy is to the wool growers what oleo is to the dairymen. I understand that the manufacturers fought the Truth in Fabric Bill in Congress so vigorously that it is doubtful if the bill will be reported out of committee this session. The fact that these men fought it so vigorously is almost sufficient proof that the practice of using shoddy needs looking into not only by the wool growers but by every one who wears clothes.

It is claimed that men who keep sheep are by nature gentle. Even a gentle man may be provoked to do or say things that may not be characteristic of the words and actions of shepherds. Let us expect to see our shepherds band together in righteous indignation whenever it becomes necessary for them to receive proper recognition or whenevr their business demands united action.—F. E. Robertson.

SOYBEAN BY-PRODUCT VALUABLE SWINE FEED

Soybean oilmeal has been found to be a valuable supplement feed to corn for swine feeding through tests at the Ohio Experiment Station. This oilmeal is a by-product from Southern mills where the oil has been extracted from soybeans for commercial use.

As a supplement to corn soybean oilmeal was found to be more valuable than linseed oilmeal and gives excellent results when fed to pigs on forage in addition to the corn ration. Since these feeds as well as corn are low in ash, salt, ground limestone and ground rock phosphate were kept before the pigs in the tests at the Ohio Station.

Pigs fed a ration of corn 8 parts by weight and soybean oilmeal one gained more rapidly and required less feed per unit of grain than those fed ground soybeans as a supplement to corn.

Ground soybeans as a supplement to corn were not entirely satisfac- as when the pigs were given choice they failed to eat enough balance the corn. Their lack of ableness is believed to be due oil content of the beans. When il is removed this disadvantage is overcome.

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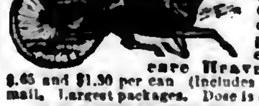

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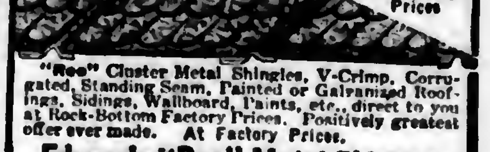

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Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., April 26, 1920

After having been in a very unsettled condition for some time caused by the strike the fruit and produce markets are beginning to show a tendency of becoming more settled. This morning there were somewhere in the neighborhood of 50 cars of potatoes on track here which is the largest supply we have had since the strike began several days previous. Potatoes in bulk were selling mostly at $6.75@7 per cwt., with the Pennsylvania stock commanding the top prices. Maine stock at this period of the year is about on a par with the Pennsylvania stock. Some Maryland Hoosiers in 150-lb. sacks were sold at $10.25@10.50 per sack and New York State potatoes in 150-lb. sacks sold at $10.25@10.50 per sack. There are a few Florida new potatoes appearing on the market. Some new potatoes in barrels have sold around $20@22 per barrel. Some in 28 quart hampers sold here this morning at $4.50@5.50 and bushel boxes sold at $5@6 per box. Sweet potatoes are ruling very firm at $2.60@3.25 per hamper for No. 1's with No. 2s at $1.25@1.50. The New Jersey ⅝-baskets bring $2@2.25 for No. 1s, with mediums at $1.25@1.75, and No. 2s at 90c@$1.25.

Vegetables

The nearby crop of asparagus has made its appearance. With good weather in another week will be enough to supply the markets wants. At this writing nearby asparagus is selling at 50@65c per bunch for fancy, 49@50c per bunch for prime and 25@30c per bunch for culls. With the increasing supplies these prices will gradually decline. Beans while still a very scarce commodity are showing some increase in supply and sold here this morning at $5@8 per hamper for the green, while the wax which are mostly poor to ordinary in quality only brought from $3.50@5 per hamper. New beets are in good demand when fancy at 10@12c per bunch. Old beets $2@3 per barrel. New cabbage is showing a very wide range in condition. The very best here sold this morning at $2.50@2.75 per hamper, but at the same time there was a lot of poor cabbage on the market which only brought from $1@1.75 per hamper. There is still a good demand for old carrots as two cars were sold here this morning at $6.50@7 per barrel, while a car in bushel baskets sold at $2.25 per bushel. New carrots are in light supply and meeting a good demand at 4@5c per bunch. Cauliflower is very scarce and if here would bring very high prices. Celery shows a very wide range in quality, the best selling at $4@5 per crate. Cucumbers are in good active demand at $5.50@6.50 per hamper for No. 1s. While there are only a few egg plants on the market at this time most of them are very poor and prices show the wide range of $3@7 per crate. The new crop garlic is gradually getting more plentiful and the market is just about steady at 30@35c per pound. Several cars of Norfolk kale sold all the way from 25c per barrel up to $1.75 per barrel. Lettuce is also showing an extremely wide range but the great bulk of the sales ranged from $2.50@4 per hamper. Mushrooms run along from day to day at about the steady price of $1.25@1.75 per 3-lb. basket. The supplies of onions are rather light and the market is very firm. This morning old onions sold at $7.25@8.50 per hundred pound sack. Parsley is a little firmer today and sold at $6@7 per barrel for the plain and $5@6 per barrel for the plain. Strictly fancy peas are scarce and bringing $5.50@7.50 per hamper. Peppers are scarce and commanding from $4@8 per box as to quality. The nearby crop of rhubarb which made its appearance on our market a short time ago is now getting fairly plentiful and sales are being made at this writing at 4@6c per bunch, and as supplies gradually increase will probably show a weaker tendency. Norfolk radishes were quite plentiful here today. Three or four cars sold this morning at 75c@$2 per hamper for both the red and white radishes. Romaine sold mostly at $2@2.50 per hamper. Nearby scullions continue quite plentiful and are selling from $1.25@2 per hundred bunches, mostly $1.50 per hundred. Fancy tomatoes are very scarce, and if here would bring very high prices, as some very ordinary ones sold at $2.50@5.50 per crate. Norfolk spinach is quite plentiful, and selling all the way from $1 to $2.25 per barrel as to quality and condition. Nearby yellow turnips are getting scarce and are firm around $1@1.35 per ⅝ basket as to condition. A car of Rutabagas sold here this morning at $3.75 per barrel. Maryland and Delaware grown turnip top greens have been selling at the very high prices of $1.50@3 per hamper. Watercress is in moderate supply and selling mostly around 4 cents per bunch.

Fresh Fruits

As the season is getting late there are not many apples being offered at this time. This morning there were five cars here which brought very high prices. Baldwins selling from $7@10 per barrel. Ben Davis $6@7.50 per barrel; Ganos, $6@7.50; Winesaps, $7@8.50 per barrel, and other odd varieties from $6.50@7.50. Western box apples are also in light supply and the market is ruling very firm at prices ranging all the way from $2@5 per box as to quality, condition and variety. There were four cars of Florida strawberries here this morning which sold at 30@40c per quart on the best berries with some in poor weak and wasty condition selling at 15@25c, while some very poor sold still lower. Two cars of Louisianna strawberries sold at 30@37c per quart box and 14@16c per pint.

Poultry

Live poultry after having been selling at extremely high prices during the last two weeks appears to be seeking lower levels, and prices are about 5c per pound lower on fowls than they were a week ago, which are now selling at 43@45c for fancy and 40@42c for the medium grades. Average soft meated roasting chickens show little or no change and rule about steady at 44@45c with the poorer grades at 40@42c. Fancy nearby broiling chickens continue scarce and are ruling firm at 65@70c per pound. Old roosters are about 2 cents per pound lower and range from 28@38c per pound as to condition, the higher prices being paid for the staggy young roosters, while the lower prices are paid for the old ones. Ducks remain unchanged at the wide range of 30@45c per pound as to variety. The white pekins bringing the top prices, while the colored muscovys and Indian runners sell at the inside prices.

Eggs

The market on nearby eggs is about ½c per dozen higher than it was a week ago, as Pennsylvania and other nearby current receipts sold here this morning at 43c per dozen with firsts at 43½c; Western eggs are practically unchanged from last week's quotations as they are now selling at 43c per dozen for firsts and 43½c for extra firsts. The Southern eggs on the other hand are running irregular in quality and are therefore selling at a wider range in price, as sales were reported today at from 38@42c per dozen as to quality.

LANCASTER PRODUCE MARKET

Lancaster, Pa., April 26, 1920

Housewives here today were confronted with $5 a bushel for potatoes for the first time in the history of the local markets, and none could be bought less than 60c per half peck. Butter was scarce and higher, and fowls of very poor quality were held at minimum of $2 each. Skimpy bunches of asparagus were quoted at 20 cents. Eggs advanced again to 50 cents. Demand for all offerings was steady. The quotations:

Butter and Eggs.—Creamery butter, 80c per pound; country butter, 70@75c per lb.; fresh eggs, 50c per dozen; duck eggs, 50c per dozen; goose eggs, 6@7c each.

Poultry.—Dressed old chickens, $2.25@2.50 each; dressed young chickens, $2@2.10 each. No live fowls offered.

Vegetables.—Asparagus, 20c per bunch; beets, 5c per bunch; lima beans, 20c per pint; cauliflower, 30@35c per head; cabbage, 15@45c per head; sweet potatoes, 50c per ½ peck; potatoes, 60c per ½ peck; do., $4.80@5 per bushel; turnips, 40c per ½ peck; spinach, 30c ½ peck; lettuce, 20@30c per head; oyster plant, 10c per bunch; rhubarb, 6@8c per bunch.

Fruit.—Apples, 40@60c per ½ peck.

YORK PRODUCE MARKETS

York, Pa., April 26, 1920

There have been few changes in quotations and conditions in general outside of potatoes. There is much uncertainty as to price but not as to scarcity. The high level in the Harrisburg market Saturday morning was $5, the minimum being $4 per bu. In the York markets the advance was not quite as great altho some grocers were paying $3.75 per bu.

Eggs.—39@42 per dozen.

Butter.—Country, 60@65c lb.; separator, 70@80c lb.; milk, 12c quart.

Poultry.—Hens, 35@38c lb.; dressed, $1.25@2.75 each.

Vegetables.—Potatoes, 30@55c ½ peck; $2.75@3.75 per bushel; cabbage, 8@10c pound; lettuce, 10@25c head; beets, 5c box; radishes, 5c bunch; onions, 5c bunch; 25@35c ½ peck; lima beans, 35@40c qt.; soup beans, 25@35c quart; celery, 5@15c stalk; turnips, 25c ½ peck; apple butter, 45@50c quart; sausage, 34@38c lb.; pudding, 30c pound; ham, 40@80c cut; 40@50c pound, whole.

Fruit.—Apples, 40@80c ½ peck.

Retail Grain Market.—Wheat, $2.80; corn, $2; oats, $1.25; rye, $1.80; bran, $3.25 per cwt.; middlings, $3.50 per cwt.

Wholesale Grain Market.—Wheat, $2.60; corn, $1.57; oats, $1; rye, $1.50; bran, $60 per ton; middlings, $65 per ton.

BALTIMORE PRODUCE

Baltimore, Md., April 26, 1920.

Butter.—Creamery, Western separator, extras, 73@74c; do., firsts, 72@73c; Western, prints, ½-pound, extras, 74@75c; do., firsts, 73@74c; Western prints, 1 pound, extras, 74@75c; do., firsts, 73@74c, nearby creamery, extras, 70@72c; do., firsts, 69@70c; dairy prints, Maryland, Pennsylvania and Virginia, extras, 45@46c; do., firsts, 43@44c; store-packed, firsts, 39@40c; rolls, Western Virginia, extras, 41@42c; do., Ohio, extras, 43@44c; do., Maryland and Pennsylvania, extras, 43@44c.

Eggs.—Western Maryland and Pennsylvania, nearby, firsts, 41c; Eastern Shore, Maryland and Virginia, firsts, 41c; Western (Ohio), firsts, 41c; West Virginia, firsts, 41c; Southern (North Carolina), firsts, 40c.

Live Poultry.—Chickens, large, young, smooth, per pound, 45; do., winter, under 2 pounds, per pound, 55@60c; do., spring, 1 to 1¼ pounds, per pound, 65@70c; do., rough and staggy, per pound, 35@40c; do., old roosters, per pound, 23@25c; do., old hens, over 4 pounds, per pound, 38c; do., small, per pound, 38c; do., white Leghorn hens, per pound, 38c. Ducks, Muscovy and mongrel, per pound, 35@36c; do., White Pekins, per pound, 40@42c; do., puddle, 4 pounds and over per pound, 38c; do., small, poor, per lb., 35@36c. Pigeons, old, per pair, 30@35c; do., young, 30@35c. Guinea fowls, Young, $1.

NEW YORK PRODUCE

New York City, April 26, 1920

Butter.—Unsettled; receipts, 8,533 tubs; creamery, higher than extras, 73½@74c; creamery, extras (92 score), 72½@73c; firsts (88 to 91 score), 68@72c; packing stock, current make, No. 2, 42½@43c.

Eggs.—Irregular; receipts, 17,225; storage-packed extra firsts, 47½@48c; do., firsts, 46½@47c; fresh-gathered extra firsts, 46½@47c; do., firsts, 43@46c; state, Pennsylvania and nearby western hennery whites, firsts to extras, 48@54c; state, Pennsylvania and nearby hennery browns, extras, 49@50c; do., gathered browns and mixed colors, firsts to extras, 45@49c.

Cheese.—Firm; no receipts, state, whole milk, flats, held, specials white and colored, 30½@31½c; do., average run, 28@30c; state, whole milk, current make, specials, white and colored, 27½@28c; do., average run, 27c.

Live Poultry.—Weak; no prices quoted; dressed firm; western broilers, frozen, 39@51c; stags, fresh, 26@32c; frozen, 37@41c; fowls, fresh, 32@43c; frozen, 30@42c; old roosters, fresh, 28@29c; frozen, 28@29c; turkeys, frozen, 51@55c.

Vegetables. — Potatoes, old, $13@13.50 per 165-lb. sack. Beets, $3@5 per barrel. Carrots, $5@8 bbl.; cabbage, old $3@5 bbl. Onions, $3@7 per 100-pound bag. Rhubarb, Jersey, $4@7 per 100 bunches; Turnips, $1.50@2.50 barrel.

Fruit.—Apples, Ben Davis, $5@7.

PITTSBURGH PRODUCE

Pittsburgh, Pa., April 26, 1920

Butter.—Prints, 72@72½c; Tubs, 71½@72c; cooking, 58@60c; Ohio, 67@68c.

Cheese.—New York full cream, 34@37c. Ohio, 33@34c; Wisconsin Swiss, 58@60c; Philadelphia cream, $1.00 per dozen.

Eggs.—Fresh, select, 48@49c; at mark, 44@45c. Current receipts, 40@41c; do., candled, 43@44c.

Potatoes.—Round, $10.50@11 per 150-pound sacks. Onion, $10@11 sack. Cabbage, Texas, 4½@6c head. Sweet potatoes, $3.25 3.50 hamper. Turnips, $2.25@2.50 bushel. Radishes, 20@25c dozen; Rhubarb, 90c@$1 box.

Fruit.Apples, $3@5 box. Strawberries, $6.50 crate.

LIVESTOCK MARKETS

Pittsburgh, Pa., April 24.—Cattle steady; supply light; prime, $14.50@15.

Sheep.—Lower; supply fair; prime wethers, $14@14.50; culls and common, $4@7; lambs, $10@18.50. Veal calves, $16@17.

Hogs.—Lower, supply, 24 double decks; prime heavies, $14.25@14.50; mediums, heavy and light yorkers and pigs, $15.65@15.75; roughs, $11@12.

Lancaster, Pa., April 26.—Cattle, receipts, 1,010 head; market sluggish; prices steady; good fat steers, $11.50@13; plain to medium steers, $9.75 all; common to plain steers, $8@9.75; choice to prime heifers, $9@10.25; good to choice heifers, $8@9.25; fair to good heifers, $7.25@7.75; common to medium heifers, $7@8.25; good to prime cows, $8@9; fair to good cows, $6.50@8; medium to fair cows, $5@6; medium to good cows, $3.50@5; calves, as to quality, $9@18; good to choice bulls, $9.75@10.75; common to fair bulls, $7.75@8.75.

Hogs.—Receipts, 193 head; market quiet; prices lower; best grades, $16.75@17; roughs, $15@16.50.

East Buffalo, N. Y., April 26.—Cattle.—Receipts, 4,500; slow; generally 50c lower; shipping steers, $12@13.25; butchers, $9@11.50; yearlings, $12@12.50; heifers, $6@10; cows, $4@10.50; bulls, $6.50@10; stockers and feeders, $6@10; fresh cows and springers slow, 65c@$1.50.

Calves.—Receipts, 4,200; 50c lower, $6@17.

Hogs—Receipts, 20,800; 75c lower; heavy, $14.75@15; mixed yorkers, light yorkers and pigs, $15.25; few, $15.35; roughs, $12; stags, $7@9.

Sheep and Lambs.—Receipts, 9,400; lambs, 50c lower; wool lambs, $13@21; clipped lambs, $12@19. Others unchanged.

SHORT WEEK-END REVIEW OF FRUITS AND VEGETABLES

(Prices for the Period April 16-22 inc.)

Price Changes Irregular

The trend of a few commodities is still upward. Moderate advances were made in the markets for apples, celery, old onions and tomatoes, while new onions were slightly lower. Price changes in potatoes, sweet potatoes and strawberries were irregular, however, values did not move far from recent levels. Shipments for the week totaled 4,809 which is much lighter than the movement at corresponding time last season.

Potatoes Hold Recent Gains

Demand at Minesota shipping points became more moderate and movement decreased. The market weakened slightly at the close with a few sales reported at $7.20@7.35. Prices held generally at last week's level however, ranging between $6.90@7.50 sacked per cwt. This stock and Middlewestern round whites held steady in consuming markets also at $7.50@8 sacked per cwt. Carlots in Chicago were 25@75c higher at $7@7.75. Sacked New York round whites held the lower part of last week's range, selling at $7.50@8 in Cleveland, Cincinnati and Pittsburgh. The same stock in Philadelphia ranged $7.25@8 bulk per cwt. Maine Green Mountains in bulk ranged 25@50c higher at shipping points at $5.98@6.28 per cwt. f. o. b. Haulings were moderate. Sacked Green Mountains were slightly lower in Philadelphia, closing at $7.25@7.50 in an unsettled market, but closed steady in New York at $8.20@8.50. Boston was steady at $6.50@6.75 with movement limited.

PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., April 26, 1920

Baled Hay and Straw.—Receipts, 120 tons of hay and two cars of straw. Supplies small and market firm, with hay selling chiefly at $39@45 per ton.

Bran.—Offerings very light and market firm. Soft winter bran, western, in 100-lb. sacks, per ton, $62.50@63; spring bran, in 100-lb. sacks, $62@62.50.

Corn.—No. 2 Yellows, $1.75@1.85.

Oats—No. 2 white, $1.24@1.25; No. 3, white, $1.22½@1.23½c; No. 4, white $1.21@1.22.

NEW YORK HAY AND GRAIN

New York City, April 26, 1920

Feed.—The continued light offers of feed from the mills where production has been seriously curtailed gave the feed market a very firm undertone, altho the volume of business was small.

Quotations.—City feed, bran, $60; middlings, $64, in 100-pound sacks; red dog, $74, normal, in 100-pound sacks; Western spring bran, $60; standard middlings, $63; flour middlings, $67; red dog, $73.50, all in 100-pound sacks, 30-day shipment. Oat feed, $42; rye middlings, $62; white hominy feed, $67.50, all in 100-lb. sacks. Cottonseed oil meal, $74; linseed oil meal, $68, in 100 pound sacks.

Hay and Straw.—A river boat arrived with additional supplies of hay and a little hay came in on the B. & O. Railroad, but this is totally insufficient to supply the needs. Market continues very firm but without quotable change, sales ranging anywhere from $50@70, according to quality. Rye straw sells from boat at around $32@33 and oat straw at $30.

Wheat.—No. 2, red, $3.05.

Corn.—No. 2, Yellow, $1.92¾; No. 3, Yellow, $1.89¾; No. 2, mixed, $1.91¾.

Oats.—All grades, $1.35@1.40 nominal.

Rye—F. O. B. $2.39¾; Barley, feeding, $1.78.

Buckwheat.—Sound milling, c. and f. New York, $4.

PITTSBURGH HAY AND GRAIN

Pittsburgh, Pa., April 26, 1920

The railroad strike situation here shows a slight improvement. This is especially true of the P. & W. Va. and the P. C. C. & ST. L. It appears that matters will clarify within the next week. In the meantime, absolutely every dealer and consumer in Western Pennsylvania, is bare of hay. The few cars could be hauled were sold at abnormal values. There is no doubt that any hay arriving immediately after the strike lifts will be placed at a price exceeding the most sanguine expectations.

PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., April 26, 1920

Butter.—Receipts, 1,756 tubs. Business was mostly of a jobbing character on a basis of quotations given below, though one lot of extras was offered on 'Chance at 75½c. The wholesale market was neglected and largely nominal. Quotations: Fresh, solid-packed creamery, fancy, high-scoring goods, 78@80c, the latter for jobbing sales; extra, 77c; do, extra firsts, 73@76c; firsts, 68@72c; seconds, 60@65c; sweet creamery, choice and fancy, 79@81c; ordinary to good, 61@78c; ladle packed, as to quality, 45@49c; packing stock, 39@43c; fancy brands of nearby prints jobbing at 85@87c; good to choice, 76@84c; fair, 73@75c.

Cheese.—Fancy stock was well cleaned up and firm. We quote as follows: New York, whole milk, flats, held fancy, 31@32c; specials higher; ordinary to good, 25@30c; current make nominal; jobbing sales of fancy held goods, 33@34c.

NEW YORK MILK MARKET

New York City, April 26, 1920

Supply is very heavy and with only a fair demand the surplus is increasing. There is some buying by sweetened condensed milk manufacturers, but owing to the sugar shortage, not enough to affect the surplus to any extent. April rate for 3 percent milk in 200 mile zone is $2.55 per 100 lbs.; add 4 cents per 100 pounds for each additional one-tenth of one percent butterfat.

Receipts of milk and cream in 40-quart cans for the week ending April 24, 1920 were as follows::

Railroad	Milk	Cream
Erie	44,560	2,846
Susquehanna	8,764	123
West Shore	17,844	1,112
Lackawanna	58,875	1,260
N. Y. Central (long haul)	170,389	2,837
Ontario	44,163	2,214
Lehigh Valley	52,129	1,417
New Haven	7,200	65
Pennsylvania	12,560	468
Other Sources	6,500	300
Totals	422,934	12,642
Same week last year	372,657	13,363

INTERSTATE MILK PRICES

The basic price for 3 percent milk within 10 miles of Philadelphia is $3.28 per 100 pounds, and one cent per hundred less for each 10 miles distant. Four cents per 100 pounds is paid for each one-tenth of one percent fat above 3 percent. These are prices for the basic quantity or less. Amounts exceeding the basic quantity are paid for at a less price.

CLOVERSEED

Toledo, O., April 26, 1920

Cloverseed.—Prime cash, $28.50; April, $28.50; October, $23.55; December, $22.75.

Alsike.—Prime, cash and April, $30.00.

Timothy.—Prime cash, 1917, $5.33; 1918, $5.35; May, $5.45; September, $5.55; October, $5.65; December, $5.65.

Note.—It is well to remember that these are wholesale prices per bushel paid by jobbers.

TOBACCO MARKET

The week was characterized by belated deliveries of scattered fragments of the 1919 product and it can be said that the product of that year is now practically out of the growers hands. As deliveries are completed the excellent and thus satisfactory quality of tobacco is more and more evident. Now that most of the crop has passed to manufacturers it is noted that the same are preparing to make early use of their purchase as evidenced by increased activity of stemmeries, etc., and, indeed, the establishment of several new plants devoted to the purpose.

Growers were actively engaged in the early preparation for the new crop including the final of the seed sowing season which has been delayed by cold and rain. It has been noted that growers are still much divided as to the most desirable strains of broadleaf tobacco it having been stated that there are at least "57 varieties" of opinions on the subject. It would seem that the Slaughter strain is the one and only truly outstanding sort and should at least be seriously considered by all.

At a meeting of the tobacco growers association, J. Aldus Herr was appointed to represent that body at Washington, May 19-20 in the national conclave to devise ways to combat anti-tobacco agitation which is brewing on all sides. Exhaustive attention was also given the subject of commercial fertilizers. It was made known that the tobacco farmers of the state are spending $1,000,000 annually for fertilizers. The importance of potash as an element was given special emphasis and that ground tobacco stems is a valuable source of fertility. The effect of fertilization on the quality of the product especially as to burning was discussed at length.

OUR SCHOOL MEETING

On May 4th, our school officers are elected and other important school matters settled. To the young girl just out of training class who is eager to receive her first appointment, this day is very important, but is it no less important with the people of the school district, the parents of the rising generation.

If, previous to the election, the voters gathered together in the "Little White School House" have been few and of the disinterested kind, I for one, hope that on the night of May 4th, 1920, each of these schoolhouses, scattered over the state, may be filled with men and women who will go there with an object—to improve conditions. No matter how well things have been "run" this year let us see that they are "run" better next.

As the work of electing our officers for the coming year occurs, let us use discretion. We don't want to put in for trustee one because he has never been honored with that position or a man because he lives near the school and can see what's going on, or even a new man in the district. We should elect a man, or woman, who owns property, has children attending school and is interested in the welfare of his, or her, and your children, for the children of today are the men of tomorrow.

We all know before we begin to look for a teacher that they are scarce and the price asked will be considerably more than heretofore, but instead of mourning over the fact, we should congratulate ourselves that for so many years we have engaged them for so little.

Nothing is dear if we receive value for money paid. We might better consider the teacher who asks eighteen, twenty or even twenty-five dollars a week, than the one who offers her services for twelve or fifteen. Undoubtedly the former can furnish references from trustees and superintendents under whom she has taught, while the latter has never taught before, possibly she has not given satisfaction or has not the qualifications for a good teacher. Which will be the better and cheaper teacher? The former will.

Before engaging a teacher, we should have recommendations. In these, look for such facts as her ability to discipline. A good disciplinarian is usually a lover of children. One who has a pleasing manner, one with a strong character, one who can be a child again, one who not only likes but loves the country and all nature, is just the one we want in our little school to bring up our little ones.

After the officers are elected and the teacher discussed, the matter of improvements should be discussed. A little spent each year on improvements is not missed.

We like to see bright clean paint and a few pretty pictures on the wall at home, and the little ones in school appreciate these things too.

If we believe at all in environment how can you expect the best from our children if we send them to shabby uninteresting places of learning?

A good hard wood floor, fresh paint, well curtained windows, slate boards comfortable seats, appropriate pictures, inside toilets, and a well heated and ventilated room, with a bright inspiring teacher in the front, usually means a healthy, happy school and that is what we want.—R. L. E., Delaware Co., N. Y.

FEDERAL LAND BANK LOANS

During the month of March, 1920, an aggregate of $9,703,290 was loaned to 2,436 farmers of the United States by the Federal Land Banks on long-time first mortgages according to the monthly statements made to the Farm Loan Board. The Federal Land Bank of Omaha leads in the amount of loans closed, the same being $2,194,000, the Federal Land Bank of St. Louis following with $1,938,000. The other banks closed loans in March as follows: Louisville, $898,400; Houston, $879,215; New Orleans, $819,675; St. Paul, $780,700; Wichita, $506,100; Spokane, $470,100; Berkeley, $342,600; Springfield, $306,600; Columbia, $301,200; Baltimore, $266,600.

During March 2, 269 applications were received by the twelve banks, asking for $8,209,499, and during the same month 2,676 loans were approved by them amounting to $7,480,342.

On March 31, 1920, there were operating in the United States 3,995 Farm Loan Associations, and the total mortgage loans made by the Federal Land Banks thru these associations to 124,492 farmer-borrowers as of that date, amounted to $344,721,366.

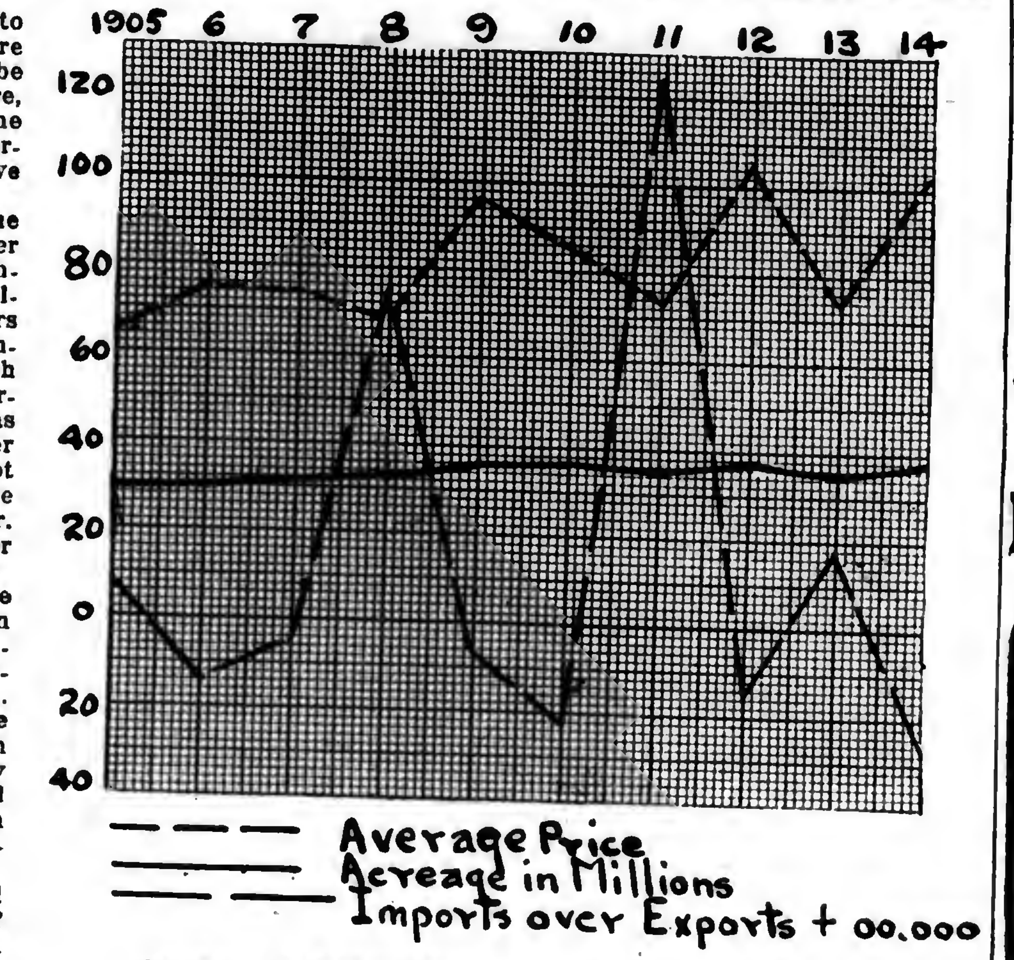
FARM WAGE SCALE FOR TALBOT COUNTY

The Talbot County Agriculture Advisory Committee has been at much pains to gather information whereby a fair wage scale could be set for the farm workers of that county. A wage scale has now been set with this information as a basis.

Without board, 20 to 25 cents an hour for thinning corn. Setting out tomato plants same pay. Hay harvest with board, $3 a day; without board, $3.50 a day; an hour, with board, 25c; an hour, without board, 30c.

Wheat harvest with board, $3 a day; $3.50 without board; 30 cents an hour with board; 35 cents without board. Threshing, $3 a day with board; $3.50 without board; 30 cents an hour with board; 35 cents without board. Picking tomatoes 3 to 5 cents a basket; according to size. Corn cutting with board, $3.50 a day; $4 without board; 35 cents and 40 cents an hour. Corn husking, 40 cents a barrel.

Ordinary farm work, $3 a day with board; $3.50 without board; 20 cents an hour with board, 25 cents without board.—Marylander.



Variation in Potato Figures Over a Period of 10 Years

"AG" STUDENTS TO HOLD FAIR

The Rutgers College Agricultural Club is to hold a fair at the College Farm, New Brunswick, N. J., on Saturday, May 8, 1920. This is a new feature because it is the first fair ever held in the state by students of the State University.

The Club is composed of students studying agriculture, and it has grown from ten or twelve members in 1910 to over 100 in 1920, showing the great increase of interest in farming among the boys in our colleges and universities.

The fair is planned to be of educational value to the citizens of New Jersey, especially the farmers, and offers an opportunity for all who attend to visit the State Experiment Station and State University.

LOW CROP YIELDS FOLLOW FARM CATTLE DECREASE

That the steady decrease in number of farm cattle in the State has made it necessary for the farmers of Ohio to purchase large amounts of commercial fertilizer is pointed out in a recent bulletin from the Ohio Experiment Station, Wooster.

Director C. E. Thorne, of the Ohio Station states that from 1870 to 1910 there has been a steady decrease in the number of farm cattle, the total loss amounting to the equivalent of 500,000 cattle while there has been an increase of 3,500,000 acres, or 50 percent in the area under cereal and hay crops. The yield of corn has been maintained at an average of only 37 bushels per acre; wheat has increased a few bushels per acre on the average but the acreage has decreased by 1,000,000 since 1870.

The annual expenditure for commercial fertilizers in Ohio has reached almost $4,000,000 for the past 10 years. This was paid for 350,000,000 pounds of fertilizers yearly.

Director Thorne points out that the manure produced by 500,000 cattle would contain about the same quantity of phosphorus and more than ten times as much nitrogen and potassium as has been purchased in commercial fertilizers each year.

A bulletin, describing the fertility program for a 160-acre Ohio farm is mailed free to residents of Ohio on request to the Experiment Station, Wooster. The bulletin deals with necessary expenditures in fertilizing crops to make farming profitable for both tenant and owner of farm land.

MEAT PRODUCTION

The meat production for 1919 as compared with 1918 and 1914 shows a considerable increase in the production of pork, but there has been a general drop in both beef and mutton. The meat production in millions of pounds for the years stated, follows:

	1919	1918	1914
Beef,	7,500	8,500	8,769
Pork	12,900	11,248	6,079
Mutton	600	537	739

Collector to small boy—"Is your father home?"

Small Boy—"Lemme see if I can remember. If you're the man that sold Pa the thresher, he has gone to town, and don't know when he'll be back. But if you are the man that owes him for threshing your crop, he is right around there in the woodshed."

Chi-Namel AUTO FINISHES

¶ Can be smoothly applied by anyone because of the waterproof, *self-leveling* Chinese Oil they contain. No laps or brush marks even if put on with a *whisk broom*. Color and gloss in one operation. Dry in 48 hours. Each can tells how to use it.

Visit Your Nearest Chi-Namel Store

¶ This representative merchant will prove to you that you can write your name in freshly applied Chi-Namel and the surface will *self-level* smooth and glossy again in a few minutes. Ask about Chi-Namel Top and Seat Dressing, Aluminum, Metalglow and Auto Polish.

¶ Write us direct for auto color cards and information, if you fail to find a Chi-Namel Store.

The Ohio Varnish Co., Cleveland, Ohio

DR. HESS Instant Louse Killer

Kills Lice on Poultry *and* Stock

Use it on your lousy hens and chicks—your lousy colts, horses and cattle. You'll get better chicks—bigger, better fowls—more eggs—better contented stock.

Chicks are apt to be lousy now. Give them a chance. Sprinkle Louse Killer into the feathers, about the coops, on roosts, in nests of laying and setting hens. Always keep Louse Killer in the dust bath. For lousy horses and cattle, colts and calves, stroke the hair the wrong way and sift in Louse Killer.

We authorize dealers to return your money if it does not do as claimed.

1 lb. 30c, 2½ lbs. 60c (*except in Canada*)

Dr. HESS & CLARK
Ashland, Ohio

INSTANT LOUSE KILLER

CABBAGE PLANTS

Copenhagen Market, Wakefield, Ballhead, etc., 300 $1.25; 500 $2.00; 1,000 $3.00 postpaid. Express, $2.50 thousand; 10,000 $20.00 cash. Shipped safely anywhere, well packed.

TIDEWATER PLANT CO., FRANKLIN, VA.

LOOK: BABY CHICKS AND DUCKS 10 breeds of chicks, 4 breeds of ducks. Utility and Exhibition grades Postage paid and live delivery guaranteed. Capacity 100,000 weekly. Catalog free. Stamps appreciated.

NABOB HATCHERIES, Gambier, Ohio

20,000 Big Hatching Chicks For 1920, 15 cents up. Barrons, S. C. Leghorns, Ringlets, Barred Rocks. 28 years' experience.

CHESTNUT HILL POULTRY FARM. Aspers, Pa.

REG. BERKSHIRES Longfellow, Masterpiece, King Lonis and Delchester Artful Lady blood lines. Special offerings, bred gilts, Fall pigs. Priced right. Nearby Stock Farm, J. A. McMahan, Pottsgrove, Pa.

PLEASE say: "I saw your adv. in Pennsylvania Farmer."

Facts in BLACK & WHITE

Ten Purebred Holstein Cows against 20 Scrubs

Two neighbors, on adjoining farms—one milks 20 scrub cows—the other 10 purebred Holsteins. They care for their cows in the same way; they get almost the same amount of cream and the same sized check from the factory where both sell their milk. Though both men take in the same amount of money, the man with the scrubs uses the whole of his receipts to pay running expenses, while the Holstein man lays aside nearly half. Another item: The Holstein man feeds his skim milk to purebred calves; the other man feeds his to scrub calves. It costs no more to raise a $100.00 purebred than to raise a $30.00 scrub.

Send for Free Illustrated Booklets.

THE HOLSTEIN-FRIESIAN ASSOCIATION
218 Hudson Street
Brattleboro, Vermont

POLLED HOLSTEINS

registered in the Herd Books of the Holstein Friesian Association of America. Herd sire out of world's record senior four-year-old.

KEYSTONE BEAUTY PLUM JOHANNA No. 181646

At 4-10-20, 365 days—25787.5 milk; (4.02%) 1294.7 butter

At 3- 3-23, 365 days—22496.6 milk; (3.94%) 1108.9 butter

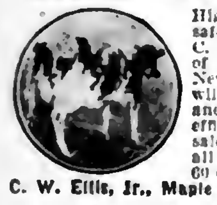
2 years under full age—48281.1 milk; 2403.6 butter. The youngest cow in the world to have two consecutive records averaging over 24,000 lbs. of 4% milk in a year.

Bull calves $100.00 and up. GEORGE E. STEVENSON & SONS, Clarks Summit, Pa.

Holstein Cows and Calves

No hired help, must reduce my milking herd of 70 reg. Holsteins. 20 grades Come at once and get first choice and a bargain. 40 reg. heifer calves, all ages. 18 reg. bulls, grade heifers, ⅞ Holstein heifer calves $20 each, express paid in lots of 5. Farm 19 miles south of Syracuse. John C. Reagan, Tully, N. Y.

MAPLE LAWN HOLSTEINS



High grade heifer calves, $25 ea. safe arrival guaranteed, shipped C. O. D. I have the finest line of reg. and grade cows in central New York. Wire me when you will be in Cortland; my farms and offices will give you quick, efficient service. For immediate sale 100 heavy producing cows, all young, will freshen in next 60 days. Everything in Holsteins.
C. W. Ellis, Jr., Maple Lawn Farms, Cortland, N. Y.

For Sale Registered May Rose

Guernsey Bull Calf, price $150. Sired by Brookmeads Royal Master of Riverview, who is brother to the Great Bull, Langwater Stars and Stripes 2nd and grandson of the famous Imp King of the May, who has 26 A. R. daughters who exceed an average of 600 lbs. fat and is also sire of Dolly Dimples May King of Langwater. RIVERVIEW FARMS, SWARTHMORE, Del. Co., Pa. (Suburb of Phila.)

Registered Berkshires Big type service boars from litters farrowed in Sept. and Oct. 1919. Four grandsons of Epochal's Progress, sired by a son of Matchless Lee 8th. One grandson of Old Forge Successor, sired by Maybelle's Baron Duke. Three grandsons of Superior Emblem, sired by Winona Lee Champion 6th. Here are eight extra good young boars. Good enough to head any herd.
EZRA J. NOLT, R. 2, MT. JOY, PA.

STEVENS' HOLSTEIN FARM
OF CORTLAND, N. Y.

King Korndyke Sadie Vale Jr., No. 20301, two nearest dams averaging 36 pounds of butter in 7 days, heads my herd. Butter records from 17 pounds two-year-olds to 31 pounds at full age. Also high grade Holstein calves, either sex, $15.00 each. Write your wants. PAUL H. STEVENS, Prop.

All Kinds of Purebred Live Stock

supplied on commission. Terms reasonable. Write for full particulars.
LEWIS H. FURGASON,
WINDHAM, GREENE CO., N. Y., Box No. 106.

We will give the Use of a Finely Bred
Registered Holstein Bull Calf
for 3 years to any responsible farmer. Write for our plan. Mugget Hill Farm, Charlton, Mass.

Reg. Jersey Bull and Heifer Calves for sale. Our entire crop of calves from dams with official and testing association records. Priced from $50 up. Chas. A. Leonard, Troy, Pa.

Guernsey Bull 5 mos. old, 8 May Rose crosses, close kin to Nelly Jay 4th, 1011 lbs. fat $100. LOCUST LAWN FARM, Bird-in-Hand, Box P, Pa.

Ayrshire Bull Calves From high record A. R. Dams. ROBERT TEMPLETON & SON, ULSTER, PA.

Reg. Holstein Heifer Calves, from officially tested dams and a 30 lb. sire. Write for prices, pictures and peds. Walter M. Cruttenden, Forty Fort, Pa.

Registered Holstein Friesian Cattle Sons of the great Finderne Sir Valdessa, a 37 lb. bull, for sale.
MILLARD E. BASEHOAR, Littlestown, Pa.

BEST OATS YIELD FROM EARLY PLANTING

Agricultural experiment stations in several states have demonstrated that the early seeding of oats favors the largest yield and best quality of grain. Oats need a humid and cool climate for normal development. The more advanced the growth before the high temperature and dry weather of summer, the better will be the yield and quality. Early maturity avoids rust and blight.

Oats usually follow corn in the crop rotation. Where the corn was given level cultivation, the corn stalk land can be put in good condition for oats without plowing. Double disking and harrowing will be equally as good as plowing and much more rapidly done.

Early and medium maturing varieties of oats are superior to late ones. Use only good seed. Run it thru a fanning mill and remove all small and light oats and all foreign seeds. If there is danger from smut, treat the seed with formaldehyde.

Drilling is superior to broadcasting the seed. When drilled, eight pecks of seed per acre is ample. Cover the seed to a depth of one inch as near as possible. There is no advantage in deeper covering except in a very dry and loose seed bed.

FARMING AT MANUFACTURERS MEETING

Farmers and their problems will come in for a great deal of consideration and discussion this year at the Silver Jubilee Convention of the National Association of Manufacturers which is to be held at the Waldorf-Astoria in New York City on May 17, 18 and 19.

Already the association has received acceptances of their invitations for addresses from such prominent men as Mile D. Campbell, of Coldwater, Mich., chairman of the National Board of Farm Organizations. Mr. Campbell will talk on "The Farmer and the Open Shop."

Mr. J. R. Howard, of Clemons, Iowa, president of the American Farm Bureau Federation, will make an address on "The Farmer and the Eight Hour Day;" while Mr. O. S. Smith, of Omaha, Neb. President of the Nebraska Farm Federation, will discuss the common problems of the farmers and the manufacturers.

This year, the manufacturers have made their convention the broadest in its history. They not only are seeking the more harmonious era for the farmer and the manufacturer, but will endeavor to obtain a distinct outline of the problems as the farmers see them.

BE SURE OF YOUR SEED

The County Agent of Berks County Pa., sends out the following advice:

Did you test your seed corn?—The County Home Farm did and threw out more than ¼ that did not germinate over 80 per cent. To date the Farm Bureau tested 159 exhibits representing 123 farms, with an average test of 77 per cent. Don't take chances with your seed corn, even if you selected it last fall. We have found that some of the corn selected in the fall and stored under favorable conditions, germinated as low as 60 per cent. The average test of the corn you plant should be no less than 95 per cent. That means that in each 20 acre field one acre will have no corn. Better make it 100 per cent if possible. The only way to do it is to test and possibly plant closer than normally.

Treat Oats for Smut.—If your seed oats has any smut you will increase the yield per acre from 10 to 20 bushels or more, by treating seed with formaldehyde. Use common hand sprayer with a quart tank, fill with 1 pint formaldehyde and 1 pint water. This quart of mixture will treat 30 bushel seed oats. Spray as a mist and cover the oats with bags, blankets, etc., for twenty-four hours.

COUNTY NOTES

Snyder Co., Pa., April 19, 1920.—We have been having frequent rains with cold frosty nights for past two weeks. This condition of the weather has caused the farmers to be back with their farm work. Very little plowing has been done for corn and oats. Some oats is sown. Some potatoes planted and nearly everyone has onions planted, lettuce, cabbage, radishes beets, tomatoes and peppers sown. This is a very late spring in this section. Roads are rough and neglected.

Farm sales are all over. Markets: wheat, $2.50 bushel; corn, $1.60; oats, $1.00; rye, $1.50; butter, 60 cents pound; eggs, 36 cents doz.; ham, 32 cents pound; shoulder, 30 cents pound; bacon, 30 cents pound; chickens, 30 cents pound; onions, $1.00 bushel, dried apples, 10 cents pound; potatoes, $2.75 bushel. Not much sickness, except colds, measles and mumps.—S. D. D.

Miffin Co., Pa., April 15.—Weather very unfavorable for farming. Some plowing done a week ago. Was cool all last week. Some farmers hauling on the road, others sawing wood. Trimming and spraying fruit trees is also the order of the day. Fruit looks very promising so far, apples are selling at 50 cents a peck. Potatoes are very scarce, selling at $3.75 a bushel a number of farmers have to buy. Corn is plenty yet and can be bought from the farmers for $1.50. Oats scarce at $1.00. Hay $25 to $28 a ton loose, $35 to $38 baled. Eggs plenty bringing 35 cents in the stores. Butter, 60@65c. Grass and wheat looking very well. Farm help scarce as has been if not more so. Good horses bringing $200 and $275. Poor ones not salable. Small shoats selling for $10, $12, and $14 a piece—J. H. B.

Lebanon, Pa., (SE) Sheridan, Apr. 15th. Weather has been cold and unseasonable so far in April. Farmers are, however, busily spreading manure. Wheat is not looking as well as at first reported. Corn, in testing, does not germinate well. Macadam roads emerge from the winter's snow in fine condition while the dirt roads are almost impassable. Potato acreage will be slightly increased this year and that of tobacco reduced. Corn is $1.80; oats, $1.10, and potatoes $3.00 per bushel. Eggs 40 cents dozen, broiling chickens 55 cents per pound.—Leonard F. Strickler.

Cumberland County, N. J., April 21.—Warmer and fine for work. Tomato growers are advised to plant three varieties in order to distribute the pickings over a longer time and avoid a glut. The kinds are Bonnie Best, Greater Baltimore and Matchless. Potatoes, beets and oats all planted. Manuring and plowing for corn. Gardens being planted; help very scarce. Rhubarb going to market.—C. J. S.

Three men, an Irishman, a Swede and a Hebrew, were brought to court. The Hebrew was arrested for stealing a cow; the Swede for stealing a horse, and the Irishman for stealing a wagon.

"Well," said the judge, turning to the Hebrew, "where did you get the cow?"

"I've had it since it was a calf," was the reply.

"Where did you get the horse?" he asked the Swede.

"I've had it since it was a colt," replied the Swede.

"And, Patrick, where did you get the wagon?"

"Oh, your Honor, I've had it since it was a wheelbarrow."

A Swedish lad in a Kansas City school was told by his teacher to write a sentence containing the word poultice. He handed in this one:

"High school girls often write poultices."

"You are thinking of poetry instead of poultices, aren't you, Oscar?" smilingly inquiried the teacher.

"No, ma'am," replied Oscar, stoutly. "I looked it up in the dictionary, and this is what it says: Poultice—a soft composition."

The Cumberland County Holstein Friesian Breeders' Association
Will hold their 3rd Annual Sale
TUESDAY, MAY 25, 1920
Carlisle Fair Grounds, Carlisle, Pa.

75 Head of fine Registered Holstein Friesian cattle will be sold consigned from the leading herds of the county. Sale rain or shine, under tent.
Write R. L. SHENK, Sec., Newville, Pa., for your catalog.

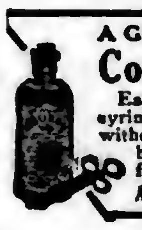
M&P HEALTHY HOLSTEINS

FEDERAL TUBERCULIN TESTED HERD

Young bull about ready for light service. Healthy, well grown, practically all white in color and an excellent individual. Sire's ten nearest dams average 29 lbs. butter in seven days. Dam has a seven-day record of 543.7 lbs. of milk, 24.48 lbs. of butter and is a most persistent producer.

Price $250.00

Markham & Puffer, Avon, N. Y.



A GUARANTEED REMEDY FOR
Contagious Abortion
Easily administered by hypodermic syringe. Kills abortion germs quickly without injuring cow. Write for free booklet with letters from users and full details of moneyback guarantee
Aborno Laboratory Section 33 Lancaster, Wis.

REAL BARGAIN

Pure Bred Ayrshire Bull Calves. We offer four handsome bull calves, large, heavy-boned and of show caliber. Big A. R. Records on both sides or now in the making. We can refer you to our satisfied customers. It will pay to get our prices.
CRESTMONT FARM, SUNBURY, PA.

Ayrshire Bull and heifer calves for sale: or will exchange for good pigs. WM. J. W. BECHTEL, Bechtelsville, Pa.

Registered Holstein and Guernsey bulls from calves to serviceable age. 250 animals in the herd. BONNYMEADS FARMS, R. D. I, Harrisburg, Pa.

Jerseys For Sale. Herd bulls, Champion Torono's Nepos and Sophie 19th Tormentor 39th. Hood breeding. GEO. P. BEVAN, Towanda, Pa. R. 3.

SUNNYBROOK GUERNSEYS
40 head, free of tuberculosis, bull calves for sale.
EDWIN B. MAULE, COATESVILLE, PA.

MILKING SHORTHORN BULL CALVES of the best breeding. Also a few females for sale.
C. M. KENNEDY & SONS, ULSTER, PA.

Miscellaneous

Buy a Farm Tractor

Farm Tractors for sale—All makes—some new, exhibited at Fairs; others little used at demonstrations—guaranteed. Lowest cash prices, or on installments. Write for tractor and engine bulletin.
FARMERS' EQUIPMENT CO., Jersey Shore, Pa.

POTATOES

wanted at market prices. Also poultry and all kinds of farm produce.
GIBBS & BRO.
325 North Front Street, Philadelphia
Established 1844.

Penns Valley Stock Farm Percherons, Holsteins, Berkshires Special offering in fresh cows and heifers; bull calves, grandsons of King of the Pontiacs; herd boars, with size, breeding and quality; pigs, either sex. W. F. RISHEL, Centre Hall, Pa.

E. NEWLIN BROWN
Livestock Auctioneer
WYCOMBE, PA.

HATCHING EGGS from free farm range Poultry. Rocks, Reds Wyandottes, Leghorns, Minorcas, Brahmas, Hamburgs, Anconas, Ducks, etc., also Hares, Cavies and Holstein cattle. Cat. free. H. A. Souder, Sellersville, Pa.

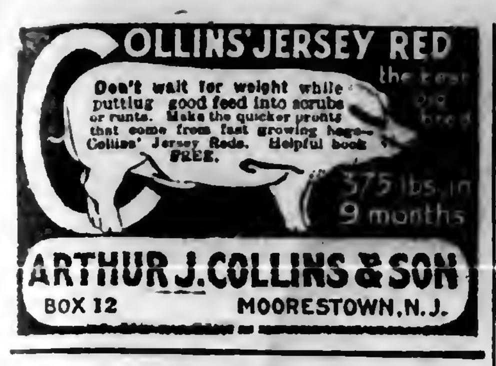
HOLSTEIN FRIESIAN Heifer and Bull Calves, High Grade and Purebred Reg., beautifully marked, splendid individuals. Reg. Durocs, pigs, bred gilts, and service boars. BROWNCROFT FARMS, McGraw, N. Y.

REG. P. CHINAS, BERKSHIRES, C. WHITES large strains, all ages, mated, not akin; 8-wk. pigs, bred sows, service boars. Beagles and Collies. Write for circ. P. F. HAMILTON, COCHRANVILLE, PA.

FLEMISH GIANTS FOR SALE. 3 months old, $3 each. 6 months old, $5 each.
JOHN C. TURTON, Williamstown, N. J.

Chester Whites and HAMPSHIRE SHEEP Write your wants. We can please you. TWIN BROOK FARM, Newville, Pa.

Chester White Hogs, All Ages
Shorthorn Bulls. R. L. MUNCE, Canonsburg, Pa.



COLLINS' JERSEY RED
Don't wait for weight while putting good feed into scrubs or runts. Make the quicker profits that come from fast growing hogs—Collins' Jersey Reds. Helpful book FREE.
ARTHUR J. COLLINS & SON
BOX 12 MOORESTOWN, N. J.

Makefield Farms Quality Durocs

Will furnish you with foundation stock, registered and of most approved blood lines. Address, Makefield Farms, 803 Broad Street Bank Bldg., Trenton, N. J. Farms nearby at Yardley, Pa. All stock cholera immuned.

Fine Big Type Reg. BERKSHIRE Hogs for sale. Outstanding Spring Pigs, either sex with great stretch, upon toes, and splendid [illegible]; out of exceptionally big sows; Rival's Champion, Lord Premier Successor and Superbus breeding. Also gilts bred to farrow in the fall, from our great boar Highwood Rival 431st. At low prices. Sat. guaranteed. Galen G. Grubb, Palmyra, Pa.

REGISTERED BIG TYPE POLAND CHINAS, 3 well [illegible] boar pigs at prices that will justify any one to [illegible]; guaranteed healthy. Money refunded if not satisfied.
W. LEE SPRINGS, Merchantville, N. J.

BELROSE DUROCS— EXPRESS PAID Boars and Bred sows, bred and open gilts all sizes. Prices right.
BELROSE FARMS, RICHFORD, N. Y.

Reg. Berkshire BOAR AND SOW, weighing 400 lbs. each, $125 per pair. 1 male, 2 female pigs, $15 each; $150 takes the lot. E. ROWELL, JR., LOUISA, VA.

REG. BIG TYPE POLAND CHINAS. Special price on Oct. pigs this month; also spring pigs. Giant Buster and Blue Valley Blood. Prices reasonable. C. E. SECHLER, Markleton, Pa., Somerset Co.

Fine Reg. Duroc Pigs of Ohio Chief and Cherry King. Also fine young boars. Prices reasonable.
JAMES F. ROBINSON, Rt. 1, Amelia, Ohio

Poultry

EGGS FOR HATCHING

NONE SUCH WHITE LEGHORNS. For 18 years NONE SUCH WHITE LEGHORNS have been trapnested and bred to lay more eggs. FERRIS WHITE strain, mated to Grandsons of Prince Eglatine, a son of the world's famous Lady Eglatine. Fertility GUARANTEED. Hatching eggs and day old chicks.

April Prices

[illegible] egg strain, hatching eggs 15, $3.00 100, $15.00
[illegible] egg strain, day old chicks 25, 8.75 100, 35.00

The H. M. Spahr Breeding Estate, Dept. C, Woodsboro, Md.

Leader's Leghorn Chicks have the confidence of the flocks at home. York Co. Poultry Growers bought our entire output, 2,400 to 3,000 weekly, in Feb. March and April. These men KNOW GOOD LEGHORNS and come to our plant for their chicks. Many of them each succeeding year. Book your order now for May and June delivery of the same quality chicks at [illegible] per 100.
LEADER'S POULTRY FARM, R2, YORK, PA.

Selby Service Satisfies Ship us your produce, poultry and eggs. Penna. Potatoes a specialty. Returns day goods are sold. Ask for our market letter.
SELBY PRODUCE CO., PHILADELPHIA

Hampton's Black Leghorn Chicks. Get my free circular before you order chicks. Tells why the Black Leghorn is the greatest layer and most profitable breed on earth. Write today. A. E. Hampton, Box F, Pittstown, N. J.

Eggs $1 Setting Parcel Post paid. Purebred. Barred, White and Buff Rocks; White and Brown Leghorns; Reds, White Wyandottes, Buff Minorcas; Black Langshans; Buff Orpingtons. Philip Condon, Box 119, West Chester, O.

Barred Rock Eggs, from Chicago and Indianapolis winners. Great layers. $2 per 15, $10 per 100 and up. Buff Duck Eggs [illegible] Circ. free. G. E. Hoover, Matthews, Ind. R-5

Hatching Eggs of Pure-Bred Poultry
Prices reasonable. Catalog free.
H. H. FREED, TELFORD, PA. BOX C.

5,000 CHICKS for 1920. Leghorns, Barred P. Rocks and mixed chicks. Write for booklet for June and July delivery. Safe delivery guaranteed.
THE CYCLONE HATCHERY, Millerstown, Pa.

CHAMPION LAYERS S. C. White Leghorn Eggs $1.50 per setting. Winners of all prizes at the Jefferson Co. Fair. EDWIN BOVAIRD, Brockwayville, Pa. R. 1.

Baby Chicks. Eleven leading varieties, bred from show-stock, to produce eggs, at [illegible] prices. Send for illus. catalog and price-list. Ohio Poultry Yard & Hatcheries, Dept. B, Marion, O.

Hatching Eggs.—Thorobred S. C. Rhode Island Reds. $1.50 for 15, $8.00 hundred. Bourbon Red Turkey Eggs $4.50 for 9. White Pekin Duck Eggs, $1.65 for 11. Prepaid. Mrs. L. J. Killian, Lebanon, Pa. R. 8.

PIELL'S BLACK LEGHORNS, Famous Leghorns, [illegible] layers, fine birds. Hatching eggs only, $2.50 setting. Information free. Book orders now.
RUSSEL F. PIELL, PITTSTOWN, N. J.

Single Comb White Leghorns. Big Vigorous Birds. [illegible] layers. Eggs and Chicks. Write.
PAUL R. EMERICK, CLINTONDALE, PA.

S. C. BUFF ORPINGTON EGGS for hatching. [illegible] for 15, $10.00 per 100.
ELMER Z. STOLTZFUS, Ronks, Pa., R. 1.

White Rock Chicks from good stock, $25 per 100 postpaid. Also Fawn and White Indian Runner ducklings 30 cents each. MRS. I. F. GRIFFITH, R 2, MOHNTON, PA.

Baby Chicks Barred Rocks, White Rocks, White Leghorns and Reds. Circular Free. Mechanic Grove Poultry Farm, Mechanic Grove, Pa.

Fine Lot Barred Plymouth Rock Cockerels, also eggs [illegible] from special mated pens. Write for prices. EUGENE A. GROVE, Lime Kiln, Frederick Co., Md.

RINGLET— BARRED ROCK COCKERELS—PULLET bred. Hatching Eggs.
C. T. DOWNING, WEST CHESTER, PA.

For Sale BABY Chicks. Barred Rocks, R. I. Reds, Buff Orpingtons, and White Leghorns. Buckeye Hatchery, Millerstown, Perry Co., Pa.

Save $10. Buy Hummer's Famous Chicks. Brown Leghorn $21, Ancona $31, Bar. Rock $22, Reds $25 per 100. E. R. Hummer & Co., Frenchtown, N. J.

Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

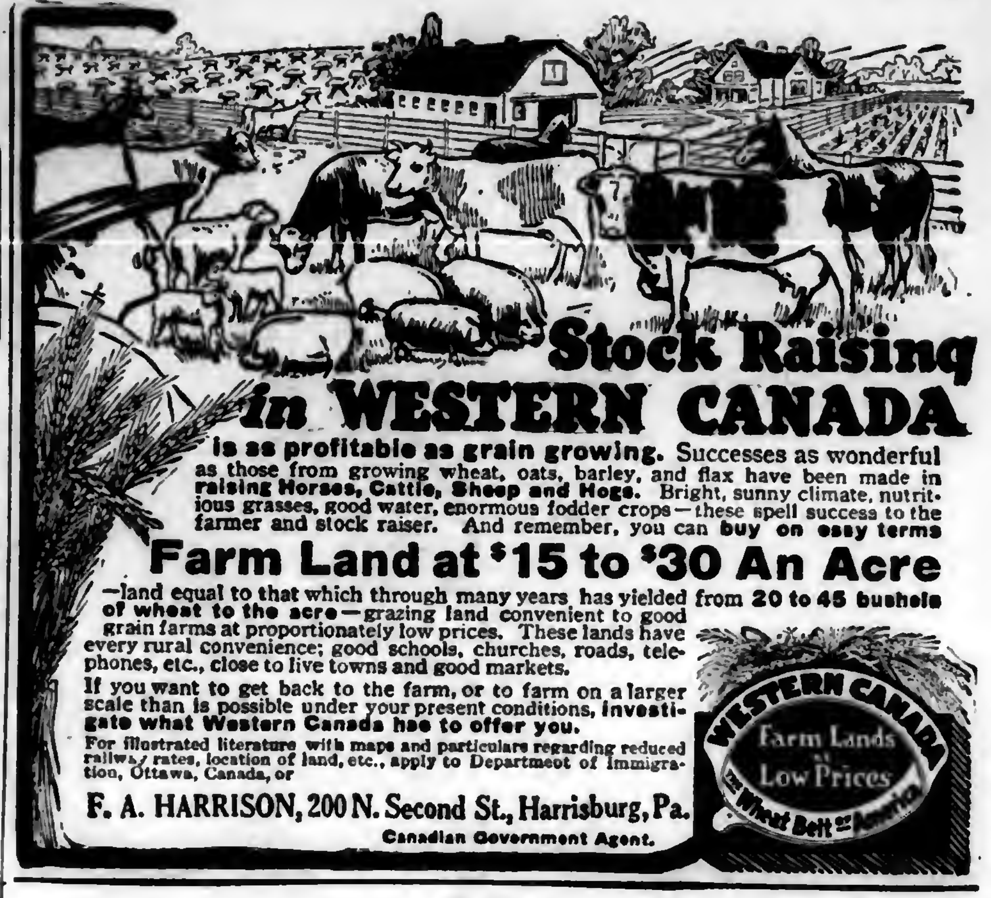
Sore Shoulders.—I have a team of mules that are troubled with sore shoulders. Have applied many kinds of home and commercial remedies. None of them seem to heal the sores. J. E. M., Homesdale, Pa. Perhaps you fail to furnish the mules with nice fitting collars, or you may be using filthy, badly fitting sweat pads. Your collars may be too large or too small. Dissolve ¼ pound acetate of lead, 3 ounces sulphate of zinc, 3 ounces tannic acid in one gallon water and apply to sores 3 or 4 times a day. Instead of washing with water, apply peroxide of hydrogen to remove pus before applying the lotion I have prescribed. As you do not intend giving the mules rest, you should remember that the same cause is now going on; therefore, healing will go on rather slowly.

Sore Neck.—I have a gray Percheron mare 6 years old last summer. She had a very sore neck. I cut the hair off of the top of neck. That helped it some. I am inclined to believe she is going to have a sore neck again. What can be done to prevent it? She is now working on plow and while doing this same kind of work she went wrong last summer. She wears a 21-inch collar which fits perfectly. F. S. F., Montgomery, Pa. Keeping the hair cut very short on top of neck prevents sore neck in many cases. Dissolve ¼ pound acetate of lead, 3 ounces of sulphate of zinc and 3 ounces of tannic acid in one gallon of cold water and apply to tender and soft parts of neck and shoulders 3 times a day.

Eczema.—What is the matter with my pigs? When they were 2 weeks old, they broke out with sores. These were scabby and come on the neck just below the ears. Then the sores gradually spread to top of head. Two of their tails fell off. It looked as if some one had cut them off by tying a string around them. After the scabs fall off, the sore is raw. The pigs are now four weeks old, and don't improve. A. B., Cape May Court House, N. J. First of all we must admit that brood sows and young pigs are, as a rule filthy, for various reasons. The sow is not docile enough to allow a person to wash her with soap and water and surely this should be done, if she is to be kept clean. Her pen should be cleaned and often disinfected, her udder should be very clean when she farrows, furthermore she should be provided with a nice clean pen to farrow in. If greater cleanliness were practiced, young pigs would be pretty free from eczema. Apply a saturated solution of boric acid to sores and sore parts twice a day. Occasionally, touch raw sores with tincture of iodine. When the sores heal over, apply one part oxide of zinc and ten parts vaseline daily.

Sow Fails to Come in Heat.—I have a registered brood sow that had her 5th litter of pigs last fall, but she has failed to come in heat since. Is there anything I can give her or feed her that will have a tendency to hasten her heat period? She is a fine animal therefore I am anxious to raise more pigs from her. I have derived much benefit by reading your answers to such questions and hope to see this one replied to. J. M. T., Clovea, Md. Reduce her if she is very fleshy. If thin, feed her stimulating food, keep her warm, let her associate with other hogs. Give her more exercise and see that she gets it, for it is important. Give her ten grains of ground nux vomica and thirty grains round capsicum at a dose in ground feed 2 or 3 times a day. If not asking too much of you, kindly report results from this treatment.

Honest weight and uniform, high grade products! Establish this reputation, then live up to your brand.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Farm Lands at Low Prices
The Wheat Belt of America

Stock Raising in WESTERN CANADA

is as profitable as grain growing. Successes as wonderful as those from growing wheat, oats, barley, and flax have been made in raising Horses, Cattle, Sheep and Hogs. Bright, sunny climate, nutritious grasses, good water, enormous fodder crops—these spell success to the farmer and stock raiser. And remember, you can buy on easy terms

Farm Land at $15 to $30 An Acre

—land equal to that which through many years has yielded from 20 to 45 bushels of wheat to the acre—grazing land convenient to good grain farms at proportionately low prices. These lands have every rural convenience; good schools, churches, roads, telephones, etc., close to live towns and good markets.

If you want to get back to the farm, or to farm on a larger scale than is possible under your present conditions, investigate what Western Canada has to offer you.

For illustrated literature with maps and particulars regarding reduced railway rates, location of land, etc., apply to Department of Immigration, Ottawa, Canada, or

F. A. HARRISON, 200 N. Second St., Harrisburg, Pa.
Canadian Government Agent.

Swine

BERKSHIRE OPPORTUNITY

To provide for additional young stock we offer part of our foundation herd as follows: "King Louis 50th," tried service boar and active breeder of excellent type and proven quality. Eight (8) young sows bred for late spring farrow. These animals are all large typical Berkshires, and prolific breeders, bred for their second or third litters.

This offer makes a splendid opportunity to found a herd and we will make a special price covering the entire lot. They also will be priced separately. It will pay you to get our prices now and take advantage of this splendid offer.

CRESTMONT FARM SUNBURY, PA

REGISTERED DUROC-JERSEY PIGS
$10 each while they last, all from imported Southern stock, none better. Bargains in bred gilts, service boars, brood sows and spring pigs. C. W. Ellis, Jr., Maple Lawn Farm, Cortland, N. Y.

Durocs: Young Pigs, Bred Sows and Service Boars. Send for book "How to Raise Hogs." Visit our Farms, Enfield, Conn. ENFIELD FARMS, Representative herds at Binghampton, N. Y., Trenton, N. J., Enfield, Conn. Offices—4706 Hudson Terminal Bldgs., New York.

EDGEWOOD HAMPSHIRES
Everything sold. Booking orders for gilts bred for fall farrow, and pigs for Pig Club work only.
DEPEW HEAD, MARION, OHIO

REG. BERKSHIRE SWINE
Both sexes, all ages. Reasonable prices.
G. NORMAN ACKER, West Chester, Pa. R. 2.

Durocs Young pigs, very best of bloodlines. Strictly big type, either sex. Reg. free. Sat. guaranteed. Good enough to ship anywhere. Write your wants and for circulars.
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ESTABLISHED 1880

PENNSYLVANIA FARMER

AGRICULTURE THE KEYSTONE OF NATIONAL PROSPERITY

PUBLISHED WEEKLY

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Story of Will Dale and Mapledale

How an Intelligent, Ambitious Young Man Succeeded

Not long ago a young would-be farmer with limited capital went to the extension representative in farm management at the Pennsylvania State College and said to him, "I have a limited amount of capital and I am wondering whether I could make a go of it in the dairy business with eight to ten cows on an eighty-five acre farm. I have a farm in hand of this size with good buildings on it. Half of it is tillable and the other half is good pasture. I can buy this farm for about six thousand dollars and before I buy I want to know whether a fellow can make a good living on such a sized farm. Of course I don't have money to start in with pure-breds but some day I would hope to have a pure-bred herd."

Farm Buildings on Mapledale

The Remodeled House on Mapledale Farm

The Herd on Mapledale Farm

"No sir, you can't make much more than hired man's wages of such a sized farm here in Pennsylvania" the extension man replied emphatically.

"Why not?" the would-be farmer asked.

"Because every farm survey ever made here in Pennsylvania shows that the farmer on that size of a farm following the practices you propose to follow is not making much more than the wages of a good hired man."

"What is the reason for that?" the young fellow came back again.

"There are several. One is that for this size farm you have to have practically the same equipment you would on a 150 acre farm. Except thru harvest you would be working single handed and there are many days thru the year when you must do jobs that you cannot use the horses and naturally these horses are that much more expense in proportion while they are idle. Then again on that size farm your fields are naturally smaller in size than they are on a 150 acre farm. This means that it costs a little more to the acre to grow the same yield than it does on the larger farm. There are other factors too if you care to hear them."

"I can see your argument all right but in view of these facts I am going to try the small farm. One thing sure, I will be more or less independent of hired help and that seems to be the bugaboo on your 150 acre farms these days."

"Well, I wish you success and hope you can prove that the 85 acre farmer can make a good living, for if he can, as you say he will be more independent of hired help and have less expense."

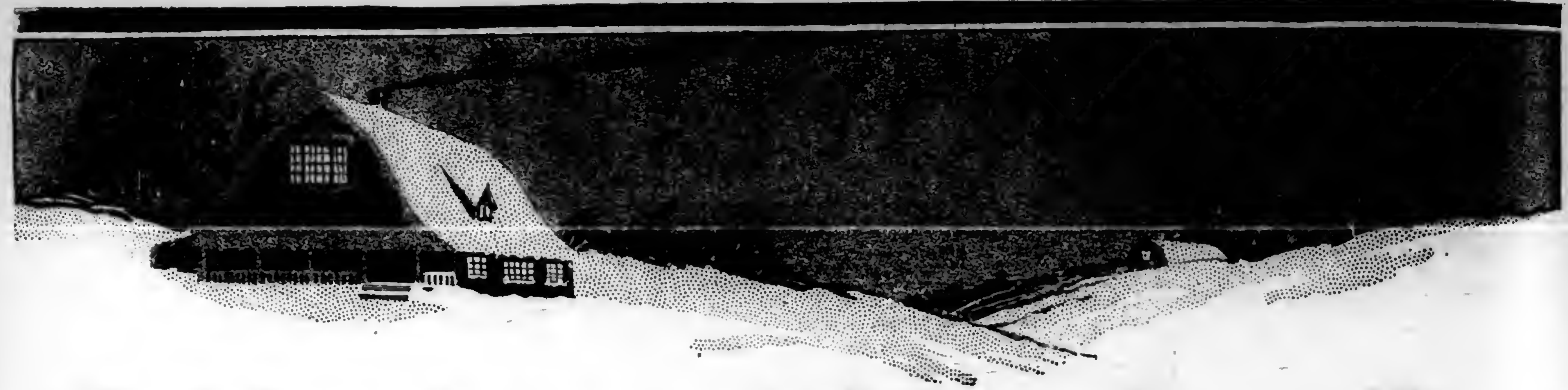
If the extension man had only known it there was then at least one Pennsylvania farmer who is living proof that a man can make a good living on a small farm and under practically the same circumstances that this would-be farmer related to him. So if he happens to read this he can relate at least one example and I doubt not that there are others in Pennsylvania who are doing likewise if we only had their story.

Story of Another Success

Fifteen years ago when Dale's father died and left him heir to the farm, he might just as well have left him the Bessemer Gas Engine Works, as far as Will's knowing how to run the farm was concerned. True, he had worked on the farm under his father's supervision and knew how to do the mechanical things on the farm, just as any other farm boy knows how to do these things, but when it came to the why of things, Will was at sea. So it was no wonder that practically everyone in the neighborhood laughed and predicted that there was a young fellow who would either be selling out his farm pretty soon or, if he didn't, the sheriff would. However, they did not realize the kind of stuff young Will had in him.

Will knew there was a lot of quiet fun going on behind his back, but this only served to bring out some of the latent stuff in him that he had inherited from a grandfather two or three generations removed, who came over the mountains from Tyrone over ninety years ago, bringing all his worldly possessions with him in a one-horse wagon, and settling on the present Dale homestead where he had to start in with a handicap of practically nothing to make himself a home in the then virgin country.

About the first thing Will did was to go to two of the best farmers in his community and ask them a lot of questions in regard to [illegible] liming [illegible]



Cold winter nights when the winds were howling

THEN the house shivered in the blasts. The frost crept in and made you all gather close in the warmest room. And that room was none too warm. Though you heaped more coal or wood on the fire it didn't do a bit of good. The house was cold and uncomfortable.

All that happened NOT so long ago. You *can't* have forgotten the discomfort of it yet, even though today the world is once more full of warm spring sunshine.

Other winters are coming. The same old bitter winds will blow again. The same old trespassing frosts will steal into the house again.

And when they do, are you going to stand another winter of discomfort? Are you going to stand another winter of hugging the fire? Are you going to stand another winter of cold, chilly rooms?

Or are you—when it is so very easy—going to have all the nice comfortable heat you want, and be able to laugh at the wind and the frosts, with the house as warm as toast? You can do that with an Andes System One Pipe Furnace. You can have one installed complete in just one day at practically no expense and with none of the usual confusion of tearing open walls and floors to put heat pipes in. And think of this: every day you use an Andes, it will save fuel money for you, and will give you the glorious warmth of summer sunshine on the coldest of winter days. We always guarantee that an Andes will give perfect satisfaction or will be taken out and the money refunded

Isn't that a proposition worth looking into? Just recall last winter's discomfort. Then send us the coupon below for a free book that tells all about the Andes. Send for it today.

GENTLEMEN:—We are heating our house of eleven rooms with one of your No. 240 One Pipe Furnaces. Every room is comfortable and we use much less coal than we ever did before.—GEORGE B. OTTO, Boiling Springs, Pa., March 11, 1919.

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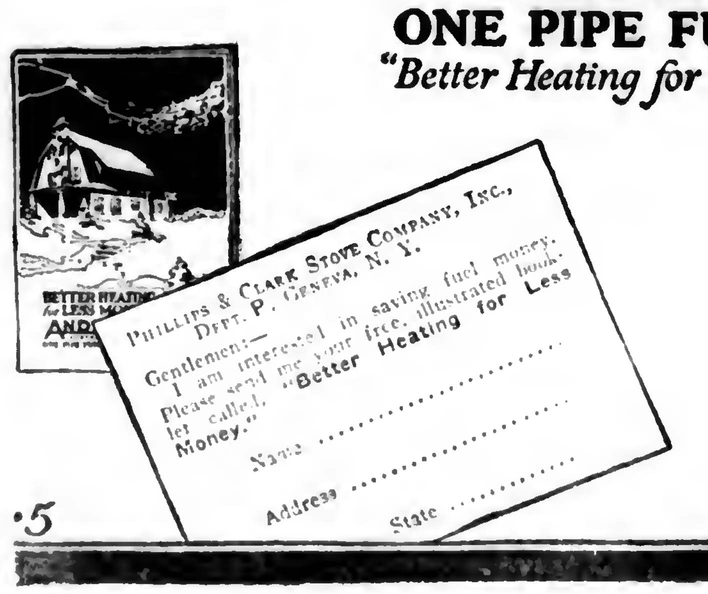
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PENNSYLVANIA FARMER
ESTABLISHED 1880 PUBLISHED WEEKLY

The Lawrence
Publishing Company
Philadelphia

Why the Rural Church is Decadent

What the Interchurch World Movement Finds and What it Recommends

By WALTER A. SINCLARE

Good roads in rural Pennsylvania are vital to the life of the rural church and therefore the country clergy should cooperate with the Good Roads Association.

That is but one of the sound recommendations brought forth by the rural survey of the Keystone State made for the Interchurch World Movement. Frankly stating that in many instances the rural church has been remiss in failing to identify itself with the daily life of the community it is to serve, the survey makes other recommendations for participation in every movement to strengthen the rural districts. These recommendations include the throwing of the Church's collective influence to cooperate fully with the Farm Bureau, School Boards, Library Association, Cooperative Farmers' Association, Dairymen's League, Grange, Alliance, Farmers' Cooperative Exchange and Sunday-School Association.

Need of a fuller entry into the life of the community is advocated on the ground that anything which makes for a stronger community tends to strengthen the rural church. And the rural church of Pennsylvania, as in other states surveyed, was found desperately in need of strengthening. Places of small population had too many churches, while more populous towns had none. One community in Susquehanna County has seven churches. In a Venango County town of 700 inhabitants there are four churches. One Susquehanna village of 150 inhabitants has three competing churches.

One result of indiscriminate overchurching of small rural communities has been that the clergymen as a rule are underpaid. Of 56 rural pastors in Susquehanna County 21 are engaged in outside activities to add to their inadequate salaries.

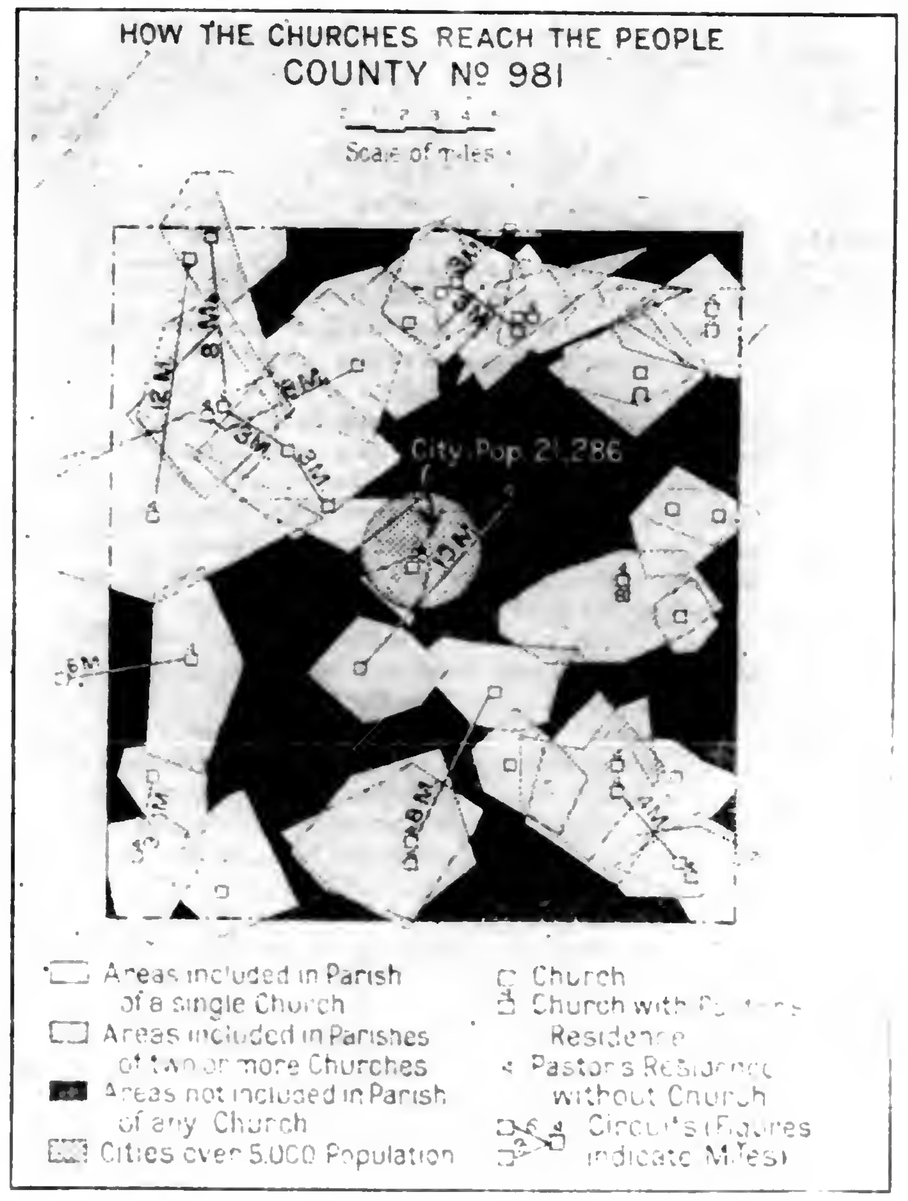
Fourteen taught school and seven engaged in other occupations. The lowest salary paid a Pennsylvania rural parson, as revealed by the Interchurch World Movement survey of the state, was $150 a year. Three ministers receive $1,600 a year, four receive $1,500, and forty-seven receive less than $1,400 a year.

In addition, the survey revealed that, of the fifty-six clergymen referred to, twenty-six serve one congregation each, sixteen serve two each, nine serve three each, four serve four congregations apiece, and one man serves six congregations! The surveys reveal that the people in the rural districts, using automobiles, telephones and improved farm machinery, are asking why they should have to be content with the circuit system, absentee pastors and one-room church buildings of a past century. The Interchurch World Movement seeks, among other things, an answer to the question of these rural communities.

The Interchurch World Movement of North America is a movement by, of, and for the evangelical group of Protestant Churches of the United States, governed and controlled by them and designed to promote cooperation among them in their missionary, benevolent and educational enterprises.

The rural survey projected in connection with this movement confirmed what was generally known, that the rural church was not measuring up to its possibilities; that, as a result, the church was losing its hold on the community, and that the church was being left to stagnate in many country districts. The survey, the only wholly comprehensive one ever attempted in America, got down to the causes and suggested remedies.

HOW THE CHURCHES REACH THE PEOPLE
COUNTY No 981


Scale of miles
City Pop. 21,286
Areas included in Parish of a single Church
Areas included in Parishes of two or more Churches
Areas not included in Parish of any Church
Cities over 5,000 Population
Church
Church with Pastor's Residence
Pastor's Residence without Church
Circuits (Figures indicate Miles)

There is where the matter of good roads come in. The Pennsylvania rural survey, taking Susquehanna County as a unit, developed the fact that the distance the members of the congregation have to go to church has a bearing on the size of congregations and attendance. It developed that sixty-one percent of the membership live within one mile of the church, twenty-nine percent live more than one mile and less than two miles from the church, and that ten percent live more than two miles from church.

The survey revealed that while church membership under present conditions is confined practically to the limits of the towns, the churches have been located indiscriminately in these towns without regard to the size of the population, one community of 150 inhabitants having three churches. Another, tho larger, place has seven churches while still another has five, four others have three churches, and sixteen communities have two churches apiece.

Contrasted with this "bunching" of church buildings in communities with populations hardly large enough for one good congregation are the wide margins where the rural dwellers have no religious opportunities. To remedy this condition, it is urged that duplication be eliminated, effort be coordinated, and church buildings redistributed on a more systematic plan to cover the entire rural field more uniformly. Under existing conditions the average rural parish of seven square miles can muster only an average of 252 communicants. Authorities state that with fair road conditions one church can minister adequately to a rural parish of 500 persons.

Good roads alone are not sufficient. The surveys reveal that in many of the rural Pennsylvania townships there are good roads and yet the automobile-driving farmers do not attend in any greater numbers or from any greater distance than they did in the days of slow travel and uncertain highways. The churches must furnish the drawing power.

How to help keep the young men and women from deserting the farming communities for the cities is a matter with which the rural church must concern itself, the survey declares. They charge that, as a rule, no attempt is made by the rural church to provide healthy, normal social attractions for the young to counteract the lure of the city.

Church plants must be designed to attract the young and old oftener than a few hours every week, and to do this the church must be of daily service to the rural community. What this service shall be is to be decided in each county by a conference of all clergy and laymen acting upon the data and recommendations presented in the Interchurch World Movement survey. The guide will be: That which will benefit the community will benefit the rural church.

MORE SILOS NEEDED IN PENNSYLVANIA

"While the latest estimates show that there are about 43,000 silos in use in Pennsylvania at the present time, that number is only about one-fourth as many as should be in use." Farmers and dairymen are more and more coming to realize the importance of the silo and in the last ten years the number in use in Pennsylvania has more than doubled. According to the 1910 census, less than 1 out of every 9 farms maintained a silo

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PHILADEPHIA, PA., MAY 8, 1920

VOLUME 47 NUMBER 19

Our job is to serve our readers. Whenever and wherever we can help you, write us.—The Editors.

Be Sure

WE HAVE always approved of the motto, "It is better to be safe than to be sorry." This applies to business as well as to morals, and no place is it more pertinent than in the selection and testing of the seed for the year's crops. In these times of high prices and high wages no farmer can afford to plant seed of doubtful quality or uncertain variety. A little time and a small expense applied intelligently will remove the uncertainty and remove the possibility of disappointment at harvest time—at least so far as the seed will influence the result. It is altogether possible that poor, dirty and unadapted seed reduces yields annually as much as unfavorable weather conditions; and this a wholly avoidable loss. One factor which will naturally tend to the planting of doubtful seed this year is the unusually high price of many seeds. Such action is false economy. Poor seed is dear at any price.

Keeping Fit

THE searching medical examinations given the millions of young men during the war uncovered some things which has suggested the need of definite health education along certain lines. The United States Public Health Service, whose headquarters are at 228 First St., N. W., Washington, D. C., has issued a pamphlet to boys and young men 15 years old and upwards entitled, "How to Keep Fit," which should be read and heeded by everyone. It may be had by simply addressing a card to the office at the above address. If we are to give even the same amount of attention to the conservation of our boys and girls as we do to forests, coal, soil and other resources we must throw aside the old-time prudery and false modesty and go at the task bravely and intelligently. The army examinations showed that there is quite as much need for rural people to safeguard the health and morals of the young people as there is in the city.

The Interchurch Movement

IT IS most encouraging to note the interest of the public, or at least the responsible part of it, in the revival and extension of religious and educational institutions. Since war is essentially barbaric in its nature it is natural that these two civilizing influences should suffer a lapse of interest and influence in times of war. That the past five years are not an exception is proven by the increase in crime, licentiousness, greed and selfishness from which humanity is suffering today with the drive to raise $350,000,000 for the extension of religious influence and fellowship, is most timely and should receive the encouragement and support of all who believe in re-directing the feet of humanity upward towards higher ideals. The country districts are quite as much interested in this subject and the need for improvement is as great as anywhere else. The article and map of a rural community in Pennsylvania found on third page of this issue will be found interesting and most enlightening. No stronger argument could be made in favor of the interchurch movement.

Steer Feeding Results

AS ONE swallow does not make a summer, so one failure or unfavorable season should not cause producers to become discouraged and throw up the sponge. It is a most regretable circumstance that beef producers should have had to lose so heavily the past year, especially since the consuming public is so burdened with the high cost of living, a great part of which is due to the cost of meat. The results of the feeding experiments conducted at the Pennsylvania State Experiment Station, as published in our last issue, are in keeping with the general feeling of other feeders who did not keep accurate data. The tendency will be to feed fewer the coming year and this in turn will lower the price of feeders, and possibly to increase the cost of meat next year. It is doubtful whether it is wise for producers to greatly change their practices. Meat production is an essential branch of agriculture and fits in the whole scheme so aptly that greater loss may be caused eventually by dropping the business entirely than to suffer in silence a temporary loss. This does not mean, however, that we should rest content under any unfair business or economic conditions which may exist if a way can be found to correct them.

A Wasted Opportunity

SECRETARY of Agriculture Meredith wasted a grand opportunity to present the case of the American farmer to a big representative convention of business men at Atlantic City last week. The convention was held by the U. S. Chamber of Commerce and the keynote of the convention was, "increased production." This meeting of 3,000 of the leading business men of the country considered vital questions relating to greater output as discussed by authorities on their subjects in every line of indusry, and agriculture was represented on their program for the first time. Thoughtful business men well know the vital importance of agriculture to the life of the nation and they are anxious to get exact knowledge as to its fundamental needs so that they may cooperate intelligently and effectively. Here was an opportunity for Secretary Meredith to discuss in a broad way the economics of the subject and to give information backed by official authority that would help to clarify the subject in the public mind. But instead of speaking for agriculture he spoke almost entirely for the Department of Agriculture—reciting its activities, achievements and purposes, and made a special plea for greater appropriations.

We grant the truth of his statements and disapprove of the cut in the appropriations made to the Department of Congress, but he missed a great chance to drive home some truths which might eventually help the cause of agriculture. The inference which the layman might draw from the subject matter of his address is that Secretary Meredith is imbued with the bureaucratic idea that agriculture draws its inspiration, information and direction from the Department of Agriculture, and that all that is needed to maintain or increase agricultural production is to supply the Department with sufficient men and money and the trick is done. Practical men know that insufficient food production is not threatened from lack of knowledge on the part of the farmer, but for reasons now beyond his control but which men like those who met at Atlantic City could help to remedy if they are well informed.

Our Washington Letter

Federal highway construction is coming to the front as a highly important question in the minds of many farmers and representatives of farm organizations. I find, however, that there is a difference of opinion as to just what part of the good roads programme should be undertaken by the national government. There are a number of highway improvement propositions before Congress, but the Townsend bill is apparently the only one that is just now being seriously considered.

Under the Townsend bill the highways are to be constructed and maintained wholly by the Federal Government without state or local aid. They are to give ingress and egress at three points in every state. It is further provided that if these three points of ingress and egress do not give each state its proportion of Federal aid, additional roads may be constructed. Two years will be spent in laying out the national system, and the government road builders, it is expected, will co-operate with the state and local road authorities with the ultimate plan in view of a great network of highways connecting the larger cities, a state system connecting the smaller cities and towns with the government roads and country roads connecting the remote farming communities with the state highways.

The Federal Highway council believes that "it is the duty of the government to take over about 60,000 miles of the main highways to construct and rebuild, where necessary, as a national system, the states to take over about 240,000 miles as a main state system and the counties to take over some 300,000 miles of market county roads, making a system of 600,000 miles of which between 200,000 and and 250,000 miles have been improved, leaving between 300,000 and 350,000 to be improved." The council is advocating the creation of a Federal Highway commission of five members, selected geographically, with authority to take over the present highway activities of the U. S. Department of Agriculture in co-operation with the states in the expenditures of present and future appropriations for Federal aid.

There will be hearings on the revised Townsend bill soon, at which time there will no doubt be much information presented which will show the necessity for Federal aid in highway construction, and the development of a system that will meet the demands of all classes.

* * *

Congressman John M. Baer of North Dakota, has introduced a bill in the House to prevent gambling in the necessaries of life and speculation in stocks and bonds. It is known as the Anti-speculation Act, and provides that no person or persons shall buy or sell any necessary unless it is the intention to effect actual delivery of such necessary. The term "necessary" includes any product or by-product which is to be manufactured into food for human beings, domestic animals or poultry, fuel, wearing apparel, or other commodity necessary to life. No person is allowed to obtain a loan from any bank which is a member of the Federal reserve system, nor shall such bank lend in any manner, any money or credit with which to speculate in necessaries. Willful violations of the provisions of this act are punishable by a fine of not more than $3,000 or by imprisonment of not more than three years, or both for the first offense, and a fine of not more than $5,000 or imprisonment for five years or both for each succeeding offense.

The Federal Reserve banks have been charged with having financed the operations of speculators to the extent of enabling them to hold back the food supplies and thereby force up the price, and it is the purpose of the Baer bill to prevent the banks from lending their aid to food holding profiteers.

* * *

As a flayer of profiteers, Senator Arthur Capper, of Kansas has few equals. Speaking on the high cost of living, the other day, Senator Capper said that "strikes and industrial disorder have come as the result of rampant, long continued and unrestricted profiteering. No county can be enriched by the gouge process. Our delusion of prosperity continues, but our business is declining as might be expected. Prices for American products have increased to such an extent that both the home and foreign markets are failing us. The extent to which the people have been bled by war and extortion is almost unbelievable. And at this movement the most brazen challenge we have had in the saturnalia of greed comes from the gamblers in sugar. A corner has evidently been formed right under the eyes of the Department of Justice. The canning season raid is on. For years the sugar interests have annually and openly and shamelessly robbed American housewives during the canning season."

Senator Capper quoted recent government reports showing that 79,624 American corporations, many of which have stockholders who are dodging the income tax thru stock dividends, averaged gross profits or more than $500,000,000 each in a single year. In just one year during the war the gross income of American corporations rose from thirty-five and one-third billions to eighty-four and a half billions. "Do you suppose," he continued, "that people who pinch, skrimp, and are being forced to do without many things they need in order that we may double the number of pre-war millionaires, thrill with patriotic fervor when they read a lesson on thrift and 100 percent Americanism from one of these 1,000 percent tax dodging grandstanders."

Ample laws exist to check profiteering, according to Senator Capper, and if the law enforcement officers of the government cannot enforce the law he thought they should resign.

Endorsing Senator Capper's denunciation of profiteers, Senator Lenroot of Wisconsin, said the Department of Justice was "setting a few mouse-traps around the country when it ought to be setting bear traps."

* * *

There is a decided feeling in Congress that the Government thru its inactivity is largely responsible for the present hold-up and high price of sugar, and it is believed that only drastic measures promptly put in force will prevent the people from being compelled to pay from thirty to forty cents a pound for sugar before the end of the season. Representative Tinkham, of Massachusetts, asserts that if the present price of sugar is maintained by the producers the American people face a one billion dollar increase in their annual sugar bill.

It has been shown at the hearings that in August and September last the Sugar Equalization Board recommended to the President the purchase of the Cuban crop of 1919, as had been done in the case of the 1918 crop. It was said that the Cuban crop could be purchased for 6½ cents a pound at that time, a price which would have permitted the sale of sugar in the United States at eleven or twelve cents a pound retail. The President withheld this approval and in November when sugar was selling at retail at ten cents a pound, the attorney-general concurred in a price of seventeen and eighteen cents at the plantations for Louisiana sugar. The effect of this action was to advance the Cuban sugar price from six and one-half to eleven cents a pound and it has since gone to eighteen cents. A conference between representatives of the big refineries has been held, but with little results, so far as I have been able to discover.

* * *

Secretary of Agriculture Meredith is appealing to business men and college students to spend their vacations working on farms. He says carefully compiled reports to the department indicate that the supply of farm labor is only seventy-two percent of normal, compared with eighty-four percent last year, notwithstanding an increase of twenty-five percent in wages.

* * *

The National Forest Reservation Commission, composed of the Secretaries of Agriculture, Interior and War and four members of Congress, recommends the purchase by the government of land in the Eastern mountain districts not suitable for agriculture to the extent of thirty million acres, and that they be used for growing timber. The government now owns one million eight hundred thousand acres of this territory.

Colonel W. B. Greeley, chief of the National Forest Service, strongly urges the government purchase and planting of untillable lands to forests.—Elmer E. Reynolds.

HARRISBURG LETTER

The Telephone Situation.—This week the Public Service Commission begins hearing complaints against the new rates, connection charges, reduction of free service and other features of the schedule proposed by the Bell Telephone Company. These changes are now in effect and over 100 complaints have been formally entered with many informal complaints. A number of other companies have advanced their rates materially, but have been lucky enough to escape complaints. The Bell appears to have drawn the fire and the number of complaints shows the extent to which it enters into the life of Pennsylvania. Complaints range all the way from the carefully prepared legal protests from the cities against the increased rates to sharply worded attacks upon the service and denunciation of the free service limits from rural communities.

Utilities and the Public. It is noticeable that in a number of decisions coming from the Public Service Commission lately the suggestion is made that men running water, gas, electric, trolley and other companies make more of an effort to get the viewpoint of customers who complain. Apparently some pretty gross instances of snubbing for the people who pay the bill have come to light. It is also pretty generally suggested that consumers should not always have a sharpened hatchet for every utility, but make an effort to ascertain what it is up against as well.

Raising Embargo.—Secretary of Agriculture Fred Rasmussen has received word from a number of railroads that his request for raising of the embargo on seeds, fertilizers, agricultural machinery, especially what is needed for the planting season will be granted as soon as possible. It is expected that some companies will accede in a few days. The secretary in his letters to the railroads called attention to the backwardness of the season, the shortage of farm labor and other conditions making cooperation on the part of the railroads essential. As railroads profit much by farm shipments some of the traffic officials heard from their people thruout the state in no uncertain terms.

Farm Labor Days.—State Employment Bureaus have started a plan to get people to go to farms by setting aside Saturdays as the special times for enlisting farm labor. Farmers will be asked to send in their names and wants and persons applying on that day will be urged to consider farm work, while each agency will arrange to have farmers and prospective help meet at the state offices to arrange matters if they desire. Saturday will be the day for such meetings as it is most convenient to many farmers. Reports coming to Secretary Rasmussen about the farm labor situation are anything but cheerful. Even Lancaster and Chester counties have vacant farms and in some of the northern counties there is a dearth of farm labor such as was never known before.

Season Still Backward.—Weather conditions continue more or less unfavorable in southern counties. Wheat is declared to be showing signs of the unusual season.—Hamilton, Harrisburg, May 3.

NEW YORK LETTER

May Milk Price.—After several days of argument the milk dealers have consented to pay $2.55 for 3 percent milk in May or the same price paid in April. Orange County dairymen led in refusing to accept the price of $2.30 which was first offered declaring that they could not produce it for less than $2.55. Hundreds of farmers have already decreased the size of their dairies because there is no profit in making milk at present prices.

Automobile Light Law Enforced. After two years of warning against not dimming automobile lights the State Troopers are enforcing the law. Over 100 drivers were fined on one road last week.

Prison Made License Plates.—Secretary of State Hugo announces perfect satisfaction with the sample license plates to be done in the new plant in Auburn prison. Under the new system the long delays that have been experienced in getting plates from St. Louis will be avoided, and the prisoners will be profitably employed.

Fair Appropriations.—The Legislature set aside $192,000 for state fair use, $25,000 for maintenance, $55,000 for premiums, $50,000 for additional stalls for show horses and an improved show ring, $50,000 for general grounds funds, and $17,000 for two balconies in the wings of the manufacturers' building, to house the domestic arts deparment. The commission plans to build a balcony in the big poultry building and to give better light to the dog show building. Farmers want more time at the fair and will be given Tuesday as Farm and Home Bureau day.

Market Notes. — Potatoes are bringing $4 a bushel at the car tracks. Eggs are low as the result of the strike, 40 to 48 cents. Veal was very high during the strike, being hauled to market in trucks at 28 to 36 cents a pound alive. This week the price dropped to 11 cents in up state centers, far too low to make it an inducement to feed calves whole milk. The potato situation is unusual. The high price may call out seed stock and still further reduce the acreage that was estimated to be 5 percent to 10 percent less than last year's. Farm help scarcity will prevent any increase in acreage to any amount. Southern potatoes promise to come into northern markets a month later than usual.

Good Work.—All thru the very cold winter 12 prisoners from Auburn continued blasting on a road bed thru solid rock on a ledge overlooking Seneca Lake on the new Finger Lake Scenic Route, saving the state $100,000 expense. Only one other camp was maintained thru the winter. But this summer will see more camps for road work than ever before in constructing town and county roads and in repair work.

All State Road Construction Halted.—The State Superintendent of Highways announces that no state road construction will be done this year because of extremely high prices. One contractor who has a school building in Rome half done has had to give up the job because his help all advanced their prices to a prohibitive point.—F.

NEW JERSEY NEWS

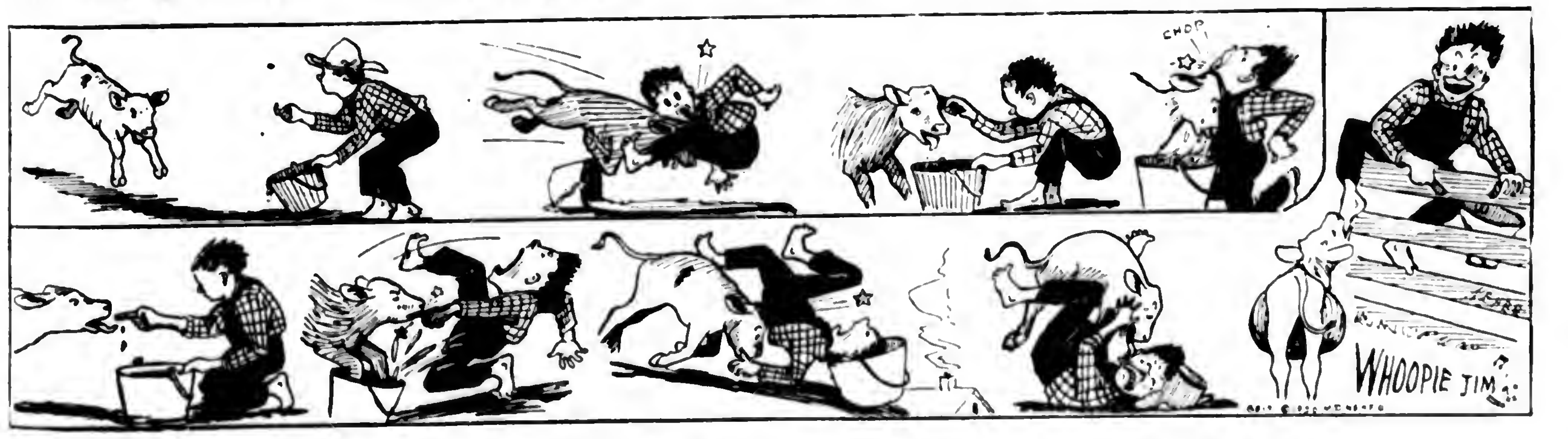
Trenton Adopts Daylight Saving.—Trenton's daylight saving ordinance became effective this week. It was adopted by the city commissioners after an appeal for it by a majority of the residents of the municipality. Under the ordinance the clocks in this city were set ahead one hour on Wednesday. They will continue running on the new time until the latter part of September. Farmers bringing milk and other products into Trenton will be largely required to abide by the time fixed by the ordinance in order to meet the demands of their patrons. Such action will not be relished by the producers. The Trenton Bankers' Association decided that all of the banks of the city shall conform with the new time. This move aids very much in the eliminating of confusion. All local manufacturing and mercantile establishments will also abide by the time fixed by the ordinance. One of the inconveniences that is expected to develop from the move will have to be met by persons using the trains.

Soil Survey Resumed.—Field work has been resumed on the soil survey of New Jersey which is being made by the State Department of Conservation and Development in co-operation with the United States Bureau of Soils. Linwood L. Lee, of the New Jersey Department, is the soil expert in charge. Two experts from U. S. Soil Bureau will join him later.

Farmers Want Publicity.—New Jersey agriculturists are planning an advertising campaign. It will be conducted largely thru newspapers for the purpose of further acquainting the general public with the variety of good things in the eating line grown in the state. It is also to be utilized in giving the farmers and truckers the opportunity of expressing their views on important public questions that vitally affect them. Plans for the proposed campaign have been furthered at meetings of the executive board of the county boards of agriculture held at the State House.

Food Conditions Dubious.—Shipments of food supplied into the market centers thruout the state have been so tied up for the past several weeks, that dealers in vegetables, fruits and other products have been compelled to carry small stocks. Many products that have been held over are in poor condition. The price of potatoes has gone so high that many households are going without this vegetable. Dried lima beans are being utilized instead of potatoes because of the nutrition contained therein.

Egg Laying Contest.—The appropriating of $4,000 by the New Jersey Legislature at its present session for the holding of poultry shows in the state has acted as an incentive for the conducting of egg laying contests in many sections. One is scheduled to be held some time during the present month in Monmouth, Middlesex or Mercer Counties. A meeting of the Mercer County Poultry Association resulted in the endorsing of the proposed move, and a committee has been named by the organization to work with other committees from Monmouth and Middlesex Counties with the idea of having the most interesting contest in the history of the state.—Kelly.



Our Son GRIT Was Anxious to Teach the New Calf to Drink. Evidently, They Both Learned Something.

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DU PONT

Red Cross Dynamite

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See your Dealer. In any case, find out what Red Cross can do for you—and how. Write for "Handbook of Explosives" today.

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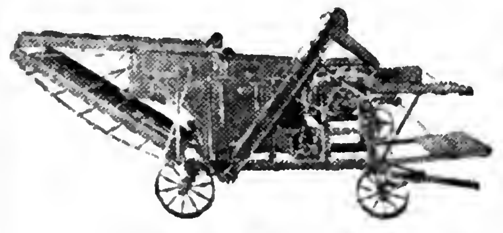

Junior America Grain Threshers For the Farmer

Pneumatic Straw Cutter Attachments

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Thomas Edison ENDORSES THE WATER GROUND PRINCIPLE

AMERICA'S greatest authority on electricity says "Lightning rods will protect buildings, provided a good contact is made with wet earth." The Security system insures a permanently damp ground rod by placing it in a tube filled with water, which makes this rod carry off electricity, even in the dryest weather.

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The Security Lightning Rod Company
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Importance of Agriculture

Capable Men and Capital Needed to Assure Adequate Food Supplies

Agriculture is the largest single business interest of this country, and yet the farmer is isolated. By being spread out over much territory, he becomes individualized and suspicious of co-operating with labor organizations. He should be given the clearest vision expressed by both state and federal laws, to buy, sell and bargain his own products. Our national existence depends upon surrounding the food production and distribution with such conditions as to induce capable men and ample capital to engage in the business, in order that adequate supplies of food may be assured.

The farmers constitute at least one-third of the working people of this country. They get their living directly from Mother Earth, and also expect to produce sufficient to feed the other two-thirds of the people. Eighty years ago fully two-thirds of the people of this new country were farmers, did all their own work and food was a drug on the market. Only in rare cases could it be sold for cash. Under the former conditions the chief object of the farmer was to secure a home for his family and the land was worked in the cheapest possible way, because the pioneer had no ready money. He was long on labor but short on cash. This gave rise to every sort of device to get the work done and the whole family took a hand. They soon learned that for many kinds of work a boy was as good as a man, and to the great benefit of the boy, he was made to become an expert workman in all kinds of farm labor.

By this process of cheap labor, food was given to the people at extremely low prices, but as labor of all kinds came in demand at higher wages, the ranks of farm laborers became depleted. All foodstuffs advanced three to four fold, and the prices now at actual cost, to the unsophisticated city buyer, seem like rank extortion. The present scale of wages has stripped the farmer of his help born and raised on his own farm, and because he is without help, the only thing he can do is to raise what he can and let the rest go. All of which means that much of our land is not worked, and now with greater demand for more and cheaper food, we have an insufficient and very expensive supply. Give the farmer the cheap help he formerly had and you would soon see this country flooded with all products of the soil. The cost of food today is largely a labor cost, much more so than is commonly supposed. At prices demanded by labor under the eight hour a day system, every bushel of wheat raised in this state would cost not less than four dollars. We may call the farmer stingy and non-progressive if we like, but anyone who tries to operate a farm and pay current wages will learn to his sorrow that he cannot make ends meet in the production of staple foods, even at the present prices. Under the above conditions it is folly to expect any permanent reduction in the price of food.

Finance Committee for a National Temple of Agriculture.—R. D. Cooper, Gifford Pinchot; John A. McSparran, Treasurer; Chas. W. Holman, Secretary.

We, as a nation, have built up a system of extravagance in the last few years, caused partly by our vast accumulation of wealth, that caps the climax of all former records of extravagance and high prices, and is leading the way to vandalism. Take for comparison the millions of men in the automobile factories at from five to thirteen dollars a day and not able to supply the demand. At least one half of the cars being built will be used for pleasure alone. This spirit of extravagance has induced thousands of poor people to invest in cars and other luxuries even tho they had to mortgage their homes to obtain the credit. All industries manufacturing luxuries are booming and the price of labor is above the reach of the farmer.

This spirit of extravagance has reached all classes. The world is wearing furs in August and those who cannot afford the genuine are wearing near-fur. Working girls are mortgaging their earnings months ahead to buy expensive clothing on the installment plan. Nothing that is fashionable is co enough to discourage the buyer. He pays the price and then yells for the money to pay the bill. If fewer luxuries were produced, less of our incomes would be squandered and more labor devoted to food cultivation and thus cheaper living obtained.

Our duty now, as during the war, is to save. Only rigid economy and industry on the part of the people can we hope for large decreases in the burdensome cost of living. As long as luxuries can be sold for fabulous prices, workmen will find employment at fabulous wages and raise the price of labor far above the possibility of any tiller of the soil to compete. Higher wages and shorter hours can mean but one thing; less food and higher prices. Naturally manufacturers desire the lowest possible price on raw material and food. Remember, however, that the lowest price for agricultural products anyone can afford to pay, is price enough to maintain ample production. Agriculture must no longer be considered as of interest to the farmer alone. It is of interest to all the people. It is important, therefore, that manufacturers, business men, and consumers understand and appreciate that its development and success is inseparable from their own success and prosperity.

The public should realize that the present craze in wages is bound to result in the reduction of food, or else in prohibitive prices. The number of men who really wish to work upon the land is rapidly diminishing.—W. R. McGill, Crawford Co., Pa.

GREEN MOUNTAIN SILOS

The Green Mountain silo with the new hip roof does credit to any group of farm buildings, no matter how pretentious. With its nut-brown creosoted staves and bright red cedar shingled roof, it is a beauty.

Just as good as it is good looking, too. Each part that has to stand a strain and in a silo that means almost every part—is built extra staunch and heavy.

Green Mountain staves are of extra-heavy, clean, well-fitted lumber—creosoted to weather-proof and preserve the wood. The hoops are of extra-heavy steel with easy-fitting, rolled (not cut) threads.

The safe-like Green Mountain door is a patented feature that insures sweet silage.

The Green Mountain anchorage system prevents warping and blowing over and holds rigid against unusual strains.

No iron parts on the Green Mountain ladder to frost your hands or pull off your mittens in winter.

There's a real reason for every Green Mountain feature. Write for free 1920 literature and get the whole story. Special discounts on early orders.

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THROWS ¼ in. STREAM 40 ft. HIGH
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INTER-STATE RAT VIRUS CO.
217 Broad Street, York, Pa.

FARMERS' HEADQUARTERS AT WASHINGTON

The drive for funds to complete the financing of a Temple of Agriculture for a suitable headquarters for farm organization at Washington, D. C., is on in earnest. The work of raising funds in New York State and other quarters of the Dairymen's League is in the hands of that organization. In Pennsylvania the money is being raised by the Grange. The Finance Committee of the National Board of Farm Organizations is composed of R. D. Cooper, President of the Dairymen's League, Gifford Pinchot, Chief Forester of Pennsylvania; John A. McSparran, Master of Pennsylvania State Grange, and Charles A. Holman, Secretary of the Committee. No more capable and reliable men for the work could have been chosen and it is to be hoped that all farmers will realize their opportunity and responsibility in helping to provide a permanent and adequate headquarters for their federated organizations.

AWKWARD WAYS WASTE ENERGY

From buttoning shoes to washing dishes, there is an easy and awkward way of doing all work, as everyone well knows. It has been found in the homely everyday task of dish washing that, when a woman washed dishes on a table so low that she was obliged to bend over, her energy output was 30 calories an hour. When she washed them on a table that was a little too high for comfort, it required 25 calories an hour, while only 21 calories were used when the working surface was of the right height.

It doesn't take long to saw off the legs of a table or to put blocks under it which will make it the right height.

A significant thing to note is the number of "Acme" trucks owned by farmers. They have found it to be what ***they wanted*** it to be—economical in operation and upkeep—having power to do efficiently what they expected any ***good*** truck to do. Ask any Acme owner—he can tell you more than we ever can.

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Copenhagen Market, Wakefield, Ballhead, etc., 300 $1.25; 500 $2.00; 1,000 $3.00 postpaid. Express, $2.50 thousand; 10,000 $20.00 cash. Shipped safely anywhere, well packed.
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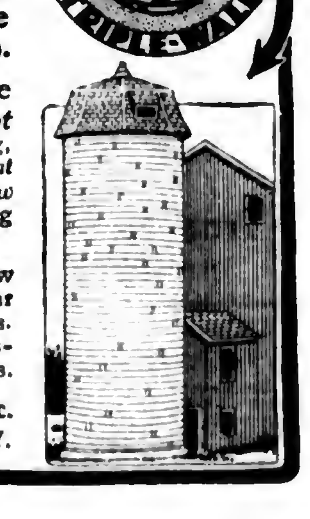
Your old stave silo isn't a dead loss even if it does look like the one at the left below; or even if it has completely collapsed, breaking the matching of the staves. If you want silo and *silage insurance* for life—make it into a Craine Triple Wall Silo.

With the Crainelox Covering you can use all the old material that is sound, *except the Hoops*, and make a strong, airtight, scientific, *3-wall silo at about one-half the cost of a new silo*—a beautiful building keeping perfect silage.



Send at once for literature on new Craine Triple Wall Silos, and our plan of rebuilding old stave silos. Special discount to early purchasers. Fine proposition to agents.

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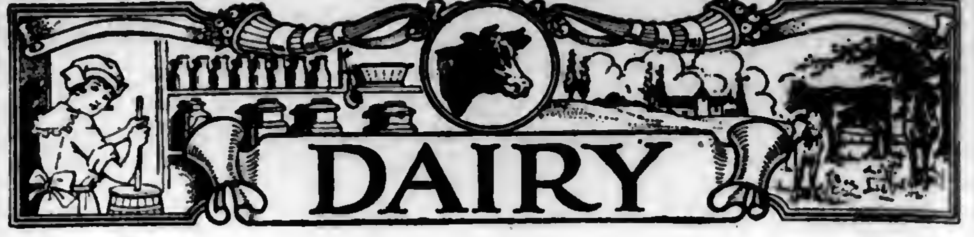


HAD A SUCCESSFUL YEAR

The following is a summary of the work of the fourth year of the Montour Valley Cow Testing Association of Allegheny County, Penna. This is one of the oldest associations in this part of the country and includes some of the best cows in the State.

Our honor cow for the year just ended in a Holstein-Friesian, Hernistine Clothilde Burke DeKol, which produced in twelve consecutive months 21,180 pounds of milk containing 615.5 pounds of butterfat, making an average production of 6.7 gallons of milk per day for 365 days. During the year this cow made an official seven day record of 25.6 lbs. butter and, or rather, from 701 lbs. of milk. On her best day she produced 104 pounds of milk. She is owned by E. H. Hays of Imperial, Pa., who owns also the second highest cow, Josie Burke Korndyke Clothilde, a four-year-old which has a yearly association record of about 19,000 pounds milk. Last year, on seven day test, this four-year-old produced 25.0 butter from 606 lbs. of milk. Mr. Hays' herd made a yearly average of 10,501 pounds of milk per cow.

Jap's Lass, At 5½ Yrs. 15,616 Lbs. Milk, 803 Butterfat

The second highest herd was owned by O. J. Neal and had an average yearly production of 9,621 pounds of milk which is an increase of 27 percent over the previous year. Neely Bros. own the herd which made an average of 9,435 pounds milk, a 50 percent increase over 1918, and the third highest in the association.

The herd making the highest income above feed cost is that of John P. Scott. His cows made an average income above cost of feed last year of $358.24, the milk being retailed. The next highest herd in this respect was that owned by O. J. Neal, and had an average income of $235.71 above feed cost. The third highest in income above feed cost was that of Robert Hamford & Son, with an average income of $226.62.

Pure bred sires are used exclusively thruout the association, including three bull associations. There are, at the present time, nine herds under Federal supervision for the eradication of tuberculosis. Four other herds, on the waiting list, would be under supervision but for the lack of sufficient testers.

All of our members except two are using balanced rations with great success. Most of the rations are home mixed; it pays big.

As the readers of our Honor Roll have probably noticed, we require a cow to produce 1,000 pounds of milk and 40 pounds of butterfat in one month where as most of the other associaions require only 1000 pounds milk or 40 pounds butterfat to put a cow on the Honor Roll. Were we to use this as the minimum requirement we feel we would be taking advantage of the generosity of those who publish our list each month.

This Association is intended to be co-oporative and not competitive; to show an increase in production and income in each herd over the previous years and not to show a competitive comparison of records of different herds and individual cows.—X.

USE MORE CORN ROUGHAGE IN THE DAIRY RATION

The feeding value of corn silage, corn fodder, and corn stover in the dairy ration is not sufficiently appreciated, especially in those regions where legumes do not thrive. A recent study of records from cow-testing associations points to the conclusion that the growing of more corn roughage and less non-leguminous hay would increase the profitableness of the ration.

In all sections where legumes thrive it is, of course, advisable to grow them, as their value is well recognized for feeding dairy cattle. In fact, from a study of cow-testing association reports it would seem that even grain does not fully take the place of good legume roughage. It is in those sections where legumes do not thrive, however, that dairymen may well consider the growing of more corn roughage and less non-legume hay.

Cattle Thrive on Corn Alone

Few plants apparently contain all the substances required to nourish properly the animal body, but in the light of present knowledge, the corn plant seems to be one of these. It is possible to balance a ration from corn products only that will enable the animals to thrive and reproduce with apparently no ill effects. This is not the case with many other crops. Corn, then, has unusual feeding properties.

Experimental work done at the South Carolina and Pennsylvania stations has shown that it is practical under some conditions to feed dairy cows on a ration of corn silage and grain without hay. Such a ration has been used successfully in feeding beef steers. Reports from one cow-testing association in a non-leguminous hay region having an unusually high income over cost of feed and large production is in a district where the dairymen have practically discontinued the feeding of hay, but instead feed silage and corn fodder. In this association the grain ration is also composed largely of corn by-products.

More Corn Roughage—Less Non-Legume Hay

No matter what other conclusions may be drawn from the evidence available showing the value of corn fodder and corn silage as dairy feeds, it seems certain that the corn plant provides an excellent roughage.

Hay is often damaged very much by becoming overripe. Storms damage it seriously. The feeding value of corn is not damaged by its becoming mature, and if it is properly shocked storms do little damage to it.

There are undoubtedly many dairymen who can well consider the wisdom of reducing the amount of non-leguminous hay produced, of increasing their pasture, and of growing more leguminous feed, corn fodder, and silage to feed their dairy cows.

CLINTON COUNTY FARMERS BUY BULL

Two Clinton County Pennsylvania farmers, T. C. Kryder and Geo. P. Gummo, Mill Hall, have purchased a bull, Sir Inka Prilly Segis Antioc, No. 275171, born May 15th, 1919, from the Winterthur Farms, Winterthur, Delaware. The dam of this bull is Ovidia Hengerveld Pontiac, No. 252407. Its dam, since freshening on May 15th, has a record of over 22,000 pounds of milk, and at the present time, eleven months after freshening, is still producing sixty pounds of milk per day. She will reach the 24,000 pound mark. The sire is Sir Inka Prilly Segis, the son of King Segis and Inka Prilly.

It is expected that several more Holstein Bulls of similar type will be brought into this county in the near future. With bulls of this type Clinton County expects to make her "presence known" in the pure bred Holstein game. This bill will be bred to some of the very best cows in the county.—Birch R. Ober.

BALTIMORE COUNTY GUERNSEY BREEDERS MEET

On April 3rd, the Baltimore County Breeders' Association held their annual meeting at the home of Mr. Louis McL. Merryman, Cockeysville. Professor Gamble and Wolcott were present and judged the Great Guernseys which were inspected during the afternoon.

During the business meeting there was a discussion as to the advisability of making the County Association a state-wide organization with a secretary compensated for his duties that he might devote his time to furthering the Guernsey work in Maryland. On June 4, this matter will be decided at a meeting to be held at the Emerson Hotel.—E. O. J.

January
Corn-shelling, feed-grinding, baling, wood-sawing.

February
Corn-shelling, baling, feed-grinding, wood-sawing, stone-crushing.

March
Feed-grinding, stone-crushing, corn-shelling.

April
Corn-shelling, feed-grinding.

May
Baling, corn-shelling, feed-grinding.

June
Baling, pumping.

July
Baling, pumping, threshing.

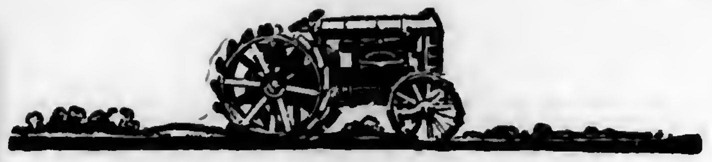
August
Baling, pumping, threshing.

September
Silo-filling, threshing, baling.

October
Silo-filling baling, clover-hulling.

November
Clover-hulling, feed-grinding, wood-sawing, baling.

December
Corn-shelling, feed-grinding, corn-shredding, straw-baling, wood-sawing.



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But there is one vitally important thing to remember—to assure the most satisfactory results you should use the belt especially designed for the Fordson tractor—the Little Giant tractor belt.

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LITTLE GIANT TRACTOR BELT

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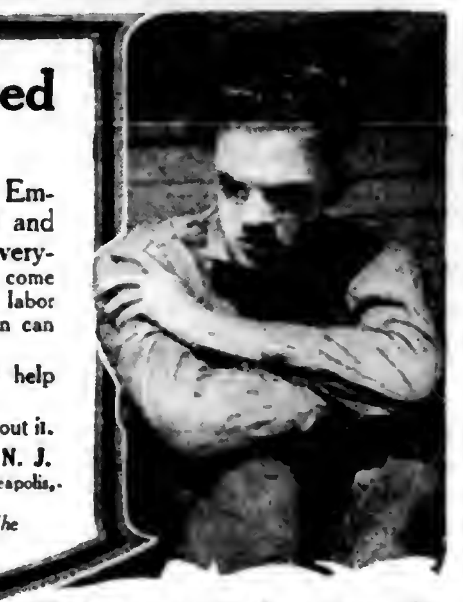

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HORTICULTURE

Handling the Asparagus Crop

By R. W. DeBAUN, Morris County, New Jersey

The first important thing in harvesting asparagus is to have the soil in excellent condition. The presence of grass, stones, weeds, etc., will interfere with quick and thoro work. The most serious obstacle is to find the old stumps from the previous years top growth still standing in the hill. They are very tough and are exactly where the new stalks will appear. The old stalks prevent quick work. Frequent harrowings in every direction before growth starts will destroy all grass and weeds and will remove all the stubble from the hills leaving the soil in excellent condition.

Cut Frequently

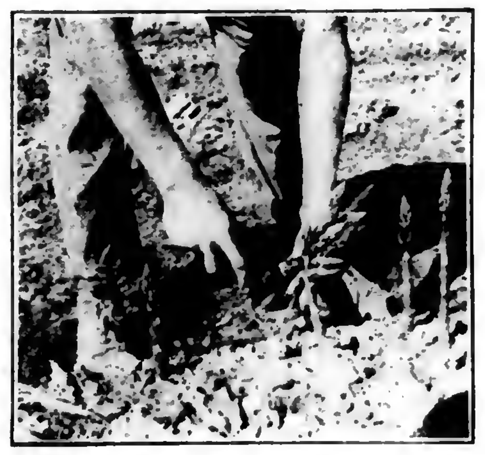

Fig. I.—Rapid Harvesting of Asparagus

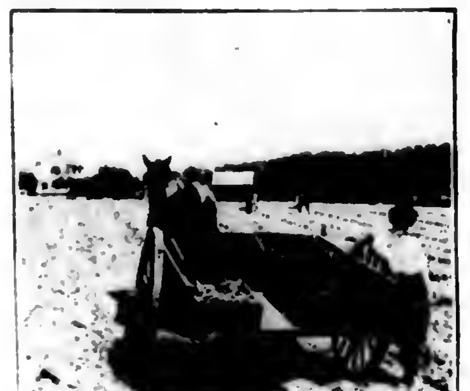

Fig. 2.—Gathering Asparagus After the Cutters

Early in the season, the asparagus may be cut every other day, but when it becomes warm it grows so fast that it is necessary to gather it every day. It is harvested with knives especially designed for the purpose and obtainable at any hardware store or from seedsmen.. The kind most commonly used is the fish-tailed knife. It is about fifteen inches long and has a crotched cutting surface at the end so that the knife will not slip away from the stalk until it is cut off under the soil. A stronger and heavier knife is preferred in a few sections; it has a long concave blade and will stand rougher use. Either style of knife is much better for cutting the stalks than an ordinary butcher knife.

Eliminate Waste Motion

Each time a stalk is cut it requires time. In cutting many thousand stalks a saving of a second or more on each stalk will soon amount to several hours; therefore, all ineffective motion should be eliminated. When cutting green asparagus, always cut below the surface, but only as far as necessary to obtain stalks of the desired length of about 9½ inches. Four inches at least should be above ground. White asparagus is cut far below the surface of the high flat-top ridges just as the tips appear. As new buds and invisible stalks are constantly developing over each root crown, there is great danger of injury to them when harvesting the stalks of the desired size. The cutter will avoid many of them, if he will place the knife near the desired stalk; run it straight down the necessary depth, and then tilt it sufficiently (Fig. 1) to cut off the stalk. By holding and gently pulling the stalk with the hand, it will cut easily, and the operator will know when it is loose. One well directed thrust should be sufficient.

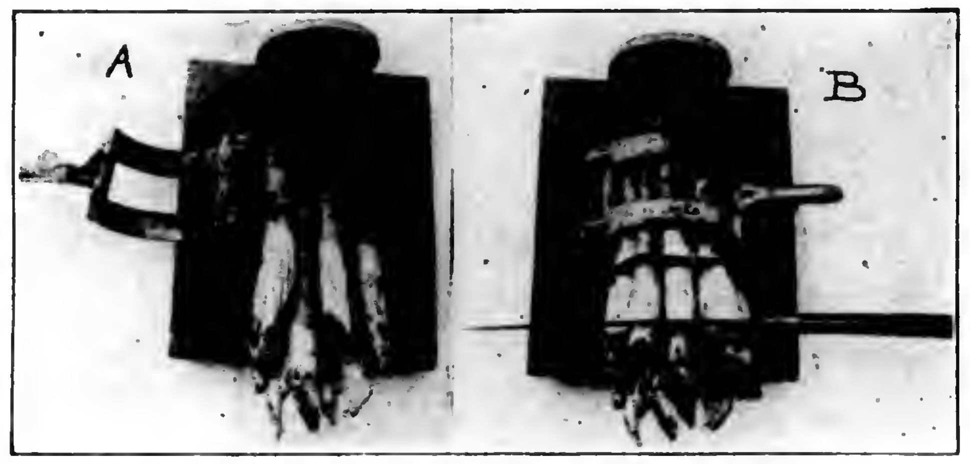

Fig. 3.—A—Curved Tips Laid Towards Center.
B.—Bunch Assembled Ready to Trim.

Fig. 4.—Well Graded and Bunched Asparagus Standing in Water to Plump

The cutter invariably takes two rows at once. In very small fields, or when the sun is hot, it may be well to carry a basket or a picking apron and place each stalk in it, but a much quicker and easier way is to take two rows at once, without a basket. With the knife in one hand gather the stalks in the other until the hand is full (Fig. 1.) The handful is laid on one of the two rows being cut, so that the product from every four rows is lying on the two middle rows of the four rows. With this system cutting will progress very rapidly and the product can be quickly gathered.

Gathering the Grass

There are several convenient methods of gathering the cut asparagus. A horse-drawn drag with a large movable box is very handy. At the packing shed, the box may be slipped off and replaced by an empty one. A two wheel cart (Fig. 2) with the shafts in front of one wheel is very handy, as it straddles one row, and is especially convenient on long hauls. A one-horse two-wheeled cart with a long axle to straddle two rows is excellent, provided the driveways to the packing shed are wide enough to permit its use. Several boxes or trays each of which will hold about 40 pounds, may be used on the cart each trip to the field.

Preparations For Bunching

When the asparagus is cut everything should be in readiness for quick work. The following list of materials should be provided: Stationary benches, tubs, brushes and wire bottom trays for washing, sorting racks, machines for bunching, butcher knives, tape or raffia, shallow pans, crates, labels, nails, sphagnum moss, and a water supply.

White asparagus is washed by placing the stalks perpendicularly in trays which have a meshed wire bottom. By drawing the tray and its contents very rapidly a few times, the loose sand may be quickly washed off. It may not be necessary to wash green asparagus. However, if it is advisable to wash the butt ends, an effort should be made to keep the tips dry. This is may be done quickly by seizing a double handful of asparagus and by dousing the butt ends a few times in a tub of water. Then lay it out to drain on tables with a slanting surface so that the excess water drains away from the dry tips of the stalks. Many good growers do not wash their asparagus before bunching it. They simply scrub the outside of the bunches just before it is packed for shipment. Green asparagus tips become musty more quickly if they are wet.

Grade Before Bunching

The stalks are divided into two or three grades according to the market requirements, the quality of the product and the disposition of the grower. The grading may be done before bunching begins, or by the bunches as the stalks are laid into the machine. The asparagus is most quickly sorted by spreading it out about four inches deep on a long table. Many growers prefer to have one person do all the grading, so that the product will be uniform. All the "colossal" (very large) stalks are picked up, then the "fancy" (medium) and finally the so called "primes" (actual culls) are assembled. If the graded stalks are ranked into light board frames, the product may be easily and quickly passed to the people who are doing the bunching. The racks may be made of a thin board 10 inches wide and 27 inches long. At each end, the edge of an inch-thick piece of wood, 10 inches wide and 6 inches high is nailed to hold the stalks, and small cleats an inch thick are nailed under the racks near each end so that they may be picked up quickly.

Assembling the Bunches

A special machine is essential to hold the stalks while they are being assembled into a bunch. The bunches usually weigh 2½ pounds or a trifle less, while the trade in a few local towns prefers a pound bunch. The bunches are from 8½ to 10 inches long. A bunch of Colossal contains from 17 to 25 stalks; "fancy" averages from 30 to 40 stalks while the "primes" may contain all the slender stalks and a few large crooked or seedy stalks.

Amateurs invariably sit down when bunching, but the larger growers find that the work can be done more quickly on high benches with the operator standing. Grading and bunching 30 bunches an hour is considered to be quick work especially with green asparagus. Many of the stalks curve to one side at the tip. If these slight crooks are turned toward the axis of the bunch as showing in Fig. 3, it will result in a very compact head for the bunch. Each bunch requires two strings, and if they are placed quite far apart, they will hold better and make the bunches appear to be longer. The butts of all the stalks in the bunch are cut off smoothly after the bunch is tied. (Fig. 3 B.)

Maintaining the Quality

At all times the cut asparagus should be kept cool and away from the wind, if it is to maintain its quality and keep in good condition. The common practice of standing bunched asparagus in shallow pans of water, exposed to a dry warm air for several hours is a mistake. When standing in water in a warm, dry air for a day or more, the stalks continue to grow and become an inch or two longer, as they take up and give off great quantities of water. Then if the butts of the bunches, which will have become browned, are cut off again just before packing, the product will look fine, but it will be inferior in flavor, texture and shipping qualities. A better practice is to get it to the consumer without unnecessary delay. Excellent, high quality asparagus creates the demand, while a few musty tips quickly depress the market. However, when the weather is very hot for a few days, the asparagus grows so quickly that the market may be temporarily over-supplied. At such times and when cutting has to be done on week-ends, it may be advantageous, and even necessary to hold the product until it can be sold to advantage. It is possible to hold cut asparagus for several days with very little loss in quality by keeping it at a low temperature of 45 to 50 degrees with little air circulation. Asparagus should be held only when it is necessary.

The best plan in handling the asparagus crop seems to be to cut the stalks as early in the day as possible and bring it in promptly while the stalks are cool. By keeping it cool, quite dry and unexposed to currents of air, it will be able to retain its quality and keep in good condition for a few days.

Then after it is bunched, it may be place upright in shallow pans of water for a short time to plump up before it is packed into the crates for shipment.

BORERS IN PEACH TREES

Just as soon as the frost is out of the ground, begin to examine your peach trees; dig down a little around the roots, and when you find a small heap that looks like sawdust look around until you discover the hole it came from. Some times a jack knife with a slender blade will be all that is needed. But I prefer a long solid wire; one that is not too stiff, but will bend so as to follow the hole to its extent, crushing the white borer as the wire is repeatedly pushed back and forth.

These borers must be dug out of the peach trees. Use your eyes and use your wires; you will be surprised to find tiny borer punctures in the small limbs, but they are there, many times, as well as in the larger limbs, the trunk, and the roots.

It takes much time and perserverance to raise fruit trees, as borers trouble the apple trees fully as bad as they do the peach trees, and one has to be continually on the job to make a success of bringing a fruit tree into bearing. There is very much more to it than buying and setting them out. As one lady said to me, "It is hard work to raise onions, but peaches—all there is to them is to set out the trees and when they bear, pick the peaches."

I asked her if she ever had raised any—oh, no, said she, then I said, "you certainly know nothing about it. No one knows until they do it. I know, for I have done it, and I have raised onions too." I love to see all vegetables and fruits grow. But it takes a whole lot of grit and gumption and stick-to-itiveness to make a success of any of them; and still more to raise the fruit trees than the vegetables. But both fruit and vegetable gardens should be given a generous amount of well fertilized land on every farm as fruits and vegetables need to maintain perfect health. It means lots of arduous labor, but so does anything that is worth while.—M. I. C. A., Tioga Co., N. Y.

GROWING AND BLANCHING CELERY

No one who can grow the usual garden vegetables need be afraid to try raising celery. There is really nothing difficult about it.

If one can get the plants already started, of course the work is much simplified. If not, the seed should be planted thinly in warm garden soil that has been worked very smooth and fine. Early in April is about the right time in latitude 41 degrees. The tiny plants must be kept clear of weeds. If one is near a florist or market gardener, the plants are usually not expensive to buy and this will save the rather tedious early work of tending the young plants.

Late in June or early in July the plants which may be about five inches in height, are set out in rich garden soil about eight inches apart, planting them on the level just as you would set out a tomato plant or any other ordinary garden plant, watering them freely at night and taking care that soil does not bury the heart or tender growth portion. These are hoed and cared for regularly keeping the soil well around them. In September, the soil should be drawn up around them and pressed tightly against them. This gives the upward, close growth so necessary in well-formed celery. If this work is done about the 15th of September, the process of banking up should be begun in October,—about the first week. This process is accomplished by digging the soil from between the rows and mounding it up against the celery until only the tips of the leaves are visible. In three or four weeks it will be blanched sufficiently for table use.—M. R. C.

STARTING AN APPLE ORCHARD

Apple trees can be planted during the spring or fall as it really makes little difference in which season the work is done. The advantage of fall planting over spring setting is that the trees are all ready to grow when the winter breaks up so that more growth will be made than if the trees are set in the spring.

Prepare the ground just the same as if corn or potatoes were to be planted, i. e., give a good application of stable manure if available, plow it under and harrow the ground well.

If stable manure is not available and the land is not in the best of tilth, it will pay to delay planting one year and grow as much green manure as possible during the summer. A crop of Canada field peas can be sown very early in the spring, plowing them down early in June, then sow cow peas or soy beans, turning them under in time to sow rye or rye and hairy vetch for a winter cover crop. After each plowing down of green manures roll the ground well to pack the vegetable growth, then harrow. If well rolled and packed the capillary attraction will not be injured.

Before starting to produce all this humus, lime the soil, using one ton of burnt lime, or one and one half tons of hydrated lime or two tons or ground lime-stone per acre. This will rectify any soil acidity there may be, as well as help to loosen up the clay. The green manures will do the rest.

An application of 400 pounds of 14 per cent acid phosphate to the acre will insure sufficient phosphorus. Do not apply the acid phosphate for several weeks after applying lime.

The shadow of the arch-enemy next door appeared in the doorway of the humble kitchen.

"Mrs. Jones!" she exclaimed, with folded arms, "let me tell you that that child of yours is badly spoilt."

"Oh! get away with you!" snapped Mrs. Jones, testily scenting another complaint as to her young hopeful's conduct.

"Well," rejoined the aggravated neighbor, "if you don't believe me, just come and see for yourself what the steamroller's done to him."

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	3-A	265	234
	4-A	330	279
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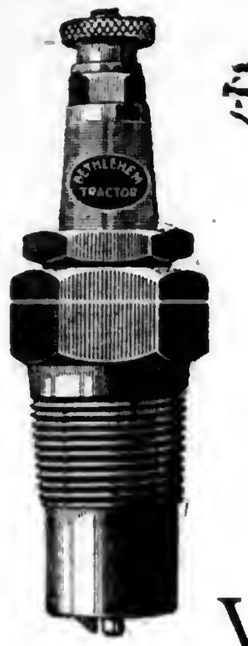

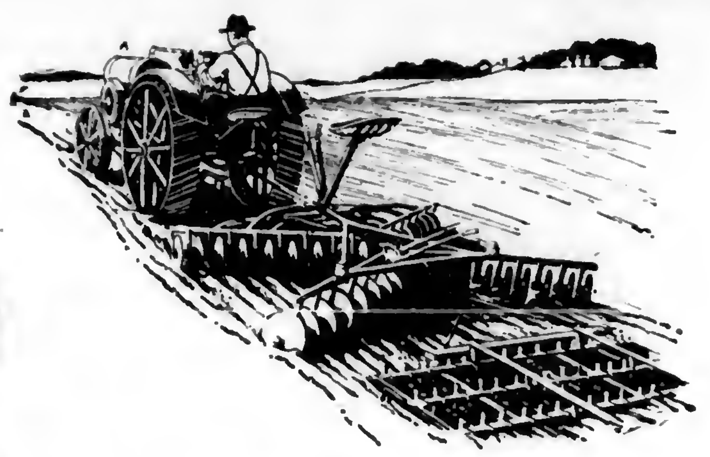

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2. That sulphate sulphur is supplied most economically by AGRICULTURAL GYPSUM.
3. That by increasing legume growth AGRICULTURAL GYPSUM increases the nitrogen in the soil and assures increased future crop yields.
4. That AGRICULTURAL GYPSUM preserves barnyard and hen manure and adds greatly to its value by fixing the ammonia which is rich in nitrogen.

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MAKING THE WORLD LOOK BRIGHTER

"Seems to me you are stepping round pretty lively this morning, Laddie. Anything happened?"

"Nicest calf you ever saw happened, Dad. You just come with me down to the barn, and see what Bessie Trotwood's got. I guess you'll step high then. Heifer, too."

"Heifer! Good! Most of 'em been bulls lately. Seems fine to get a heifer, and from Bessie Trotwood, at that. I'll be right down, Laddie. Most thru washing the separator."

There the calf lay when Father got round to make the trip to the barn. Laddie had brought the little cow round from her place in the stanchions the night before and put her in a big box stall, where she would have plenty of room to move about. Now he was wiping Bessie Trotwood off with an old piece of sacking. The mother of the calf was contentedly eating some nice clover hay, now and then turning to speak to her little one and to look confidingly into the eyes of her young master. You could see she thought her eyes of him.

It was Bessie's first calf, and she was Laddie's very own. That was enough to make any farmer boy step high, wide and handsome. For she was a thoroughbred, and registered at that. Laddie had had all the care of her from the time she came on the farm as a calf. It was fine of Father to give him that calf. Laddie had stayed right on the farm and done his best to help along. Many of the neighbor boys had packed their kits and gone away to work in some factory. They come back now and then, wearing flashy rings and bright ties, telling big stories of the money they got and the lives they were leading. Somehow Laddie was not greatly disturbed by these tales. He was satisfied just where he was, which speaks well for his good sense. He went on just the same as usual, and Father knew all about it. That is one reason why he and mother talked it over one night after they had gone to bed.

"Laddie's a good boy, Father."

"Sure is, Mother. Tell you what I have been thinking about a good deal lately. You know, we have saved up a little money. It is in the bank now; but I believe we can make better use of it. What do you say to buying a few registered cattle? They are paying good prices now for common cows, mostly for beef. I have wanted to swap off some that have not done as well as they ought to. Let's take the money and buy some better cows. We'll get two or three good calves, too, and one of them shall be Laddie's. What do you say?"

And Mother said what any sensible woman would have said. She declared that there was no doubt in her mind that this would be the very best thing possible. So Bessie Trotwood came on the carpet. The new heifer calf that Father gave to Laddie took to him from the start. He was kind and he acted as if he cared whether the calf lived or died. This was his routine of work every day: First thing in the morning, brush off Bessie Trotwood. Feed her some good warm milk, not ice cold, mind you, and that made a big difference. If you don't believe it, try it. Then some bright, good hay. Next clean out the pen and give the calf some clean dry straw. See if the calf did not want some water along toward noon. Feed some more hay and rub off with a nice dry cloth. Feed again with warm milk when the night chores were done and rub off again with the soft cloth. See that the bedding was dry for the night.

Now, that is going to be the beginning of a new day for them all. The world looks brighter to every one, especially to the boy of the big dream. The milk checks already show a marked increase. Bessie Trotwoood's calves are all raised after the plan of that first one. Even the grade cows feel the uplift of the care given them. Laddie will soon be of age now, and his father has made him the proposition to stay right there and be a member of the firm, and he acts just as if he intended to do it.

The boys that went away down-town are beginning to look with envy on Laddie. They see that he has something they have not got and never will get as long as they stay where they are. Nor are they the only boys that have left the farm only to be sorry for it and wish they were back. The way is open. Wonder if they will be sensible enough to see the trail and take it?
—L. E. V.

SOUTHERN BLAIR ASSOCIATION

Following figures are a summary of the cows kept on 21 herds in Southern Blair County, Pa., Association. Number cows, 241.9; number cows per herd, 11.5.

Cost of production includes depreciation and interest on investment in equipment, buildings and livestock. Labor, 30 cents per man per hour; 20 cents per horse per hour.

Feed.—Pasture $2.50 per month. Current expense, repairs, insurance, tax, veterinary expenses, breeding fees, sale, bedding, testing fees, etc., plus 10 percent of net cost for managerical ability and lost time.

Credits are allowed for manure—$15 per cow per year; $8 per each calf living at three days.

Cost of milk per 100 pound, $3.[illegible]7; Cost of milk per quart, .072; cost of butterfat per pound, .648.

In the cost of butterfat 80 cents per 100 pounds was allowed for skim milk.

Average butterfat per cow, [illegible]6.5 pound; average milk per cow, 7354 pound.

16 of the 21 herds were fed silage, and in these the average butterfat per cow was 309.4 pound, average milk per cow was 7772 pounds.

Five of the 21 herds did not get silage, and in these the average butter fat per cow was 296.5 pounds, average milk per cow was 7069.5 pounds.—L. V. Miller, Tester.

CLINTON COUNTY PA REPORT

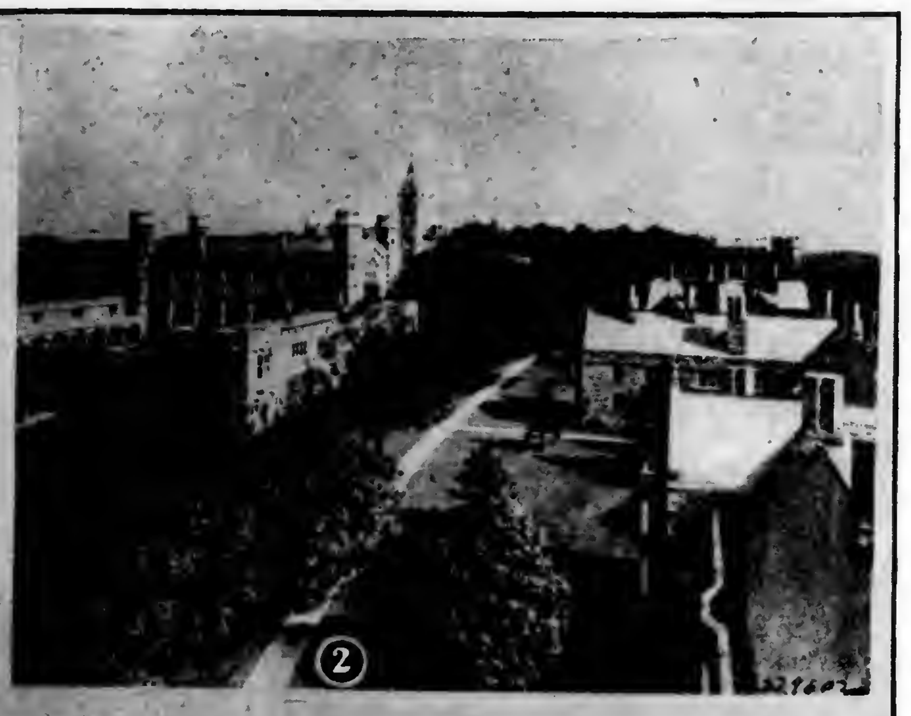
For the month of March the Cow Testing Association report is very encouraging in view of the fact that the winter which has just passed was somewhat unfavorable to the dairy industry, the weather being very severe and feed costs high.

At present, however, the dairy situation is picking up considerably. There is only one more month left in the present year, which ends on May 5th. Nearly all the members will continue in the association, with the addition of a few new members.

Beginning with the next month Ray Williams, Beech Creek, and George Schrack, Sugar Valley, will be the two new members of the association.—Samuel A. Hamil.

The Federal Department of Agriculture is advising farmers to back to clover. This advice the sake of the land which was busy producing wheat in war

PASSING EVENTS IN PICTURES



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New Salvation Army Memorial Training College Building in New York.

–A view of Bryn Mawr College for Women, Bryn Mawr, Pennsylvania.

Fashions of 1877 and 1880 shown by School Girls on Fifth Ave., New York.

4.—Horace Wade, America's Youngest Author, Reviewing His Book "In the Shadow of a Great Peril" with Mary Pickford.

5.—A Play called "Shavings" is Responsible for the Creation of Wooden Hats. The Ladies of Paris Have Adopted Them.

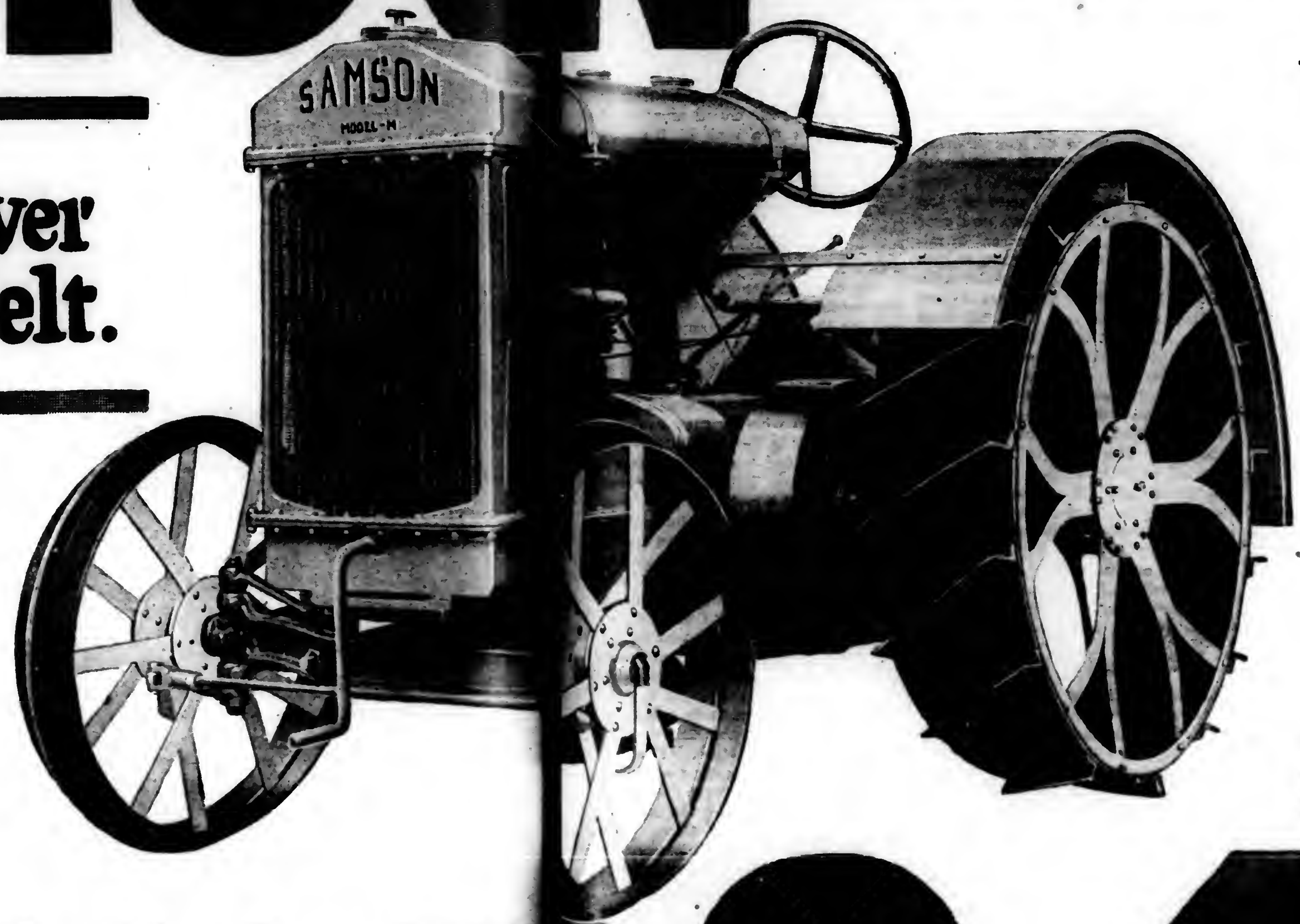
6.—Grammar School Boys of Charlestown, Mass., and their Model Bungalow.

7.—Miss Elizabeth A. Hall Studying American made Dyes at Phipps Institute.

8.—Hartford Home of Mark Twain, One of the Oldest in New England.

SAMSON

Heavy Duty Horse Power *for* Draw Bar and Belt.



Horsepower—***plenty of it***—stripped of all unnecessary dead weight! Horsepower for draw bar and belt! At the right price—for both first cost and upkeep! That's what every farmer wants. That is what the designers, engineers and producers had in mind when they developed the SAMSON MODEL M TRACTOR.

You want a tractor that will take the place and perform the duty of a barn full of horses, without costing you a fortune or a big part of your crop to buy and maintain. That is exactly the kind of tractor you get in the SAMSON MODEL M.

It's the last word in modern, down-to-the-minute tractor construction. It is not like the average "I" beam and channel steel frame tractor that weighs so much that it takes a large amount of its power for self-propulsion. It is a close-coupled power unit all by itself from radiator to rear wheels.

Every working part is enclosed and protected against dust, mud or rain. It has no lost motion, for it is built and lubricated throughout like a $3000.00 automobile, insuring great efficiency, ease of operation, maximum length of life and service. The price—the unheard of figure of $840.00—is due to correct designing, engineering and quantity production.

The even distribution of weight, compact unit design, and low center of gravity, give the SAMSON great stability, making it hug the ground and preventing all danger of rearing up and tipping over.

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Ask your dealer for a demonstration of the SAMS MODEL M or write today for FREE booklet which you a comparison in figures showing the cost of maint the SAMSON MODEL M compared with horses. will be surprised at these figures. Horseflesh is an expen luxury—to say nothing of the chores three times a every day in the year, and the drudgery they cause you.

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Manufacturers of Samson Trucks, Samson Passenger Cars, Samson Tractors and Samson Farm Implements

Here, Mr. Farmer, is the tractor that does not take a fortune to buy or the profits from your farm to maintain ~ ~

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Draw Bar

—will pull a two or three-bottom plow.
—will pull a tandem disc harrow.
—will pull two 20-foot spike-tooth harrows.
—will pull two 4-horse grain drills.
—will pull two 7-foot binders.
—will pull large road grader or do any other heavy-duty, draw-bar job.

Belt Power

—will handle any heavy-duty belt power job.
—will run a 22 to 24-inch grain separator.
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—will run a heavy buzz saw.
—will run a heavy-duty grinder or ensilage cutter up to 14 inches.
—will run a centrifugal water pump for irrigation purposes.
—will handle stone crusher or large concrete mixer
—will handle large hay balers and in fact will do any belt power job requiring steady, reliable power within the range of the machine, from morning till night.

Complete with Platform and Fenders, Governor, Power take-off, Brackets for Canopy Top and Regular Cleats.
Price f.o.b. Janesville, Wis., $840.
Price, f. o. b., Stockton, California, for Pacific Coast Delivery, $940.
Prices subject to change without notice.

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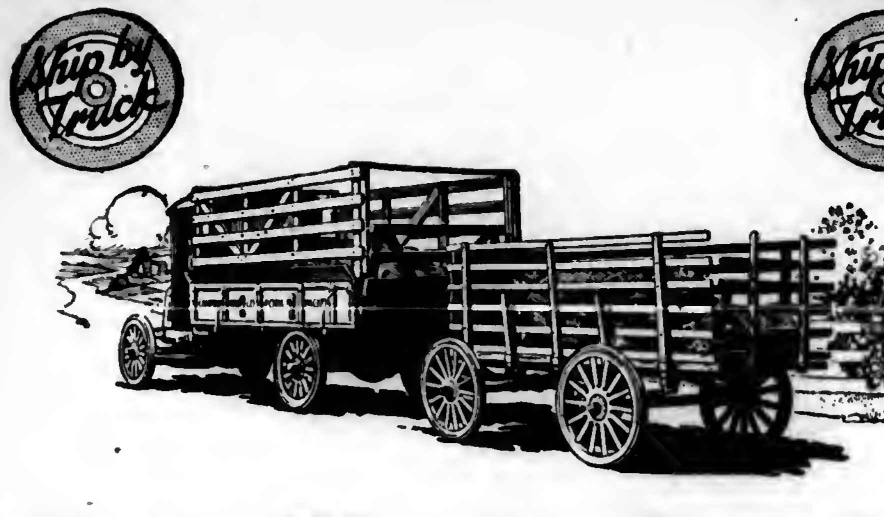

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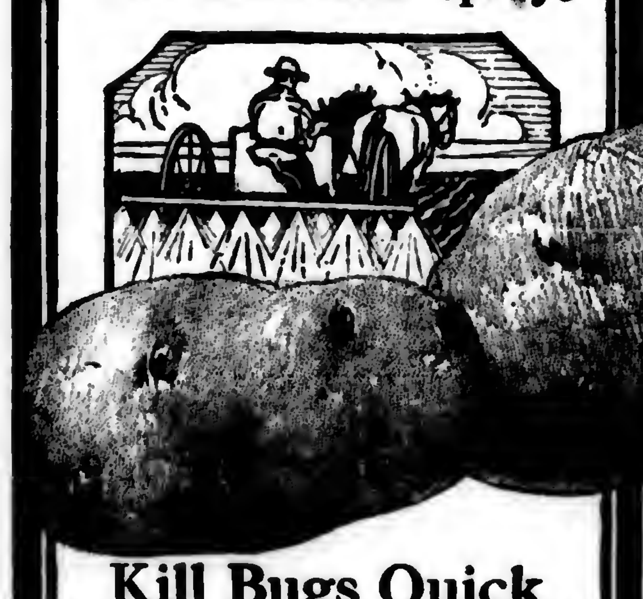

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We are cooperating with potato growers everywhere. You are invited to write us. Put your spraying problems up to us. Our advice and directions are given free. We answer spraying inquiries personally. Get your name on our mailing list to receive the spraying pointers and information we are mailing out.

STORY OF WILL DALE AND MAPLEDALE

(Continued from Page 1.)

and when both suggested live stock he asked them in regard to the kind; also, their management and feeding. From his father he had gotten the lessons in plowing, harrowing, cultivating, and harvesting the crops. Then, in addition to the advice of these two farmers, Will did another good thing by subscribing to several good farm papers, which he made it a part of his business to read.

Fifteen years ago, when Will received his inheritance, the farm had not been limed for fifty years and naturally, as any one who has glacial soil would suspect, the clover crops on the Dale farm were small. The crop of hay from the timothy was only a little over a ton to the acre and the other crops were in proportion. No effort had been made thru the use of tile drains to eliminate the wet spots in the various cultivated fields.

The Present Yields

Last year, by the way of contrast, this farm produced 60 tons of ensilage from six acres, 275 bushels of ears from the two acres that were husked; 40 bushels of oats to the acre; 28 bushels of wheat, and over two tons of hay to the acre. In addition to this the nine cows on the farm averaged 10150 pounds of milk and 383 pounds of butterfat apiece.

Not only are his cows and crops doing well, but in addition Will has remodelled both house and barn. The barn has concrete stalls and steel stanchions, plenty of light, a silo and, in fact, is about as modern as a practical dairy farmer's barn could be. The house is heated and lighted by natural gas from a well on the farm. Hot and cold running water are provided from a reservoir on a hill above the house. A modern bath room is found on the second floor in addition to a shower bath in the cellar. Then, as a labor-saver for the women, a power washing machine run by a gas engine is used.

Lime the Basis

Now what is the secret of all this success? The first thing Will did toward improving the crop yields was the use of lime. Both the stone and the coal to burn it with were gotten on the farm. In the fifteen years about 5,000 bushels of stone lime have been applied. The first time, 100 bushels an acre was applied. Not all the farm has had a second application but where it was used Mr. Dale made the mistake of thinking a heavy application would give him results proportionate to the first application, so he used 75 bushels an acre this time. The result was that the lime acted more as a caustic and caused a partial failure of the clover crop. Along with the lime, as time was found for the work 3,000 feet of three and four inch tile were laid to drain away the worst wet spots.

The first few years steers were fattened in winter, two or three colts were raised each year and three or four cows were kept. About ten years ago a dairy of about ten cows was established which has been kept up ever since. At first, or for about six years, butter was made on the farm and the skimmilk fed to hogs. About 50 pounds was made each week and, until the creamery was established four years ago in Grove City, the price received for it never averaged above 30 cents a pound. Not until four years ago was any attempt made to feed a balanced ration and for only about six years has a pure-bred bull been used.

This farm is like a lot of others in Pennsylvania. The fields have been influenced in their size and number by the topography. This has resulted in five fields of about eight acres each, and the standard Pennsylvania rotation of corn, oats, wheat, clover and timothy.

When I asked Will his system of fertilizing and manuring the different crops he said, "Well, you know I feed up and use for bedding all the hay, straw and corn fodder produced on the farm, and of course that means a lot of manure. My field that is to be planted in corn gets 12 loads per acre, my spreader holding about 40 bushels. In addition to the manure I use from 200 to 300 lbs. of acid phosphate per acre. The kind of corn I grow for field and silo is the Leaming variety, the seed of which I select each year from my own field. This does not make quite so much stalk as some of the ensilage varieties grown farther south, but I like to put the mature corn in the silo."

"Do you ever do any manuring or fertilizing to your clover crop?"

"No, I get two tons to the acre without it from the first crop and a lot of good pasture for the cows from the second crop."

The story of the development of the dairy herd on Mapledale farm is the most interesting feature of the whole farm. Ten years ago a herd of ten cows of nondescript breeding was established. These were bred and fed the way too many cows are still being bred and fed in Pennsylvania, viz: to a grade bull and fed without regard to whether the mixture was a balanced ration and without regard to whether each cow was fed according to her production. The first change for the better was six years ago when Will took his cows to the farm of a neighbor who owned a pure bred bull to have them bred. Then four or five years ago he secured some milk sheets from the Pennsylvania State College, purchased a set of milk scales, and began weighing the milk from each individual. In a way this was an aid to getting rid of the low producers, at least as far as milk was concerned.

The next step was three years ago when Will joined the Grove City Cow-Testing Association. The results of his weighing for the two or three previous years were apparent when the first year of the association ended and found Will's herd fourth place in butterfat production and leading the whole association in milk production with an average of 7596 pounds of milk and 338 pounds of butterfat to the cow. Two of the three men who beat him in butterfat production had been keeping records before the association started. This was the first year the herd had been fed a balanced ration, altho Will said that for several years he had been feeding feeds that could have been balanced if he had known how to do it. From his nine cows in 1919, $2500 worth of milk was sold to the creamery. When I asked Will if he didn't have to pay an income tax he said, "No, but so mighty near to it that I had to make a report to the income tax man."

So well pleased was Will with his first pure-bred cow that the next fall after his first purchase he went to Michigan himself and bought three more bred heifers. Will is breeding these pure-breds to a Holstein bull whose dam produced over twenty thousand pounds of milk in a year. Look out for Will.—Fitzhugh.

POULTRY

HANDLING THE COLONY BROODER

By J. Raymond Kessler, Penna.

The greatest invention of the past few years in the poultry industry has been the development of the modern colony brooder stove. These unit stove systems with a brooding capacity of hundreds of chicks in one flock have done more than any other poultry invention to reduce the cost of brooding the chicks. In fact they are such great savers of labor that few poultrymen would be without them once they have tried them.

There are two general types of colony brooder stoves—the oil burning and the coal burning. The oil burning type was introduced a year or two before the coal burners and is extensively used in the West, particularly thru California's poultry districts where it originated. The oil burning type is made in only one size with a brooding capacity for 1500 chicks at one time. One manufacturer has been considering the advisability of producing a smaller oil stove, but I have not as yet heard of its introduction.

The coal burning colony brooder, while introduced several years later than the oil burning type, has been extensively adopted in the eastern part of the country and apparently meets with little competition from the oil burners. Most of the coal burners are capable of brooding a flock of from 300 to 500 chicks.

The saving effected by the use of the colony brooder is very apparent when the work of brooding a given number of chicks by the individual hover system is enumerated. To brood 500 chicks with hovers would require ten individual hovers making ten separate flocks to attend to, each one of which must be given water, fed a certain number of times a day, their individual hoppers filled, and if the lamp hovers are used then there are ten lamps to fill.

With the modern colony brooder of 500 chick capacity the work is little more than was necessary in attending to one or two hovers. One or two large water founts will supply the water where ten fountains were necessary by the old system and the same thing is true in the case of feed troughs, hoppers, the feeding of green food, etc., every necessary attention is divided by ten. Then when it comes to cleaning the quarters it is much less work to clean one large room than to clean ten hovers and ten exercise rooms as was necessary with the individual hover system.

This is not the only saving effected by the modern colony brooder for, whereas, a specially constructed house was necessary to hold a continuous hover system, the modern brooder can be placed in a colony coop thus doing away with the need of a specially constructed brooder house.

As to the health and growth of the chicks in these large flocks as compared with the small flocks brooded by the individual hover system, I can say from experience that if there is a difference it is in favor of the colony brooder. The chief thing to be careful of is not to place too many birds around one stove. We have always obtained best results where a flock smaller than the advertised capacity was placed about each stove. With the large oil burners a flock of one thousand birds was found to give the best results tho the stated capacity was fifteen hundred, and with the coal burning stoves of five hundred chick capacity three hundred and fifty to four hundred chicks will be found best, particularly early in the season.

The oil burners are all built as a large stove deflecting the heat on the floor, the chicks sleeping about the stove in a circle at whatever distance from the stove the heat seems to their liking. The usual method of running these stoves is to keep the heat at 90 degrees two and a half feet from the stove. Many of the coal burning types of colony brooders have been built on somewhat the same plan as the oil burners that of deflecting the heat on the floor, making a warm circle of heat instead of a warm hover. However, some of the coal burning types on the market are simply the old hover idea on a larger scale.

The question of which type is best is really a matter for the buyer to decide. Some claim that the deflecting type is best because the chicks can sleep at whatever distance from the stove they find the heat to their liking, and the necessity of the chicks entering a dark hover is eliminated. It is also claimed for this type that the chicks have better air to breathe. Others prefer the hover type, claiming that the chicks rest more quietly under it and that there is less danger of drafts of cold air striking the chicks. It is also claimed that the confinement of the heat by the hover makes it unnecessary for the stove to develop as much heat as other types thus saving fuel. However, in actual practice both types are widely used and with very satisfactory results.

In the matter of general care of the chicks the poultryman will do well to continue the same methods with the large flocks that he found successful in brooding small flocks. However, the necessity of certain changes in methods are likely to arise. For instance several years ago when we installed our first colony brooder stove, one of the large oil burners, we found that we were losing a large number of chicks the second week of brooding from no apparent cause. After a thoro investigation we came to the conclusion that these chicks were simply starving to death, the less aggressive ones being kept away from the food by the stronger chicks. Of course, after missing a few feedings the chicks became weak and discouraged and soon were found dead.

We very quickly overcame this trouble by keeping troughs of a special dry mash mixture before the flock at all times in addition to the regular feeding. With this method the chicks missing their feed could fill up on the mash and wait for the next feeding.

In feeding such large flocks it is important that there be plenty of troughs supplied so that all the chicks have a chance at the mashes and such other food as is fed in troughs. It will also be found best to leave the food before the flock for a longer time than was necessary in feeding the small flocks.

There is one peculiar thing about the actions of a flock of young chicks brooded by the large oil burning colony brooders. For the first week or ten days they will lay about the stove at night within the circle of warmth without urging, but after that age they begin sleeping in the corners of the room making it necessary to chase them up to the stove at nightfall. This peculiarity is also developed by flocks brooded about the coal burners but not to as great an extent.

In order to overcome this and be sure the chicks do not sleep in the corners of the room and chill we have found it necessary to surround the flock with a low wire fence at night, confining them within five or six feet of the stove. Regular one foot high cellar window wire is used for this purpose. No stakes or fastenings being necessary as the wire when used in forming a circle will stand without support.

Care must be taken not to confine the chicks too close to the stove and overheat them. Where the house is small it is well just to place the wire about the walls to round out the corners of the room so the chicks cannot crowd in them. No trouble has ever been experienced in this line in day time as the chicks use the stoves to warm up without fear.

As to the advisability of the beginner starting out with one of these brooder stoves, my answer would be no. As far as the operation of the device is concerned it is easily understood but the beginner must learn to care for chicks first.

Oil Burning Colony Brooder at Work

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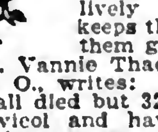

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HOUSEHOLD

TO MAKE A CROCHETED BASKET HAT

See Pennsylvania Farmer, April 3rd.

Ch. 6, fasten.

1st row—19 sc. sts in ring.

2nd row—1 dc. st. in each under st.

3rd row—1 treb. in each under st.

4th row—2 treb. in first under st. then 1 treb. in next st. Continue around row.

5th row—Same as 4th row.

6th row—1 treb. in each treb.

7th row—2 trebs. in 1st treb., next 4 trebs. without increasing. Repeat.

8th row—2 trebs. in each under treb.

9th row—1 treb. in every under treb.

10th row—1 treb. in each of first 3 trebs. ch. 3, skip 3, repeat around row. This makes a beading around top of crown, or bottom of basket.

11th row.—A shell of 3 trebs. in first space made by under ch. Chain 4, fasten in center of next ch., ch. 4, repeat around row.

12th row—Tie under shell, 2 trebs. ch. 2, 2 trebs., ch. 4, catch under ch. of 4. Repeat around row as for every row.

13th row—Same as 11th row.

14th row.—Same as 12th row.

15th row—Same as 11th and 13th rows.

16th row—A double treb. place where the two under chains are fastened together. Between Chain 7, fasten with slp. st. in center of next under shell. Ch. 7 and repeat the long double treb., continue around row.

17th row—Each space made by an under chain is filled with 9 of the long double trebs.

18th row—Like 10th row—a beading.

19th row—Shells composed of 3 trebs. 2 ch. 3 trebs. in each ch. with chains of 3 between each.

20th and 21st rows. Shells in shells as in 19th row. Chains fastened to under chains making groups of 3 chs. so fastened.

22nd row—Chains and picots made thus: sc. st. where under chains fasten together, ch. 5, fasten back into 3rd. ch. with slp. st., ch. 3, make sc. st. in next shell, ch. 1, make another sc. st. repeat around edge of basket.

The basket is about 5 inches across what would be the head band if it were a hat. The crown is not quite 2 inches deep, and about four inches across top. The ruffley "brim" is one inch wide. The inverted basket looks just like a hat when placed on the head of a big, bisque doll. A friend of mine who has crocheted much for her family of seven children thinks to exactly double the proportions would make a basket hat for a small girl. I would suggest that one third more instead of twice the size for the head and would be about right.

No. 20 candiclut was used. Gum Arabic is best for stiffening instead of sugar in the water, as the sugared basket will get soft when in a warm room.

Individual taste and judgement must be exercised, as a loose or snug stitch in crocheting, and the size of the child's head will make a difference of a few stitches more or less. A little straw or felt hat would be a good guide. A block can be improvised from a mushroom-shaped cooking, or stirring bowl. I have an alluminum one that appeals to me as being just right. Most housekeepers have containers that will suggest themselves as being good hat blocks. The well dipped hat should be pressed onto the bowl, the head band portion tied into place with tape or twine. The ruffley brim may be fluted with the fingers to assume the right appearance. The hat should be left on the block until perfectly dry.

I am making a crocheted motor hat for myself copied from one that came from Florida. This hat was priced $12—the one I am copying cost only $1.40 and a pleasurable effort on the part of the woman who likes to crochet. My hat is made in a stitch so firm that it requires no stiffening.—The Make-Over Lady.

HOME COGITATIONS

Strawberries look mighty good now. Eat some, but also eat with them plenty of milk, eggs and really nourishing food. The berries act as a conditioner not as a nourishing food.

There comes a time when mending stocking feet is no longer good economy. Then turn the legs into a useful dust mop by cutting them into strips and sewing the strips to a heavy strip of cloth. Then fasten this thru the clamp of a mop handle, dip in a solution of ½ pint of paraffin mixed with one cup of kerosene.

You can never tell till you try how easy it is to make a becoming hat for yourself. Study your face, coloring and hair arrangement, screw up your courage to the sticking point, and before you know it you will have saved $10 or $15.

Brighten up those north rooms with paper that has a yellow tone.

That leftover cup of stewed apricots, prunes or apple sauce, if whipped up stiff with the beaten white of an egg, and seasoned with sugar and lemon juice, makes a tempting addition to a custard dessert.

The woman who likes to garden will find that it will be easier to clean her finger nails when she comes to get at the cooking if soap or wax is rubbed under her nails before she goes at the dirt digging.

Snoop around in your attic and your bureau drawers and closets and make an inventory of the old things that you find there. Then write Mrs. Griebel at New Jersey Agricultural College, New Brunswick, N. J., for suggestions for making these things over for use this year.

Some women drag a heavy mop pail around from room to room and point to point in each room. Others screw casters on the corners of a piece of board about 15 inches square, load the pail aboard and roll it easily to wherever needed.

When oiling the egg beater, ice cream freezer, etc., better use olive oil rather than machine oil, then if any gets into the food, it will taste better.

If cheese, one of the most nourishing and economical foods, be served as a meat substitute rather than at the end of the meal with the dessert, the family will cease to complain that it causes indigestion.—N. J. Ariculture College.

STUDIES IN NUTRITION—8

By Pearl MacDonald, Penna. State College

Food Fiber

Fiber is the woody matter in grains and grain products, also in fruits and vegetables. It is also sometimes called cellulose, which is the Greek word for woody.

The fiber in foods plays a very important part in nutrition. In the human body it is not digested except perhaps the very small part in young and very tender vegetables. The main purpose of fiber is to afford bulk, the same as roughage does in animal nutrition. Because fiber is a bit rough and coarse it stimulates by mechanical irritation the action of the small intestine, and thus causes the food mass to move normally thru the digestive tract. Thus it helps in regular elimination of waste products from the system, and thereby prevents poisoning and illness. The tendency is to eat too many ready prepared and highly concentrated foods. As a result many people suffer from constipation. This trouble should be corrected not by the use of medicines but by proper eating and living, by sufficient physical exercise, drinking plenty of water and eating a sufficient amount of fiber or roughage foods. Such foods are cereals, whole wheat or graham bread, fruits and such vegetables as turnips, carrots, cabbage, string beans, peas, corn, etc.

Crocheted Hat

Organic Acids and Mineral Water

In all fruits and in certain vegetables, as the tomato and rhubarb, there are certain acids. Because certain acids are manufactured in the fruits and these vegetables as they grow, they are called organic acids. There are several of these acids, and they exist in fruits and in certain vegetables in various quantities and in certain combinations. For example, tartaric acid is the characteristic acid of the grape. (Cream of tartar, used in combination with baking soda to make the tartrate baking powders, is obtained by fermentation of grapes.) Citric acid predominates in oranges, lemons, limes and grape fruit. That is why these fruits are frequently called citrous fruits. Both the tomato and rhubarb contain oxalic acid; besides other acids.

These organic acids, together with the mineral matter in foods, keep the blood and other fluids of the body in normal condition. And they stimulate the appetite and aid digestion.

In a previous article we discussed the part played by mineral matter in making bone and other tissues of the body. The second function of minerals is to aid in regulation of the body processes. For example, iron is needed in the red corpuscles of the blood to carry oxygen to the different parts of the body. Mineral matter is needed in the fluids of the body so that digestion, absorptions and use of foods in the body may be properly carried on. Mineral matter is also required by the various glands for secretion of the digestive and other fluids.

The best sources of supply for this mineral matter are milk and its products, eggs, fruits, vegetables and grain products in which the outer bran coats have been retained. The mineral matter in grain is mostly located in these outer coats.

Milk is the richest food in lime. It is also a valuable source of phosphorus. It does not contain much iron, but the iron that is present in milk is in a form unusually well used in the body.

Egg yolk is also rich in mineral, especially iron. This is one reason why milk and eggs are used so largely in building up anemic or tubercular persons and those suffering from other tissue destroying diseases. The fat and the protein in milk and eggs are also valuable in feeding such people.

Fruits and vegetables are an excellent source of supply of mineral matter. Spinach, like egg yolk, is rich in iron.

No two fruits or vegetables have the same kind of combination or amounts of mineral matter. But by using a generous amount and variety of fruits and vegetables (fresh, canned and dried) in the diet each day, together with eggs, and generous amounts of milk and milk products, you can be sure of getting a sufficient amount of the right kind of mineral matter to meet the body needs.

The next article will discuss the protective substances, which are the so-called vitamins.

THE STORY HOUR

Stories of when Abraham Lincoln was a boy, of Betsy Ross and the first American flag, of how men fought for independence in 1776, stories embodying all that is finest in American traditions and ideals are being told in the children's rooms of the public libraries thruout the country. Such teaching makes future good citizens. This is part of the Americanization work of the American Library Association now engaged in raising two million dollars for the extension of library service. The public libraries also are a powerful agency for reaching adults newly come to this country and teaching them thru books the principles and ideals for which America stands.

ODDS AND ENDS

If a break comes in towels, napkins, etc., darn on sewing machine by stitching back and forth with a fine thread. When pressed the darn will be hardly visible. Make small fringed doilies out of the borders of wornout tablecloths. The border is usually strong enough to last a good while yet in the form of doilies. Use the best of the tablecloth middles to make small guest towels, common napkins, etc. Then double the most worn portions and stitch the edges together, and get some good bread cloths, that will do you considerable service.

Rubbers usually break out first at the heels. Make some sandals of them but cutting off the heels, leaving enough of the top of the heel to form the heel strap of the sandal.

Next time you go to town get 25 cents worth of odds and ends of meat, take it home and simmer it until tender, and you will find it delicious for hash, chopped meat on toast, crouquettes. Add an onion or any other bits of vegetables, all run thru the food chopper, some sprigs of celery, parsley, etc., to the broth in which the meat was cooked and get an appetizing soup.

A delicious ice cream is made by extending ½ pint of cream with half its bulk of whole milk, and whipping until stiff. Then mash any preferred fruit, strawberries now, or you can use canned fruit juice, and a syrup made of cup of sugar and 1 cup of water boiled together three minutes and poured over 1 teaspoonful of soaked gelatin. Put into a mold and fill up with whipped cream sweetened and flavored to suit taste. Baking powder cans may be used for the molds. Pack in crushed ice and salt in the bottom, let stand three hours, and tip out carefully.

Cut open old stockings, fold them the short way, and cut toward the center in inch strips. When a number have been prepared in this way, roll them tightly around an old broom handle, tie on firmly and you have a good floor duster at no cost.

Stitch together two heavy long stocking legs, which have been cut open, and make a good oven cloth which will not show dirt, and is easily washed. Cut short stockings open, fold several in squares, and use for the inside of ironing holders.

Old soft cotton makes good glass wiping cloths. In my estimation ordinary crepe cloth (cotton) makes better glass toweling than the material usually sold for this purpose.

Cover your kitchen table with linoleum in a small figure and light color, cut to fit the table exactly. It washes easily, always looks neat, and many cooking preparations can be done on it that cannot be done on ordinary oilcloth.

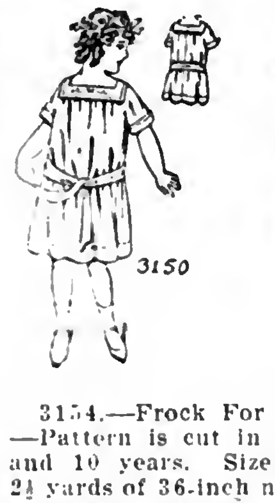
Save remnants of new matting and least worn parts of old matting, ravel out the ends about two inches, and tie in knots to prevent fraying, and make some handy rugs to use in various places.

Buy concentrated ammonia from the druggist, and per one pint add 6 pints water, and get the ordinary "household ammonia" at much less cost.—Mrs. Florence Spring.

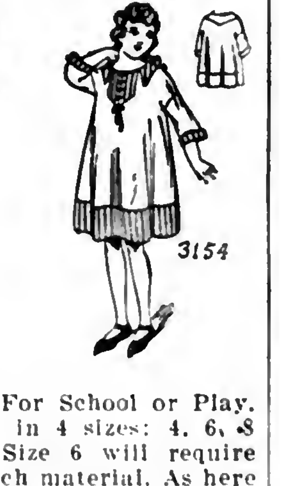
PENNSYLVANIA FARMER PATTERNS

Give figures and letters of each pattern exactly as printed at beginning of each description or we will not be responsible for correct fitting of orders. Give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261 S. Third Street, Philadelphia, Pa.

3150.—A Simple Style. Pattern comes in 4 sizes: 4, 6, 8 and 10 years. Pongee in natural shade with embroidery in bright colors; gingham, lawn voile, poplin, repp and challie are good materials. An 8-year size will require 3⅞ yards of 27-inch material. Pattern, 10 cents.



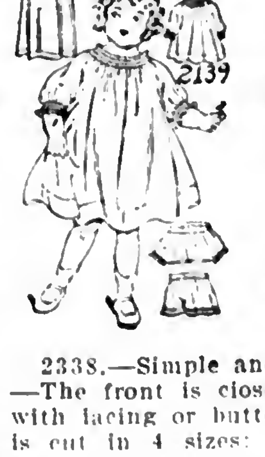
3150



3154

3154.—Frock For School or Play. —Pattern is cut in 4 sizes: 4, 6, 8 and 10 years. Size 6 will require 2¼ yards of 36-inch material. As here illustrated, striped seersucker and chambray were used. Pattern, 10 cents.

2139.—First Set of Short Clothes. —The dress is in bishop style, with a comfortable raglan sleeve. The slip fastens on the shoulder, a style especially good for young children. The drawers may be in knickerbocker style or with straight lower edge and tucks. The pattern is cut in 5 sizes: 1, 2, 3, 4 and 5 years. The dress will require 2¼ yards of 36-inch material; slip 1⅛ yard; drawers, 1⅛ yard for a 4-year size. Pattern, 10 cents.



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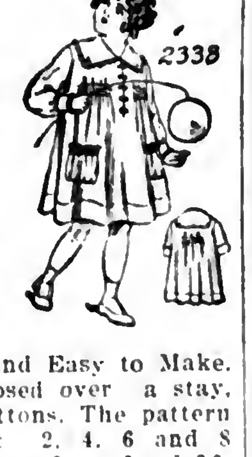

2338

2338.—Simple and Easy to Make. —The front is closed over a stay, with lacing or buttons. The pattern is cut in 4 sizes: 2, 4, 6 and 8 years. Size 6 requires 3 yards of 36-inch material. Pattern, 10 cents.

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THE MOCKER

By HAPSBURG LIEBE

For two weeks Dickie Singleton had laid upstairs in the shaking grip of the South's greatest curse, malarial fever. He had borne it well, considering that he was barely 7, tho it was melon time—to say nothing of the fishing and the butterfly netting! But there was a bright side to this thing of being sick. Grandfather Singleton came up to see him frequently; his mother was the very essence of goodness and kindness; his Aunt Miriam stayed in his room and told stories nearly all the time; and his father came home from Columbia every three days with toys and story books for him. In the big elm that stood just outside his window a mockingbird kept the air sweet with its lovely singing, both day and night—a mockingbird singing at midnight when all else is still, is a thing to move even a man's soul. It wasn't so bad, being sick!

Some unusual thing had happened earlier in the morning, Dickie knew, because he had heard his grandfather, the major, raise his voice in hottest anger. It had occurred in the library downstairs, directly under Dickie's room, and he had heard several words quite distinctly. When Aunt Miriam came back, he would ask her about it, he would.

Aunt Miriam must have known that he wanted her; anyway, she came right upstairs just as soon as Dickie began to wish real hard for her. And, goodness alive! she was crying—or trying not to cry, which was as bad, or worse! Dickie knew Aunt Miriam wouldn't cry without a good reason, and it worried him.

"Did the doctor say I'll never get well?" he asked plaintively.

* * *

Miriam Singleton sat down on the edge of the bed, put a trembling hand on her much loved little nephew's forehead. It wasn't so hot. Then she wiped her very blue eyes with a corner of her daintily embroidered apron.

"Why no, Dickie boy!" she exclaimed, and she was smiling now. But it was a sad smile; it had in it more of tears than of mirth. "What made you ask me such a question as that, Dickie boy?"

"Never mind, Aunt Mirum," quickly. "I want to ask some more things. Will you tell me?"

"I—that is, yes; of course, sweetheart!"

Dickie crooked a pale little finger under his young aunts pretty nose.

"Now, Aunt Mirum," he laughed weakly, "I ain't your sweetheart! * * * But I believe Mr. Reeve is," he went on mischievously. "Say, what does he do, and where does he live?"

Had the boy been older he might have read the flush that mounted to Miriam's smooth, round cheeks. She answered him readily:

"He lives in the North—in Boston, I believe; he is a naturalist, or something like that—he studies the things that live in the woods and swamps, the birds and the flowers you know. Don't you remember his bringing you a hawk's wing?"

Dickie nodded his head wisely, just as if he had understood it all before his informer had finished speaking.

"I've got another question to ask, Aunt Mirum," he said.

"What is it, Dickie boy?"

"Why was grandfather talking so loud—down in the liberry this morning?"

Miriam's lips tightened; then she spoke:

"Perhaps he was a little angry—at—some one."

Dickie was thoughtfully silent for a moment, after which he asked quite pointedly:

"What is a 'unspeakable Yank?"

Miriam sat up straight and her lips tightened again. She did not answer. Dickie was piqued.

"I said, what kind of a thing is a 'unspeakable Yank?'" he demanded.

"Who did you ever hear say such a thing? It must be—er—foreign language, I think," said Miriam evasively.

"Grandfather said it," muttered Dickie. "Do you know when he was doin' that awful loud talkin' down in the liberry? He said 'unspeakable Yank' three times, Aunt Mirum. * * * Say, Mr. Reeve was here this mornin', 'cause I heard him laugh out in the road when he came. What did he come for, Aunt Mirum—did he bring me another Hawk's wing?"

"I think you'd better not talk so much, baby," gently smiled Miriam; "it isn't good for you."

She rose hurriedly, her face averted, and almost ran to her room across the hallway.

"'Baby!'" sniffed Dickie when she had one. "'Baby' nothin'! I ain't a baby!"

He crept out of bed, holding to things because of his weakness, and went to his Aunt Miriam's room. He wondered at that which he saw there. Miriam lay across her bed with her face buried in a pillow, and her shoulders were shaking violently.

"It's you that's a baby!" chided Dickie. "What you bawlin' about, Aunt Mirum?"

Miriam sat up, wiped the tears from her eyes and looked squarely at her nephew.

"You can't understand, Dickie boy," she said thickly. Then she carried him back to his room.

She had just spread a thin coverlet over him when Major Singleton entered. He didn't seem quite like he usually seemed, Dickie thought. His gray hair was rumpled and his imperial was not so pointed as it had always been before. And, too, his face was red and his eyes were hard and as sharp as needles.

* * *

How's the boy this morning?" he asked cheerily as ever, taking a chair beside Dickie's bed. "Any better?"

"I guess so," answered Dickie. 'Say, grandfather, do you talk foreign langwidges?"

The major forced a little laugh.

"What a question, Dickie! What do you know about foreign languages? But to answer your question. Just a little, I believe. A smattering of French and Spanish, my boy."

"What kind of a thing is a 'unspeakable Yank!'" asked Dickie.

"What!"

"I said what is a 'unspeakable Yank?'"

The major rose, set his jaws and started out of the room with his head held high.

"Father!" cried Miriam painfully, "Dickie is sick, you know!"

The major faced about like a soldier. "I believe, Dickie," he said in a low voice, "that I'd exclude those words from my vocabulary. That is, don't say them."

"You said 'em!" flashed the boy.

"Let's don't talk of it any more," smiled the old southerner. "I'm going to Columbia this afternoon; what shall I bring you?"

"Nothin'," readily. "But if you see Mr. Reeve, I'd be glad if you'd tell him to come to see me. He's goin' to bring a pet squirrel for me, he said; one that's too little to bite very hard. He's a fine fellow, grandfather; ain't he, Aunt Mirum?"

"He is!" agreed Miriam, somehow defiantly.

Major Singleton's eyes sought those of his daughter. He saw then that there were tear stains on Miriam's face. He held out his arms to her and Miriam went into them and hid her face against his broad, gaunt shoulder.

"My baby girl," he said feelingly, "you cannot see these things as I see them—and I am sure that I see them in the true light. It pains me to refuse you—that; but I really must. When you're older maybe you'll understand and forgive me. He may be a worthy young fellow"—here he freed his daughter and stepped back a pace—"but his people killed my father, and burned my mother's house to the ground, when Sherman laid his cyclone's path from Atlanta to the sea."

Then, with his head erect, he turned and went downstairs.

"I know!" cried Dickie when the sound of his grandsire's footsteps had died away. "He wouldn't let you marry Mr. Reeve!"

"Listen!" said Miriam, turning an ear toward the window, and Dickie listened.

In the branches of the great elm just outside Dickie's mockingbird was singing its everchanging song. Now the silver throat warbled like an oriole, now is twittered like a wren; one moment it imitated the call of the swamp sparrow, the next it gave the mating call of the partridge.

Yes, Dickie listened. To him there had never been a greater or more lasting delight than to listen to the bird that loves the sound of its own voice more than anything else.

The passing of another week found Dickie much worse. Moreover, he was fretting. Mr. Reeve had failed to come to see him, and naturally the small pet squirrel had not put in its appearance. Mr. Reeve, in fact, had not been there since that queer morning when Dickie had heard his grandfather talking so loud in the library. Dickie wondered if that hadn't had something to do with Mr. Reeve's staying away. He questioned his favorite aunt many times about it, but her answers were never satisfactory.

But the greatest sorrow that came to the little sick boy was the sudden disappearance of the mocking bird that had sung all summer, day and night, in the big elm that stood close to his window. He remarked much upon it, and it grew to be a factor in his getting well. The major had his plantation negroes catch several of the feathered songsters in traps; these were either put in cages or tied in the tree—but they wouldn't sing.

One night when Miriam was sitting up with the boy there came from a point just beyond the window ledge the very cleverest imitation of the call of a swamp sparrow.

"Tree-loo! Tree-loo! Tree-loo!"

Dickie was wide awake in an instant; the sweet sound was a balm to his tired little heart. He saw Miriam flush, rise and go to the window. She leaned out, and then there was a funny little smacking sound! Then she drew back and put on the coverlet at Dickie's hand a weeny, teeny squirrel, with the very cutest tail in all the world!

* * *

"Goodness alive!" said Dickie weakly. "Where did you get it—oh, ain't it fine! Aunt Mirum, where did you get it?"

"It came in at the window, Dickie boy," answered Miriam; and he saw that her face was pink. "It is fine, isn't it?"

"I wonder if Mr. Reeve didn't have a hand in this?" muttered Dickie.

"Mr. Reeves!"

"Sure, Aunt Mirum—say, did you hear the mocker?"

"Yes," she smiled, "I heard it."

"Will it sing again?" hopefully.

"Perhaps. But you've got the squirrel now, and I think I'd try to go to sleep," said Miriam.

With the baby squirrel curled into a fuzzy ball against his pale little neck, Dickie did go to sleep. Therefore he did not see that his Aunt Miriam went back to the window and sat there for an hour whispering with some one who clung to one of the elm's biggest branches.

The presence of the little gray pet was explained satisfactorily the next day. Trust a woman for such things. Miriam had had some one catch the squirrel for Dickie—and, of course, she didn't say just who the "some one" was.

On the following night there came the same almost perfect call of the swamp sparrow—and Dickie's mother was in the room! This Miriam regarded as extremely unfortunate; but when she confessed everything to her sister-in-law she found a ready ally. When Miriam went to the window that time the smacks were not in evidence; but a pair of the darlingest baby rabbits found their way to Dickie's hands.

Within the next few nights there came a whole collection of birds' eggs, a collection of many-hued wings, and a real, live young heron—and such a galky-walky thing that young heron was! These things pleased the sick boy very much, but there was still one thing lacking, it was the song of the mocking bird. Then he tired of the other things—and also he tired of story books and stories.

And so it came about that Dickie went down and down until he hovered between life and death. The least fretting, the doctor said, might turn the balance fatally for Dickie. The crisis was on. And then Dickie began to fret—he wanted the mocking bird that had deserted him.

The bird song came at midnight. The boy lay tossing and worrying, while his father, his mother, his grandfather and his Aunt Miriam—faithful Miriam!—watched anxiously and talked frequently with the ever-present doctor. There came from the tree outside a serious of liquid notes that were so near perfect that they deceived even Major Singleton—

"Tree—loo! Tree—loo! Tree—loo! Ah-ree! Ah-ree! Ah-ree! Pr—r—r! Pr—r—r! Pr—r—r Twit! Twit! Loory! Loory! Loory!

Dickie opened his fevered eyes immediately.

"There's my mocker!" he said weakly but very joyfully.

* * *

The imitation went on and on. The watchers were still. There was gladness in each of their hearts, a gladness so great that words may not describe it. The tension was broken, and there was hope. Dickie lay quiet, drinking in the sounds hungrily. On and on went the song.

There was the piping whistle of the field sparrow, the "Tcheer-tcheer" of the goldfinch, the liquid "Bob-o-link" of the bobolink, the "Cack-cack" of the magpie, the "Tseu-tseer" of the meadowlark, the "Pechere" of the kingbird, the "Quit-u" of the flicker, the "Wichity-wichity-witch" of the yellowthroat, the "Chee-wee" of the yellow warbler, the "Chip-churr" of the scarlet tanager, the catbird's whole medley—and this is less than half of it.

An hour later Dickie's fever was broken somewhat, and he was sleeping.

Several days went by, and the boy continued to improve. To some of them it seemed strange that the mocking bird sang only at night. There was no new nest in the tree. The major said that was the reason, probably.

Dickie lay content thru the daylight hours; he knew that the coming of darkness would bring the song he loved.

Better and better grew Dickie, and his recovery was only a matter of days. The gladness of the old major's face was duplicated on the face of every other person on that wide plantation. Some how, tho, the old soldier seemed the happiest of them all

Dickie had not forgotten Reeve. He couldn't have forgotten Reeve if he had wished, for the rabbits and the squirrel and all the other things were there to remind him of the northerner. One afternoon he asked his grandfather:

"Reckon Aunt Mirum will ever marry him?"

"Marry who?" asked Major Singleton tugging suspiciously at his gray and fully pointed imperial.

"Mr. Reeve."

"Reeve," snorted the major—"[illegible]!"

* * *

Again they sat around Dickie's bedside, watching him while he smiled his boyish smile—for the song of the mockingbird was coming steadily and sweetly from somewhere among the branches of the big elm that stood outside in the darkness.

Suddenly Major Singleton rose.

"Dickie boy," said he, "have you ever noticed that this is the only mocker you ever heard that has never given us the note of the female partridge—have you ever noticed it?"

The call of the female partridge, you know, is very, very difficult to imitate correctly.

"I hadn't," answered Dickie.

"It's very light, on account of the full moon," smiled the major. "I think I'll go out and try to catch a glimpse of that blessed bird."

He went downstairs, walked softly out on the veranda, and turned his eyes upward. He saw the dark figure of a man in the tree! With a muttered exclamation he rushed into the house and came back a moment later with a loaded two-barreled shotgun.

"Come down from there!" he said in a smothered roar. "If you stop that bird's singing I'll shoot you full of holes. Come down from there, sir, if you value your life."

The song ceased, and the major shook with anger. Slowly the dark figure climbed down to the ground and straightened before the irate old southerner.

"I'm down, sir," it said in a low voice.

"Reeve!" cried Major Singleton.

"Yes, Reeve," quietly said the Yankee.

The major straightened proudly. He held the shotgun at a port.

"I told you never to come here again, didn't I?" he snapped

"You did," argued Reeve. "I beg your forgiveness, sir. Under the circumstances, however, I——"

Miriam Singleton ran up to them.

"Father," she broke in, "Don't you understand? He—he's the bird!"

The old southerner dropped the butt of his shotgun to the ground beside his foot.

"What—what's that, Miriam?"

"I, sir, am the bird," explained Reeve, smiling. "Being a naturalist, I am familiar with the songs of most American birds; and, as I am also a good imitator, except of the call of the female partridge, I volunteered to play the role of entertainer for the little boy. That's all. I believe, major."

Major Singleton was clearly at a loss for something to say. He knew just what Reeve had done. With a hasty swing of his arms he threw his shotgun aside and held out his hand.

Reeve shook the hand hard, very hard.

"My boy," said the major rather tremulously, "you're the only Yank that ever fooled me on my own ground in all my life. So I reckon you're—er, ahem!"

He turned and walked quietly away.

And the South went into the arms of the North.

LITTLE TOMMY'S POLITENESS

Little Tommy was polite
And always knew his place;
He never yelled or whistled while
His pa was saying grace.

He said "Excuse me" when he pushed
His sister down the stairs,
And begged his mother's parden when
He added to her cares.

When visitors got ready to
Depart he always rose;
He never used his napkin when
He wished to wipe his nose.

And if he dumped the baby from
The hammock or upset
Its carriage he would hasten to
Express sincere regret.

He bought a cannon cracker which
Was big and red and round,
And blew his brother up and tore
A deep hole in the ground.

H saw the fragments float away
And sadly sighed and then
Politely called: "Excuse me, please—
It won't occur again."—S. E. Kiser

IN MAY

By Betty G. Palmer

Humming bees
Rustling trees
Gaudy butterflies;
Golden hours
Nodding flow'rs
Wondrous turquoise skies.
On the wing
Birdlings sing
Of this lovely day;
You will know
It is so
When I cry, "'Tis May!"

—Everyland

—"and from there we went to Japan"

Talk about adventures!

Men in the Navy come home with the kind of experiences that most chaps read of only in the books.

Here's your chance!

Uncle Sam has, as you know, a big Navy and gives red-blooded young fellows like you an opportunity to step aboard and "shove off".

What will you get out of it?

Just this:

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The chance for good honest work on shipboard—the kind of work that teaches you something real: the kind of work that puts beef on your shoulders and hair on your chest.

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You will have the kind of comradeship in travel that sailors know.

You will have regular pay; over and above your meals, lodging and your first uniform outfit—good stuff all of it.

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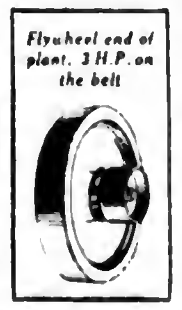

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YORK, PA.

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For instance, when it comes to the very important matter of cultivation, you are not going to endanger your crop by using a cheap, flimsy cultivator that misses many weeds and, because of its loose, bored bearings, wobbles so that it dodges into a corn hill every now and then, uprooting the young stalks.

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White Leghorns	$20.00	$10.00	$6.00	Black Leghorns	$22.00	$11.00	$6.00
Barred Rocks	25.00	12.50	7.00	R. I. Reds	26.00	13.00	7.00
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VANDEWEGHE BROTHERS
158 West 27th Street, New York City
References—Dun's and Bradstreet's

A YEAR'S EXPERIENCE WITH SWINE

In the fall of 1918 we bought a small herd of shoats to eat a lot of soft corn we had on hand. They were of no particular breeding, just 'pigs." When we sold them in the spring, there were three sows somewhat smaller than the rest of the herd. These we kept, rather than accept the price they commanded, to use up the household garbage and a small amount of skimmilk and buttermilk from the family herd of three cows.

These young sows did so well, now that they had a fair show, that we decided to breed them for fall pigs. Accordingly we bred them to a "half breed" Berkshire boar. This was mistake number one and was not committed thru ignorance but more because the boar was handy; a live-stock dealer put him in for his keep.

The young pigs came late in September. Twenty-five in all and as lively as the proverbial crickets. Three of the weaker ones died in a few days, however.

Fine Mule on Luzerne County Farm

One of the sows had eleven pigs and was quite rough with them so my "better half" raised part of this litter on a bottle, feeding them unmodified cows milk about six times a day. These bottle-fed pigs did as well as the rest.

The pigs were weaned about eight weeks old and the males were castrated about a week later. It would have been best to have castrated them when they were about a month old; then they would have been entirely recovered from the effects of the operation before weaning, which is in a way a shock to the young pig.

Another mistake we made was in feeding too much corn to the growing pigs and not enough of the protein carriers. We have since corrected this but it is impossible to entirely cover up the results of this mistake. Intestinal worms also took their toll, as we lost five pigs from the ravages of these endoparasites. Two of the young pigs we killed for roasters and there was no mistake there.

The net results of this short, but very illuminating acquaintance with swine has been fairly satisfactory, however, for while it has not been very profitable in actual dollars and cents, they have paid their way and we are content to take our profit in knowledge gained and they have helped the manure pile.

Out of our experience we have formulated a creed for our future guidance, about as follows:

That we have faith in the hog as an economical converter of raw materials into a finished product and as a conserver of farm fertility and that, rightly bred and fed, will be a source of pleasure and profit.

We believe every hog has a right to be well born and to this end we will choose the herd sire with extreme care, with the sole aim of continual improvement in the farm herd.

We believe in purebred stock and will replace the scrubs with purebreds.

We will let the hogs balance their own ration by the use of self-feeders.

We believe in the vaccination of hogs against the cholera, and will practise what we believe.

All runts will be disposed of at birth.

All concrete sleeping floors will be overlaid with planking to guard against rheumatism.—H. A. Caum.

BREEDING ASSOCIATION FORMED

Twenty-four farmers of Worth Township Butler County, Pa., have organized a Pure Bred Swine Breeders' Association. The prime object of this organization is the breeding of pure bred Durocs and Berkshires upon a community plan which will insure first class stock at a minimum cost. Advertising will be done by pooling the expenses for this purpose. Pure bred stock when sold must pass the inspection of a committee selected for this purpose, and no pure breds will be sold at pork prices. Another important function of this association will be the marketing of fat hogs in car lots.

Dr. H. H. Havner, of the Animal Husbandry Extension Department, State College, Penna., was present at the meeting when the constitution and by-laws of the association were adopted. Dr. Havner will select the breeding stock for the farmers who have agreed to purchase individuals from the best herds in the state. The Worth Township Association will be followed closely because of its co-operative marketing, and inspection of breeding stock sold under the name of the association.

The officers of the association are: A president, two vice-presidents, one for each breed, and a secretary for each breed.—Robert C. Wiggins, County Agent.

NO HORSELESS CITY

The effort to make Denver a horseless city met defeat recently and as far as sentiment was concerned even the author of the bill was anxious to see it defeated. The big blizzard of April was largely responsible. Altho both horses and tractors were used in clearing the snow, the tractors would have been useless if the horses had not first opened the way.

In honor of a visit to his plant by the governor of the state, an automobile manufacturer once had a complete car assembled in something like seven minutes. Some weeks after this feat was heralded in the daily papers the phone at the factory rang vigorously.

"Is it true that you assembled a car in seven minutes at your factory?" the voice asked.

"Yes," came the replied. "Why?"

"Oh, nothing," said the calm inquirer, "only I've got the car."

PIGHOOD COUNTS MOST

In the care of small pigs, the most critical period is between the time of birth and weaning, as it is during this time that the cheapest and most rapid gains are made.

Not only is the care of the pigs up to this time important, but the care of the sow before and after farrowing is worthy of the most careful consideration. The sow should receive no food on the day that the pigs are farrowed. Warm water may be given her, but since cold water checks the circulation, special care should be taken to see that the sow gets none.

Feed Lighty at First

On the day after farrowing, a cooling feed is necessary. The sow can then be fed with wheat shorts in slop. She should be fed lightly however until she has had a chance to adjust her system. After the pigs are about a week old, the sow can be fed all that she can eat.

Exercise is important for the development of small pigs. If their development is fast and they do not get sufficient exercise, a disease affecting the heart called thumps, results. It is prevented and can be cured, except in severe cases, thru exercise.

Farly Gain, Cheap Gain

After the pigs get to be about two or three weeks old, the sow can be fed corn in addition to shorts. Tankage can be fed to good advantage at this time. About one-eighth as much tankage as grain should be fed. The pigs should be allowed to eat grain as soon as they want it. At this stage they will make a big gain, and, in the case of pigs, the earliest gain is the cheapest gain. The gain that pigs make just before weaning time is especially good.

The pigs should be weaned at the age of two or three months. At this time, or a little later, the pigs should be vaccinated against hog cholera and treated for worms.

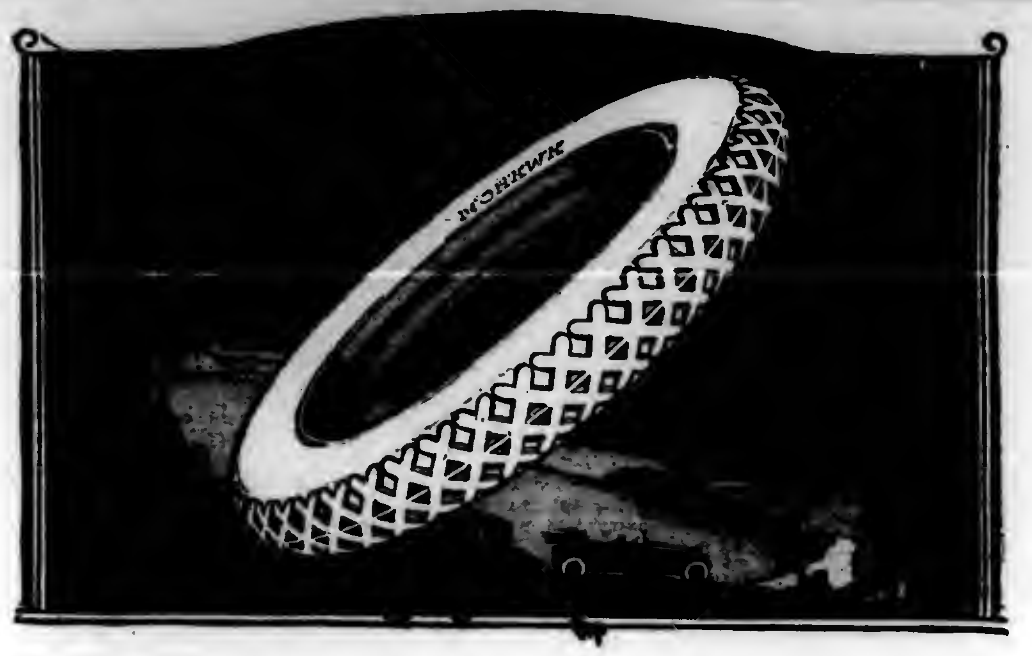
Santonin For Worms

Worms are always present in pens where hogs are raised for a year or more. Owing to the difficulty of changing lots it is almost impossible to combat worms in this way. A drug is therefore necessary. The only drug that is effective against worms is santonin. This is a product made from the German or Levant worm seed. The most approved method of administering it is by means of capsules. Each hog is given one capsule, and is thus insured of getting a full dose. The objection to feeding the drug in with the feed is that the hogs do not get a full dose.

Scours Another Difficulty

Scours are one of the greatest difficulties to be encountered. There are two factors that cause this disease. The first is over feeding the sow when the pigs are too small to consume all of the milk produced. This makes the sow feverish, and causes the pigs to get the diarrhea. The second cause is damp bedding. The pigs become cold and therefore susceptible to the disease.

In order to get the best results they should be on pasture when about two or three weeks old. It is then advisable not to let sows farrow until the alfalfa has grown enough to afford sufficient pasturage for the sow and her litter



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Then, doubly gratifying is the fact that this next Mohawk does as well—or even better.

In short, he finds that Mohawks give him the sort of treatment he likes from anyone with whom he does business—fair and square—never disappointing—honest and dependable.

And we can offer conclusive proof that this is not an exceptional case, but the universal experience of Mohawk users.

Records kept by our dealers show that 85 out of every 100 who buy their first Mohawk Tires become permanent users. Certainly this is as close to one hundred per cent re-sales as any product can show.

The explanation is simple: Mohawks always have been, and always will be, carefully made by hand, from the purest rubber and the strongest fabric produced.

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As a Human Liniment and Antiseptic for external use it is invaluable.

Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price $1.75 per bottle. Sold by druggists, or sent by parcel post, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address
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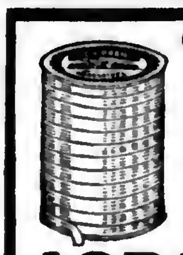

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TESTIMONIAL

J. M. Snead, Scottsburg, Va., wrote Feb. 17, 1920: "I tried that package of Cal-Sino. It is just the thing for pigs. I told many of my friends how good it was. It is just what you said. I enclose money for another package."

THE CAL-SINO CO., Inc., Dept. H-7, Baltimore, Md.

Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., May 3, 1920

High prices continue to prevail in the potato market, and under continued light supplies they are again showing an advance. Pennsylvania, New York and Maine grown potatoes are now selling at mostly $7.50@7.75 per cwt. for fancy stock, with poor potatoes selling around $7 per cwt. Many of the Maine and New York State potatoes are coming in various size sacks, and these are selling at $8.75@9 for 120-pound sacks, $11.50 for 150 pound sacks and $12@12.50 for 165 pound sacks. Some of the receivers were asking a little higher than the above quotations on extra fancy potatoes, and while a few sales may have been made a little higher, they were hardly of sufficient volume to quote at this time.

There are indications that higher prices will prevail as advices from various shipping sections state that the remaining supplies are light and there are but few potatoes left for market. The southern crop of new potatoes has started but so far shipments have been very light. They should begin to show some increase from now on but it will be some time before they are in sufficient supply to relieve the market to any great extent.

Sweet potatoes continue in light supply and are ruling very firm at $2.60@3.25 per hamper for No. 1s, with No. 2s at $1.25@1.50. The New Jersey ⅝ baskets are higher on strictly fancy No. 1s, which are selling at $2@2.40 per basket with mediums at $1.25@1.75, and No. 2s at 85c@$1.25.

Vegetables

The nearby crop of asparagus which made its appearance last week is now showing up quite freely and prices are lower. At the same time good values are prevailing as jumbo asparagus is now selling at 60@65c per bunch, fancy at 40@55c, prime at 30@40c, and culls at 20@25c per bunch. Southern asparagus is also lower under the heavier offerings of nearby and selling from $2@6.50 per dozen bunches. Quite a little asparagus is also coming from Delaware and Maryland which sells generally from 20@60c per bunch as to quality. There were a few western artichokes on our market this morning which sold at $4.50@5.50 per box. As we reported in these columns last week beans are increasing in supply and prices gradually lowering, and sales at this time range from $2.50@6 per hamper on green and $2.50@5 per hamper on wax.

The first new beets of the season from the Norfolk section made their appearance this morning and sold at 18c per bunch. Old beets from nearby Pennsylvania and New Jersey are now selling around $3@3.75 per barrel, but very few of them are needed to supply the demand, as the trade wants the new beets. Fancy cabbage appears to be doing better, as fancy barrel crates from southern points sold this morning at $5.50@6 per crate, altho there was still some very poor stock about which sold at much lower than these figures. Cabbage in hampers sold all the way from $1 on the poor up to $3 for the fancy. Old carrots are bringing extremely high prices.

There were three cars of old carrots this morning, two cars being barreled carrots which sold at $7.50@8.50 per barrel, and one car was in 100 pound sacks which were being sold at $5@5.25 per sack. Celery is in light supply and most of it is now rather poor. Strictly fancy celery sells readily around $5 per crate or a little better, while poor celery is hard to sell at $1.50@3 per crate. Cucumbers are a little more plentiful than they were last week, and prices are a little lower, fancy cucumbers selling at this writing at $4@6 per hamper and choice and culls at $2.50@4 per hamper.

Egg plants continue very scarce but most of those that do come are poor, and prices are showing the wide range of $2.50@7 per hamper. Hothouse cucumbers from New Jersey points are meeting a good demand at $1.50@2.25 per dozen. Kale from the Norfolk section has been in light supply and today sales ranged from $2@2.75 per barrel mostly, with a little up to $3 per barrel. Most of the lettuce now on the market is coming from South Carolina and North Carolina, which is selling at $1.50@4 per hamper as to quality. There is still a little from California which sold here this morning at $4@7 per box. Pennsylvania hot bed lettuce is also getting quite plentiful and this morning sales were made from $5@7.50 per barrel.

Lima beans are very scarce and when showing fancy quality readily bring around $8 per hamper, but there has been some very poor ones here which sold at much less than these prices. Mushrooms continue firm at mostly $1.25@1.75 per 3 pound basket with an occasional lot bringing $2 per basket. The old crop of onions is nearly used up, and the new crop from Texas have made their appearance, there being about seven cars of new onions here this morning which sold at $4.25@4.50 per bushel crate for No 1s with No. 2s or boilers at $3.25@3.75. One car of old onions brought the fine price of $9.50@10 per 100 pound sack. Parsley is in moderate supply and selling around $5@8 per barrel as to condition.

Peas were much more plentiful today and prices are lower, South Carolina selling at $1.50@4 per hamper as to quality while a car from Mississippi sold at $4@4.25 per hamper, and some from California sold at $4@7 per drum as to condition some being extremely poor. Peppers continue very scarce but they are showing a wide range in quality and condition, and prices show the extremely wide range of $2.50@10 per crate. Rhubarb from nearby Pennsylvania and New Jersey points is now quite plentiful and selling from 3@6c per bunch as to condition and size of the rhubarb. Radishes from Norfolk are also quite plentiful, most of them are poor making the wide range of 50c@$2 per hamper. Some New Jersey and Pennsylvania hot bed radishes are selling at 4@4½c per bunch.

Romaine from southern points is moving rather slowly at $1@2 per hamper. [illegible] beets from New Jersey and Pennsylvania points are practically unchanged $1.25@2 per hundred bunches mostly around $1.50. Since our last week's report Norfolk spinach has fallen off very much in [illegible] and prices are therefore much higher [illegible] being made at $3.25@5 per barrel. [illegible]

nearby yellow turnips are very scarce, and when here sell around $1.25@1.50 per ⅝ basket, but some poor and sprouted are hard to move at low and irregular values. Watercress is much more plentiful and selling generally at 3@4c per bunch.

Fruits

As the season on old apples advances and supplies become scarcer, prices have been gradually advancing until at this writing very high prices are prevailing. This morning there were 8 cars of barrel apples here. Baldwins sold from $8@11 per barrel and good Ben Davis at $7@10 per barrel, but there were some Ben Davis in very bad order which only brought $5@6 per barrel. Albemarle Pippins sold at $7@9.50 per barrel, and Russets at $6@9.50 per barrel, while some Winesaps sold at $11 per barrel. Several cars of box apples were sold today as follows: Newtowns, $3.60@4.85; Winesaps, $3@5.90; Rome Beauties, $5. N. C. strawberries have made their appearance during the past week. Seven cars were offered this morning at from 25@33c per quart.

Poultry

The decline in live poultry as noted in these columns last week has been followed by a still further decline on nearly all kinds of live poultry with the exception of nearby spring broilers which are firmer and higher. At this writing live fowls are selling at 26@41c per pound, while soft meated roosters for roasting purposes are bringing 44@45c, with staggy roosters at 34@35c and old roosters at 26@28c. Nearby broiling chickens are bringing the very fine price of 70@80c per pound. Ducks are now selling at 30@38c per pound, the White Pekins bringing the top prices while the Muscovys and Indian Runners sell at the within and lowest ranges.

Eggs

The market on eggs has shown but very little change during the past week, with the possible exception that there is a slightly wider difference between the different grades. During the cooler spring months there was only about ½ cent per dozen difference between the nearby current receipts and nearby first grades, and about the same difference between the western firsts and western extra firsts, but as the warmer weather approaches there is always a greater loss in the lower grades and for this reason we find a wider range in price between the grades, so that at this time there is a difference of 1 cent per dozen. Nearby current receipts are now selling at 43c and nearby firsts 44c per dozen. Western firsts are selling at 42½c and western extra firsts at 43½c per dozen. Southern eggs are showing a range of 38@41c per dozen as to quality.

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LANCASTER PRODUCE MARKET

Lancaster, Pa., May 3, 1920

The scarcity of white potatoes became more pronounced here today and with demand steady prices rose to 60 and 70c per half peck, a phenominal figure for such transactions in this county. Eggs commanded from 46 to 48c per dozen. The only drop in price was noted in asparagus which declined from 35c per bunch, last week's figure, to 20c per bunch. The quotations:—

Butter and Eggs.—Creamery butter, 80c per lb.; country butter, 70@75c per lb.; fresh eggs, 46@48c per dozen; duck eggs, 50c per dozen; goose eggs, 6@7c each.

Poultry.—Dressed old chickens, $2.25@2.50 each; dressed young chickens, $1.75@2.10 each. No live fowls offered.

Vegetables.—Spinach, 40c per ½ peck; turnips, 20@25c per ½ peck; potatoes, 60@70c per ½ peck; do., $5@6 per bu.; sweet potatoes, 35c per ½ peck; cabbage, 10@20c per head; cauliflower, 30c per hd.; asparagus, 20c per bunch; lettuce, 15@30c per head; lima beans, 20c per pint; oyster plant, 10c per bunch.

Fruit.—Apples, 30@40c per ½ peck.

BALTIMORE PRODUCE

Baltimore, Md., May 3, 1920

Butter. — Creamery, Western separator, extras, 72@73c; do., firsts, 71@72c; Western prints, ½ pound extras, 73@74c; do., firsts, 72@73c; 1-pound, extras, 73@74c; do., firsts, 72@73c; nearby creamery; extras, 69@70c; do., firsts, 67@78c; dairy prints, Maryland, Pennsylvania and Virginia, extras, 45@46c; do., firsts, 43@44c; store-packed, firsts, 39@40c; rolls, Maryland and Pennsylvania, extras, 43@44c.

Eggs.—Western Maryland and Pennsylvania, nearby, firsts, 41c; Eastern Shore, Maryland and Virginia, firsts, 41c; Western (Ohio), firsts, 41c; West Virginia, firsts, 40c, Southern, (North Carolina), firsts, 39c.

Live Poultry.—Chickens, large, young, smooth, pound, 45@50c; do., winter, under 2 pounds, pound, 55@60c; do., spring, 1 to 1¼ pounds, pound 65@70c; old roosters, pound, 23@25c; do., old hens, over 4 pounds, pound, 42@43c; do., small, pound, 42@43c; do., white Leghorn hens, pound, 41@42c. Ducks.—Muscovy and mongrel, pound, 35@36c; do. white Pekins, pound, 40c; do., puddle, 4 pounds and over, pound, 35c; do., small, poor, pound, 35@36c. Pigeons, old, pair, 30@35c; do., young, pair, 30@35c. Guinea fowl, young, each, $1.

PITTSBURGH PRODUCE

Pittsburgh, Pa., May 3, 1920

Butter.—Prints, 68@68½c; Tubs, 67½@[illegible]; cooking, 58@60c; Ohio, 63@64c.

Cheese.—New York full cream, 34@37c, Ohio, 33@34c; Wisconsin Swiss, 58@60c; Philadelphia cream, $1 per dozen.

Eggs.—Fresh, select 48@49c; at mark, 44@45c. Current receipts, 40@41c; do., candled 43@44c.

Potatoes.—Round $11 per 150 pound sacks. Onion, $10@11 sack. Cabbage, Texas, [illegible] lb. Sweet potatoes, $3@3.50 hamper. Turnips, $2.25@2.50 bushel. Radishes 20@25c doz. Rhubarb 90c@$1.

Fruit.—Apples, $3@5 box. Strawberries, 24 qt. crate, $4.25@7.50.

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PHILADELPHIA LIVESTOCK

Philadelphia, Pa., May 3, 1920

Receipts for the week ending May 1st were as follows:

	Beef Cattle	Sheep & Lambs	Hogs
Totals for week	[illegible]	[illegible]	11,747
Previous week	[illegible]	[illegible]	[illegible]

[illegible] Receipts of calves were 2,711 head against 2,334 head previous week.

Beef Cattle.—There was a better feeling in the market and values generally were well maintained under moderate offerings. We quote: Steers, fair to good, $12@14; common to fair, $10@12; cows, per lb., good to choice, corn, fed, 8½@10c; fair to good, 7@8½c; common to fair, 5@7c; calves, extra to choice, $19.25@20; do., fair to good, $14.50@16.50; do., common, $10.50@13.50; do., heavy and rough, $7@10; Tennessee, $14.50@16.50; other southern, $8@13.

Sheep and Lambs.—Offerings were moderate and the market steady with demand fair for desirable stock. We quote: Sheared sheep, wethers, extra, $13.50@14.25; do. good to choice, $12@13; do., medium, $9@10; do. common, $7@8; ewes, heavy, fat, $9.50@11; lambs, sheared, choice, $18.50@19; do., medium grades, $15.50@16.50; do., culls and common, $11.50@13.50.

Hogs.—The market was firm with prices of western stock slightly higher. Offerings were fairly liberal and demand was fairly active. We quote: Best western, $18; hogs, good, $16@16.50.

City Dressed Stock.—Steers, heifers and cows of desirable quality were in good request and values were well maintained. Lamb and mutton were quiet and prices were slightly easier. Other kinds were generally steady with demand fair. We quote, Steers, 20@24c; heifers, 16@20c; cows, 14@18c; calves, city dressed, choice, 26@28c; calves, country dressed, 23@25c; lambs, spring, choice, 34@38c; sheep, 15@30c; hogs, 24c.

SHORT WEEK-END REVIEW OF FRUITS AND VEGETABLES

(Prices for the period April 23-29 inc.)

Price Trend Continues Irregular

Shortage of strawberries and tomatoes has added to the market values of these commodities, while a more liberal supply of new onions has put prices lower. Apples, potatoes and sweet potatoes showed no changes of importance. Commodities which showed the largest increase in shipments were onions, cabbage, lettuce, apples and citrus fruits. Old potatoes decreased nearly 200 cars, the only leading commodity to show an important reduction in the movement. Total shipments increased about 2,500 cars, 7,303 cars moving compared with 4,809 the previous week.

Potato Markets Fairly Steady

Northern sacked white varieties showed little change at Minnesota shipping points. Prices ranged $7@7.40 per cwt f. o. b. usual terms with demand light and movement limited. Middlewestern markets became unsettled early in the week and there were some price recessions, however, values held very well and the markets later became slow and dull, ranging $6.65@7.50 sacked per cwt. Carlots bulk round whites in Chicago ranged $7@7.50 closing $7@7.10. New York sacked round whites in Cleveland, Cincinnati, Pittsburgh and Philadelphia were also slightly below last week at $6.65@7.35. Maine Green Mountains bulk per cwt. showed practically no change selling $5.93@6.28 f. o. b. usual terms. This stock sacked in Philadelphia ranged $6.95@7.35 and in Boston at $6.50@6.75. New potatoes were in good demand at Hastings, Florida shipping points, double-headed barrels of Spaulding Rose No. 1 selling around $15 f. o. b. cash track. In Philadelphia and Baltimore this stock ranged $18@20. Movement of new stock was slightly heavier, about 38 cars moving. Old potatoes decreased 184 cars, shipments 1,292 compared with 1,476 the previous week.

New Onions Lower

Yellow Bermudas No. 1 and 2 were in good demand at Laredo, Texas shipping points. Haulings were more than sufficient to meet the demand and prices sagged to a close of $2.25@2.35 f. o. b. usual terms, which was a loss of 50@65c from that of the previous week. Crystal white wax closed 75@85c lower at $2.50@2.65 per standard crate. Haulings were moderate at Asherton, Texas. Some sales were reported at $2@2.30 f. o. b. cash track for No 1 and 2 Yellow Bermudas mixed. New onions were in fair demand in consuming markets, but closed 50c@$2 lower. Yellows mixed No. 1 and 2 showed the greatest decline in Kansas City where prices closed at $3.25@3.50 as compared with $5@5.50. Chicago was 75c@$1 lower at the close at $3.75@4 and St. Louis at $3.50@3.75. Cincinnati and Pittsburgh held above other markets. Cincinnati ranging $4.25@4.50 per standard crate and Pittsburgh around $6. Texas onion shipments increased rapidly 889 cars moving compared with 474 last week, an increase of more than 400 cars.

Strawberry Markets Advance

During the greater part of the week haulings were light at Louisiana shipping points. The demand was brisk and movement active. Price advances were moderate.

PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., May 3, 1920

Baled Hay and Straw.—Receipts, 132 tons of hay and four cars of straw. In fair demand and firm under light offerings. Timothy hay, No. 1, none here; No. 2, $42@43; No. 3, $39@40; sample, $35@37; no grade, $30@32. Clover mixed hay, light mixed, $42@43; No. 1 mixed, $40.50@41. Straw, No. 1, straight rye, $22. No. 2 do., $20@21; No. 1 tangled rye, $19@19.50; No. 2 do., $18@18.50; No. 1 wheat straw, $17.50@18; No. 2 do., $16.50@17.

Bran.—Offerings very light and market firm. Soft winter bran, western, in 100-lb. sacks, per ton, $62.50@63; spring bran, in 100-lb. sacks, $62@62.50.

Corn.—No. 2 Yellow $1.80@1.90.

Oats.—No. 2 white, $1.35@1.40; No. 3, white, $1.33@1.34; No. 4, white, $1.31@1.32.

Wheat.—No. 1, Red Winter, $2.39.

NEW YORK HAY AND GRAIN

New York City, May 3, 1920

Feed.—The continued light offers of feed from the mills where production has been seriously curtailed gave the feed market a very firm undertone altho the volume of [illegible] was small.

Quotations.—City feed, bran, $60; middlings, $64, in 100-pound sacks; red dog, $74, nominal, in 100-pound sacks; Western spring bran, $61; standard middlings, $63; flour middlings, $67; red dog, $73.50, all in 100-pound sacks, 30-day shipment. Oat feed, $42; rye middlings, $62; white hominy feed, $67.50, all in 100-lb. sacks. Cottonseed oil meal, $74; linseed oil meal, $68, in 100-pound sacks.

Hay and Straw.—There are several more boats due today, and this is helping considerably to relieve the situation. The tone is still rather strong and we see no recession in prices as yet. Values ranging mostly at $50@65, according to quality, occasional cars coming in at Manhattan and Brooklyn stations working out at still higher prices. Rye straw offering from boat at $30 and oat straw at $28.

Wheat.—No. 2, red, $3.07.

Corn.—No. 2, Yellow $2.02½; No. 6, Yellow, $1.99¼; No. 2, mixed, $2.01¼.

Oats.—All grades, $1.40 bid.

Rye.—F. O. B., $2.45; Barley, feeding $1.70.

PITTSBURGH HAY AND GRAIN

Pittsburgh, Pa., May 3, 1920

Almost the same conditions prevail as those of a week ago. Railroads entering here are showing a slight improvement in transferring goods but are able to place only a very few cars and these have been readily disposed of at exceptional figures. In the meantime, Western Pennsylvania is practically bare of hay.

The P. & W. Va. also the B. R. & P. are free and shipments arriving over these roads meet with a ready demand. It is believed that empty cars can be procured in which to load goods. Shippers would do well to market their hay and take advantage of the present high prices while they last. The few cars that were accessible for hauling within the last week were placed at prices ranging from $46 to $48 per ton.

PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., May 3, 1920

Butter.—Receipts, 2,850 tubs. The market was largely nominal at the late decline. Supplies were fairly liberal and demand was generally limited to small lots to tide over the immediate needs of the trade.

Quotations:—Fresh, solid-packed creamery, fancy, high-scoring goods, 66@68c, the latter for jobbing sales; extra, 65c; do., extra firsts, 63@64c; firsts, 61@62c; seconds, 57@60c; sweet creamery, choice and fancy, 67@69c; ordinary to good, 58@66c; ladle packed, as to quality, 45@48c; packing stock, 39@43c; fancy brands of nearby prints jobbing at 73@75c; good to choice, 64@72c; fair, 61@63c.

Cheese.—Fancy stock was well cleaned up and firm. We quote as follows: New York, whole milk, flats, held fancy, 31@32c; specials higher; ordinary to good, 23@30c; current make nominal; jobbing sales of fancy held goods, 33@34c.

NEW YORK MILK MARKET

New York City, May 3, 1920

There was a fair demand last week, and altho surplus is heavy, not abnormal for the last week in April. Cold rainy weather has not improved the trade any and with the beginning of warmer days and evenings the ice cream business will naturally increase and help reduce the surplus. The rate for May in 200 mile zone will be the same as for April: $2.55 per 100 lbs for 3 percent milk; 3.6 percent milk will be $2.79 and 4 percent milk $2.95.

Receipts of milk and cream in 40 quart cans for the week ending May 1, 1920 were as follows:

Railroad	Milk	Cream
Erie	49,522	3,556
Susquehanna	8,713	112
West Shore	17,525	1,094
Lackawanna	58,716	1,277
N. Y. Central (long haul)	175,035	3,492
Ontario	45,010	2,253
Lehigh Valley	51,844	1,398
New Haven	7,250	70
Pennsylvania	12,663	475
Other Sources	6,500	300
Totals	432,778	14,029
Same Week Last Year	366,442	14,984

INTERSTATE MILK PRICES

The basic price for 3 percent milk within 10 miles of Philadelphia is $3.28 per 100 pounds, and one cent per hundred less for each 10 miles distant. Four cents per 100 pounds is paid for each one-tenth of one percent fat above 3 percent. These are prices for the basic quantity or less. Amounts exceedings the basic quantity are paid for at a less price.

TOBACCO MARKET

Tobacco growers are wondering when the adverse weather will end. For weeks they have expected seasonable conditions only to see more and more rain, snow, etc. Those who planted beds a month or more ago are still looking in rain for the expected seedlings and in other instances where plants have germinated they have perished from the cold. Many are resowing and on that account it is said that the demand for seed is such as to deplete the available supply.

Some have reported an unusual trouble in the infestation of beds with moss which it seems flourishes in cold, damp weather running plants as it spreads over the surface of bed. No remedy for same has been suggested and should the same be known the fact should be promptly published. On account of the discouraging start it is said that many growers will turn attention to cabbage, tomatoes and other garden products which it is said is being contracted before planting. This will eliminate the great uncertainty with which the tobacco market is always unfortunately surrounded.

It is predicted by those in position to judge that we are passing the crest of an unfortunate influx and that there are those who even at fancy city wages are sore put to meet the corresponding city prices of rent, fuel, vegetables and the many things which may be had to better advantage on the farm. It is unfortunate that matters must come to such a strait before a reverse shall come.

Agriculture Recognized

Hon. E. T. Meredith and James R. Howard Address Business Men

Agriculture was recognized as one of the country's important industries Wednesday night, April 28, 1920, when the Hon. E. T. Meredith, Secretary of the Department of Agriculture, and James R. Howard, President of the American Farm Bureau Federation delivered addresses before over 3,000 business men at the Eighth Annual Convention of the Chamber of Commerce of the United States.

The Chamber is distinctly a business men's organization, having headquarters in Washington. Heretofore it has confined its efforts almost entirely, if not exclusively, to industrial relations and the problems of labor and capital. Hence, it is very encouraging to the farmer that this recognition of his problems should be presented at this time when everything is in a state of deterioration after a period of war and destructive pursuits.

The subject of discussion for the session was "Agriculture in Relation to Production." Hon. E. T. Meredith explained the government's part. He outlined very clearly the work of the Department of Agriculture and how it has assisted production, how the cereals have increased from 38 bushels for each man, woman and child to 52 bushels, and the part of each division of the department in maintaining production. He deplored the fact that appropriations for the maintenance of the work have been cut and that present salaries are too low to attract capable men and hold them.

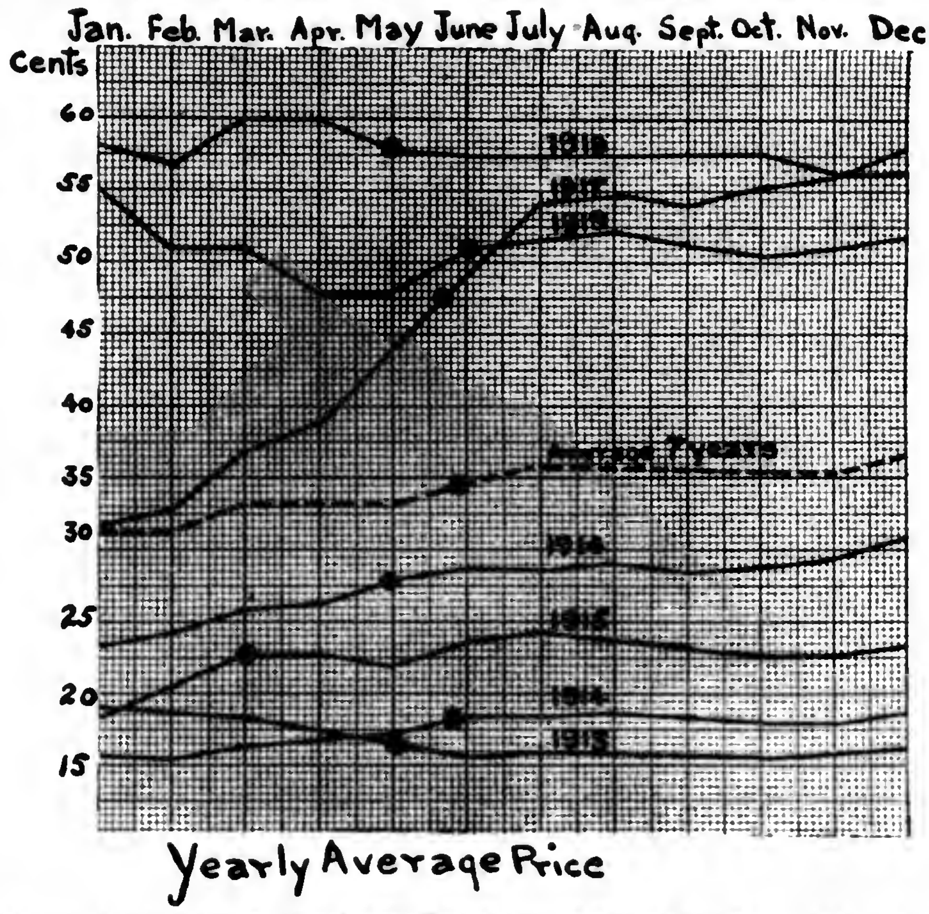
"The business men and the daily and business press should support the Department of Agriculture as a business proposition. Agriculture is the very basis of business," said Mr. Meredith. "No other department touches each one of you as often. It inspects your beef, stores your eggs, raises your cotton, the fabric of your auto tires and tells you whether to take an umbrella when you go to the theatre. Do not say you are not interested, that you are not farmers. Give us your support."

James R. Howard discussed "The Farmers' Part." He made a very clear statement of the problems confronting the farmer, the business man, and the Nation. He said in part: "Judged by the price which the farmer has received for the last year's crop compared with the cost of production, farm values of food poducts are the lowest in many years. This statement you will note implies that the cost of farm operation is tremendously high, an item which is too often overlooked by the public in its judgment of the farmer's prosperity.

"In considering agricultural production, allow me to say first that under present conditions an increase in the farm yields over the past year is utterly impossible. But if it were possible, let me ask, would it be desirable or necessary? Allow me to call your attention to two or three facts.

"There has been no shortage of food, food products or clothing within our borders. No one has gone hungry or ill clad. Soup kitchens and bread lines are forgotten elements of national life. Standards of living have everywhere advanced. If food is high it is not because it is scarce. To increase the amount of food would not cheapen it, since more could not be consumed, or disposed of under present conditions. To produce more would mean waste and the economic costs which went to produce the waste would necessarily be added to the cost of that which was consumed. Moreover, it is not the price paid the farmer for his product that determines the cost of the food or clothing. To ever have reduced costs of living must mean reduced costs of transportation, marketing and distribution; and the lessening of the margin between the price which the consumer pays for the ham and that which the producer gets for the hog.

"Agricultural production, moreover, has already overloaded the marketing and transportation facilities of the country. Just now the country elevators are filled to the roof with wheat, corn and oats with no market outlets.



Monthly Wool Prices For Seven Years and Average Price. Dots Denote Average Yearly Price

"If there is no place at home or abroad for the surplus to go, why produce a surplus? Should not the farmer as well as the manufacturer study carefully, supply and demand, and not produce more than can be marketed at a profit. Has the public any more right to ask the farmer to grow his crops at less than production cost than to ask the manufacturers of shoes or steel to manufacture their products at a loss? Agricultural over-production means a waste of energy and fertility. It deplets the future food supply of the unborn generations. It must be avoided.

"I trust you will not get the thought that I am an advocate of under-production. Far indeed am I from it. Adequate production must be maintained. Under production would, if persisted in, cripple all industry and react upon the farmer himself. The farmer is the largest single purchaser of food, shoes, clothing and lumber. He uses more steel annually than do the railroads. Under production in any of these essential lines becomes a vital factor in increasing the cost of agricultural production.

"The time for inventory is at hand. Present stocks must be counted. The future is to be considered. What is to be the policy of the captains of industry of the next decade regarding agriculture? Is it to be a period of enforced competition with food products brought in as ballast for ships carrying outgoing cargoes? Is the hand which has fed and nurtured the nation to compete with the cooley and the serf? If so, then the farmer must demand the same import protection which he has ever contended should be granted the manufacturer. He has always insisted that the American laborer must be better fed and better paid than any other laborer in the world. Must his own brain and brawn now be placed at parity with that of low wage competition? If that is the program of the future, definite preparation should be made to meet it for it would very soon create a situation wherein we would not produce our own sustenance. And when the time comes that we depend on other nations for our food supplies, we must be prepared to guard every road of the high seas. A permanent agricultural policy as measue of national defense is vastly more important to our whole citizenship than is a national naval or military program.

"Hence the farmer urges that industry now give careful thought to the future of its basic materials. There are no more acres of tillable lands to be brought under cultivation, barring a few million that at great cost may yet be irrigated and small tracts of wet land which may sometime be drained. But in amount these are insignificant. America then must feed and clothe her growing population from lands now in tillage.

"Can it be done? Only the ignorant or the pessimist would say "No!" Agricultural science already has done much, but in reality has only tickled the field of possibilities. But science is dependent upon man to transform knowledge into reality. Good roads, schools and churches and home owners with modern homes are vitally essential to production and these will come when the farm market comes into its own. These conditions of labor and price schedules which at present make an increased production impossible must be adjusted.

"Sometime—and may that be soon—there shall be serious thought given to the agriculture of the future. Definite policies will be adopted that the food supply of America may ever come from her own boundaries, produced not by a peasantry, but by an educated and thoughtful husbandry. Then, and not till then, will agriculture and labor and capital be each in its proper setting."

KENT COUNTY RESOLUTIONS

The following resolutions were passed by the Kent County Produce Exchange, April 14th, 1920:

Resolved, That in consideration of the present shortage of farm labor it is unwise and a useless waste of our limited supply of labor to grow tomatoes under contract for less than 50 cents a basket, which price we have recommended to the Peninsula Tomato Growers' Association for 1920, and

Resolved, That the spread of disease in tomatoes is alarming and all baskets shall be sterilized at the canneries before returning them to the growers in order to prevent its spread.—Marylander.

WOOL CONSUMPTION IN MARCH

The amount of wool consumed in March exceeded the monthly average for 1918 and 1919, but fell below the high mark reached in January of this year. On a grease basis, 67,900,000 pounds of wool were consumed, compared with 34,000,000 pounds in March, 1919, and 71,900,000 pounds in March, 1918. According to conditions as reported, the amounts consumed, in pounds, were: Grease, 47,467,979; scoured, 8,905,370; pulled, 1,971,253. The percentages of the various grades used were: Fine, 29.4; ½ blood, 18.2; ⅜ blood, 20.1; ¼ blood, 18.2; low, 3; and carpet, 10.8 percent.

There was little change in the usual ranking of the states in the amounts consumed; Massachusetts being first with 24,540,957 pounds; Pennsylvania, 8,136,873 pounds; Rhode Island, 6,750,956 pounds; New Jersey, 5,584,958 pounds; and New York 4,724,831 pounds; with Connecticut, New Hampshire, Ohio, and Maine following in the order named.

CARLOADS OF WOOL PLEDGED

Many of the directors of the Orleans Company Sheep Breeders' Co-operative Association Inc., were inclined to think that incorporating to protect the interests of their members would decrease the membership and the amount of wool sold thru the organization.

At the present time over 300 signed contracts agreeing to sell their wool thru the association and representing over 144,000 pounds of wool have been turned in at the office. Last year 342 members of the Sheep Breeders' Association sold co-operatively thru their association about 140,000 pounds. More wool has been pledged thus far this year than the organization handled during 1919.

The owner of a dog in Pennsylvania who did not secure a license tag prior to January 15, 1920, is guilty of a violation of the law and may be prosecuted, even tho he secured the license at subsequent date.

Clarion County, Pa., farmers surpassed the farmers of all other counties of the state in the use of lime during 1919.

Facts in BLACK & WHITE

Use a Purebred Holstein Bull

Do you realize that the Sire is half your herd?

Do you know how rapidly the qualities of a purebred Sire accumulate in the high grades? By using a purebred Holstein Sire your herd will be 15-16 purebred Holstein in four generations. Why should you milk any but the most profitable cows when you can secure them so easily?

Holstein bulls impress their characteristics upon any blood they come in contact with, and their calves are thrifty from the start.

Send for Free Illustrated Booklets.

THE HOLSTEIN-FRIESIAN ASSOCIATION
218 Hudson Street
Brattleboro, Vermont

Holstein Cows and Calves

No hired help, must reduce my milking herd of 70 reg. Holsteins, 20 grades. Come at once and get first choice and a bargain. 40 reg. heifer calves, all ages, 18 reg. bulls, grade heifers, 7/8 Holstein heifer calves $20 each, express paid in lots of 5. Farm 19 miles south of Syracuse. **John C. Reagan, Tully, N. Y.**

MAPLE LAWN HOLSTEINS

High grade heifer calves, $25 ea. safe arrival guaranteed, shipped C. O. D. I have the finest line of reg. and grade cows in central New York. Wire me when you will be in Cortland; my farms and offices will give you quick, efficient service. For immediate sale 100 heavy producing cows, all young, will freshen in next 60 days. Everything in Holsteins.
C. W. Ellis, Jr., Maple Lawn Farms, Cortland, N. Y.

REAL BARGAIN

Pure Bred Ayrshire Bull Calves. We offer four handsome bull calves, large, heavy-boned and of show caliber. Big A. R. Records on both sides or now in the making. We can refer you to our satisfied customers. It will pay to get our prices.
CRESTMONT FARM, SUNBURY, PA.

Registered Berkshires Big type service boars from litters farrowed in Sept. and Oct. 1919. Four grandsons of Epochal's Progress, sired by a son of Matchless Lee 8th. One grandson of Old Forge Successor, sired by Maybelle's Baron Duke. Three grandsons of Superior Emblem, sired by Winona Lee Champion 6th. Here are eight extra good young boars. Good enough to head any herd.
EZRA J. NOLT, R. 2. MT. JOY, PA.

STEVENS' HOLSTEIN FARM
OF CORTLAND, N. Y.

King Korndyke Sadie Vale Jr., No. 20391, two nearest dams averaging 30 pounds of butter in 7 days, heads my herd. Butter records from 17 pounds two-year-olds to 34 pounds at full age. Also high grade Holstein calves, either sex, $20.00 each. Write your wants. PAUL H. STEVENS, Prop.

All Kinds of Purebred Live Stock

supplied on commission. Terms reasonable. Write for full particulars.
LEWIS H. FURGASON,
WINDHAM, GREENE CO., N. Y., Box No. 108.

We will give the Use of a Finely Bred
Registered Holstein Bull Calf
for 3 years to any responsible farmer. Write for our plan. **Mugget Hill Farm, Charlton, Mass.**

Guernsey Bull Calf 4 weeks old, 7 May Rose crosses, at 20%. Sire's 5 nearest dams have over 650 lbs. fat. **LOCUST LAWN FARM, Bird-in-Hand, Pa. Box P.**

For Sale: EXCEPTIONALLY GOOD full blood Holstein bull calf, [illegible] daughter of Rag Apple Korndyke 8th. Calf is nearly all white. **J. R. GLASS, MUNCY, PA.**

Reg. Jersey Bull and Heifer Calves for sale. Our entire crop of calves from dams with official and testing ass'n records. Priced from $50 up. **Chas. A. Leonard, Troy, Pa.**

Ayrshire Bull Calves From high record A. R. Dams. **ROBERT TEMPLETON & SON, ULSTER, PA.**

Reg. Holstein Heifer Calves, from officially tested dams and a 30 lb. sire. Write for prices, pictures and peds. **Walter M. Cruttenden, Forty Fort, Pa.**

Registered Holstein Friesian Cattle Sons of the great Finderne Sir Valdessa, a 37 lb. bull, for sale. MILLARD E. BASEHOAR, Littlestown, Pa.

Ayrshire Bull and heifer calves for sale; or will exchange for good pigs. **WM. J. W. BECHTEL, Bechtelsville, Pa.**

Registered Holstein and Guernsey bulls from calves to serviceable age. 250 animals in the herd. **BONNYMEADS FARMS, R. D. 1, Harrisburg, Pa.**

Jerseys for Sale. Herd bulls, Champion Torono's Nezos and Sophie 19th Tormentor 39th. Good breeding. GEO. P. BEVAN, Towanda, Pa. R. 3.

SUNNYBROOK GUERNSEYS
40 head, free of tuberculosis, bull calves for sale. **EDWIN R. MAULE, COATESVILLE, PA.**

Brown Swiss Pure Bred Bulls for sale. Fine as silk. Come and see them. **G. EUGENE BOWN, FORKSVILLE, PA.**

PRODUCTIVE PASTURE MAKES CHEAP FEED

Since pasture is by far the cheapest source of feed, it is important to bring up the production of pastures if it can be done cheaply and practically. About one-third of New York is in permanent pasture. The principal recommendations in pasture improvement can be summed up as follows:

Re-Seeding.

There is little to be gained from reseeding an old pasture where the soil is exhausted unless the land is at least plowed and put in good condition. The reason most old pastures do not have grass is because the land is too poor; there is no use putting grass seed on such land. While plowing and reseeding will often restore the pasture yet this is not enough on most of the old exhausted land. On at least three-fourths of the old pastures, both lime and acid phosphate must be added.

Improvement without plowing is possible also in a large percentage of the old pasture lands if one will top dress the land with lime and acid phosphate or barnyard manure. Many of the old pastures are well set with pasture grasses but they are small and dwarfish, owing to poor conditions; therefore little feed is furnished. Where these grasses are present, it is generally true that a top dressing of lime and acid phosphate will bring on a good pasture in two or three years. Also such weeds as paint brush and five-finger will rapidly disappear after using the top dressing.

It will be noted that there is very little chance of improving pasture either with plowing or without, or by reseeding, unless lime and acid phosphate are used. These will probably be too expensive in many sections. However, many old pastures if plowed, are capable of producing one good crop of buckwheat, oats or potatoes. It is suggested in such cases that the pastures be plowed and treated with both lime and acid phosphate and one of the above crops grown to pay for the expense and labor of reseeding. The next year a profitable hay crop may be harvested, and following that, excellent pasture for many years, will be available.

Grass Mixtures for Pasture Land

The pasture mixtures which have been found most satisfactory at the state college are as follows:

Land plowed-limed (one ton) acid phosphate (200 lbs.)

Field hayed one or two years—then pasture.

Hay plants, Timothy	8 lbs.
Red Clover	4 lbs.
Pasture plants, Ky Bl. Grass	2 lbs.
White Clover	4 lbs.
Red Top	2 lbs.
Orchard grass	2 lbs.
Total	20 lbs.

2\. Not hayed—pasture only.

Orchard Grass	2 lbs.
Red Top	2 lb.s
Timothy	4 lbs.
Alsike	2 lbs.
Kentucky Blue Grass	2 lbs.
White Clover	2 lbs.
Total	14 lbs.

3\. For very poor land, wet or unproductive.

Leave out Timothy in above mixture and substitute Canada Blue Grass for Kentucky Blue Grass.

II. Land not plowed, but limed (one ton) and acid phosphate (200 lbs.)

III Land not plowed—no lime.

4. Alsike Clover	1 lb.
White Clover	2 lbs.
Kentucky Blue Grass	2 lbs.
Orchard Grass	2 lbs.
Red Top	2 lbs.
Total	9 lbs.

A light seeding will generally be satisfactory as considerable native grass will be stimulated by the lime.

It is questionable whether seed can be sown, with much hope of success, on unplowed and untreated land. Light sowing is all that can be recommended.

5. White Clover	2 lbs.
Kentucky Blue Grass	2 lbs.
Red Top	2 lbs.
Total	6 lbs.

Substitute Canada Blue Grass on very poor land.—E. G. Montgomery, New York State College of Agriculture.

PEACH PROSPECTS FOR 1920

The commercial peach crop is now passing thru a critical stage in many parts of the country. Late telegraphic reports indicate that many parts of the middle west and south have suffered from frosts the past few days so that any quantity estimate at this time is tentative. The middle Atlantic States promise fully as good a crop as last year and orchards are in good condition, altho acreage has declined materially in West Virginia and Maryland.

The prospects on April 1 were for about 77 percent of a peach crop in the United States as compared to prospects for 84 percent of a crop last year at this time. Allowing for about a ten percent decline as is usually the case during the season due to unfavorable blooming condtions, the crop would be about 67 percent full as compared to 75 percent final last year. The crop is now indicated at 29,240,000 bushels as compared to the final production figure of 29,461,000 last year and 20,597,000 in 1918. Allowing for the normal decrease which usually occurs during the season, the crop will be about 3,000,000 bushels less than last year.

State	Condition 1920	1919
	%	%
New Hampshire	5	90
Massachusetts	10	82
Connecticut	12	75
New York	48	85
New Jersey	87	90
Pennsylvania	88	75
Delaware	87	85
Maryland	80	85
Virginia	92	80
West Virginia	88	85
North Carolina	96	95
South Carolina	90	90
Georgia	92	68
Ohio	99	81

Maryland

Maryland promises about 80% of a crop and altho there has been a decrease in acreage in the Smithsburg District, the increase about Berlin and other sections prevent a decline in the state's acreage from that of last year.

Pennsylvania

The commercial peach section of Pennsylvania located in Franklin and Adams Counties promises a full crop this year, the trees having wintered thru in splendid condition.

West Virginia

The crop in West Virginia this year, altho in excellent condition probably will not exceed 500 cars due to the decided decrease in acreage which has taken place during the past few years. Some sections have decreased fully 75 percent in commercial acreage in the past five years.

New Jersey

New Jersey promises a large crop of peaches. Conditions in all parts of the state are good except in Monmouth County where buds suffered some winter injury. The acreage has increased fully 10 percent in some of the southern counties and if conditions continue favorable, production will, no doubt, exceed that of last year.

Delaware

Conditions in Delaware indicate nearly a full crop of peaches this year. After several years of declining acreage, the Delaware commercial peach acreage is beginning to increase again particularly about Bridgeville which has increased fully 10 percent this past year.

ONE ON US

Teacher.—"Why is the country air healthier than the city air?"

Willie.—"Because the farmers sleep with their windows shut."—Life.

M&P HEALTHY HOLSTEINS

FEDERAL TUBERCULIN TESTED HERD

Young bull about ready for light service, Healthy, well grown, practically all white in color and an excellent individual. Sire's ten nearest dams average 29 lbs. butter in seven days. Dam has a seven-day record of 543.7 lbs. of milk, 24.48 lbs. of butter and is a most persistant producer.

Price $250.00

Markham & Puffer, Avon, N. Y.

POLLED HOLSTEINS

registered in the Herd Books of the Holstein Friesian Association of America. Herd sire out of world's record senior four-year-old,
KEYSTONE BEAUTY PLUM JOHANNA
No. 161646
At 4-10-20, 365 days—25787.5 milk: (4.02%) 1294.7 butter
At 3-3-23, 365 days—22496.6 milk: (3.94%) 1108.9 butter
2 years under full age—48284.1 milk: 2403.6 butter. The youngest cow in the world to have two consecutive records averaging over 24,000 lbs. of 4% milk in a year.
Bull calves $100.00 and up. **GEORGE E. STEVENSON & SONS, Clarks Summit, Pa.**

Miscellaneous

BEEKEEPERS

Send for Griggs' big, free catalogue of bee-keepers' supplies. Also for prices of fine Italian Bees.
THE GRIGGS BROTHERS CO.,
Dept. 30. Toledo, Ohio.

Penns Valley Stock Farm Percherons, Holsteins, Berkshires. Special offering in fresh cows and heifers; bull calves, grandsons of King of the Pontiacs; herd boars, with size, breeding and quality; pigs, either sex. **W. F. RISHEL, Centre Hall, Pa.**

E. NEWLIN BROWN
Livestock Auctioneer
WYCOMBE, PA.

HATCHING EGGS from free farm range Poultry. Rocks, Reds, Wyandottes, Leghorns, Minorcas, Brahmas, Hamburgs, Anconas, Ducks, etc., also Hares, Cavies and Holstein cattle. Cat. free. H. A. Souder, Sellersville, Pa.

HOLSTEIN FRIESIAN Heifer and Bull Calves. High Grade and Purebred Reg., beautifully marked, splendid individuals. Reg. Durocs, pigs, bred gilts, and service boars. BROWNCROFT FARMS, McGraw, N. Y.

REG. P. CHINAS, BERKSHIRES, C. WHITES, large strains, all ages, mated, not akin; 8-wk. pigs, br. sows, service boars. Beagles and Collies. Write for circ. P. F. HAMILTON, COCHRANVILLE, PA.

Reg. Big Type SPOTTED POLAND-CHINA pigs, bred from a son of O. K.'s Pride No. 80. H. C. KYMER, R. 4, Shippensburg, Penn'a.

FLEMISH GIANTS FOR SALE. 3 months old, $3 each, 6 months old, $5 each. JOHN C. TURTON, Williamstown, N. J.

Chester Whites and HAMPSHIRE SHEEP. Write your wants. We can please you. TWIN BROOK FARM, Newville Pa.

Poultry

[illegible]00 CHICKS for 1920. Leghorns, Barred P. Rocks and mixed chicks. Write for booklet for June and July delivery. Safe delivery guaranteed. THE CYCLONE HATCHERY, Millerstown, Pa.

CHAMPION LAYERS S. C. White Leghorn Eggs $1.50 per setting. Winners of all prizes at the Jefferson Co. Fair. EDWIN BOVAIRD, Brockwayville, Pa. R. 1.

Baby Chicks. Eleven leading varieties, bred from show-stock, to produce eggs at utility prices. Send for illus. catalog and price list. Ohio Poultry Yard & Hatcheries, Dept. B. Marion,O.

Hatching Eggs Thorobred S. C. Rhode Island Reds. $1.50 for 15, $8 100. White Pekin Duck Eggs, $1.65 for 11. Prepaid. MRS. L. J. KILLIAN, Lebanon, Pa. R. 6.

PIELL'S BLACK LEGHORNS. Famous Leghorns, good layers, fine birds. Hatching eggs only. $2.00 setting. Information free. Book orders now. RUSSEL F. PIELL, PITTSTOWN, N. J.

Single Comb White Leghorns. Big Vigorous Birds. Good layers. Eggs and Chicks. Write. PAUL R. EMERICK, CLINTONDALE, PA.

S. C. BUFF ORPINGTON EGGS for hatching. $2.00 for 15, $10.00 per 100. ELMER Z. STOLTZFUS, Ronks, Pa., R. 1.

White Rock Chicks from good stock, $25 per 100 postpaid. Also Fawn and White Indian Runner ducklings 30 cents each. MRS. I. F. GRIFFITH, R 2, MOHNTON, PA.

That Lay and Pay Beautiful Buff Rocks. Vigorous and prolific. Eggs, $1.50 for 15, balance of season. M. W. THOMAS, Chestertown, Md.

Baby Chicks Barred Rocks, White Rocks, White Leghorns and Reds. Circular Free. Mechanic Grove Poultry Farm, Mechanic Grove, Pa.

Nice Lot Barred Plymouth Rock Cockerels, also egg settings from special mated pens. Write for prices. EUGENE A. GROVE, Lime Kiln, Frederick Co., Md.

RINGLET—BARRED ROCK COCKEREL & PULLET bred. Hatching Eggs. C. T. DOWNING, WEST CHESTER, PA.

Save $10. Buy Hummer's Famous Chicks. Brown Leghorn $21, Ancona $31, Bar. Rock $22, Red $23 per 100. E. R. Hummer & Co., Frenchtown, N. J.

SHIREY'S S. C. White Leghorn Baby Chicks 14c and up according to season. They make the greatest egg producers on earth. C. P. Shirey, Stewartstown, Pa.

Kendel's Superior Strains
Famous for Standard Bred, Utility Qualities. All leading breeds including Leghorns, Plymouth Rocks, Reds, Wyandottes, Minorcas, Anconas, Brahmas, Langshans, Orpingtons, Ducks, and etc. Prices reasonable. Circular free.
A.C.Kendel,224 Prospect, Cleveland,O.
Baby CHIX
Hatching EGGS

10,000 Baby Chix AND EGGS

for May, June, July and August delivery by prepaid parcels post. Safe delivery guaranteed on greatly reduced prices. Only Bred-to-Lay S. C. White Leghorns. Catalog free.
SLATY RIDGE FARM
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All through the blustry winter months, our WHITE WYANDOTTES lay eggs, and lots of them. We offer a limited number of carefully selected eggs from this flock at $15 per 100, $8 per 50, $1.50 per sitting of 15. Also chicks at 40c each. We advise the purchase of this stock for those who want the best from our high production, trapnested birds. Terms—cash with order. Eggs and chicks forwarded parcel post prepaid. We know you will be pleased with our stock. Book your order early. J. V. BITNER, GORDONVILLE, Lancaster Co., Pa.

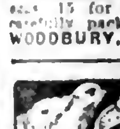
EGGS FOR HATCHING

NONE SUCH WHITE LEGHORNS. For 18 years NONE SUCH WHITE LEGHORNS have been trapnested and bred to lay more eggs. FERRIS WHITE strain, mated to Grandsons of Prince Eglatine, a son of the world's famous Lady Eglatine. Fertility GUARANTEED. Hatching eggs and day old chicks.
May Prices
200 egg strain, hatching eggs 15, $3.00 100, $15.00
300 egg strain, day old chicks 25, 8.75 100, 35.00
The H. M. Spahr Breeding Estate, Dept. C., Woodsboro, Md.

Leader's Leghorn Chicks have the confidence of the folks at home. York Co. Poultry Growers bought our entire output, 2,400 to 3,000 weekly, in Feb. March and April. These men KNOW GOOD LEGHORNS and came to our plant for their chicks. Many of them each succeeding year. Book your order now for May and June delivery of the same quality chicks at $17 per 100. LEADER'S POULTRY FARM, R2, YORK, PA.

ENGLISH WHITE WYANDOTTE & MAMMOTH PEKIN DUCK EGGS

for hatching, from the very best stock. Wyandotte eggs 15 for $2.50. Ducks eggs, 11 for $2.50. All carefully packed and delivered. A. R. LOGUE, WOODBURY, BEDFORD CO., PA.



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Better Produced Day-Old Chicks are the kind you want—17 leading breeds at reas. prices. Send for free catalog today. Springfield Hatcheries & Poultry Farm, Box H, Springfield, Ohio.

LOOK: BABY CHICKS AND DUCKS 10 breeds of chicks, 4 breeds of ducks. Utility and Exhibition grades. Postage paid and live delivery guaranteed. Capacity 100,000 weekly. Catalog free. Stamps appreciated.
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BABY CHICKS White and Barred Rocks, White Wyandottes, Reds, Anconas, White and Brown Leghorns and Broiler Chicks. Send for Free Catalog and prices before ordering elsewhere. Trial convinces. NEW WASHINGTON HATCHERY, NEW WASHINGTON, OHIO. DEPT. N.

CHICKS from large, pure white, two-year-old hens, Wyckoff strain, 18 cts. Extra fine, Brown Leghorns, 20 cents. White Rocks, Barred Rocks, Orpingtons, R. I. Reds, Black Minorcas, 25 cents. Postpaid. Eggs: Half price of chicks. I. NEVIN STROUP, MIDDLEBURG, PA.

LOOK! Barron Pedigreed 300 Egg Strain S. C. White Leghorn baby chicks. Big, husky, pepful chicks that live, grow, pay and lay. $18 per 100, $85 per 500. June 14th delivery by prepaid parcel post. Highly fertile hatching eggs, $9 per hundred delivered. LEONARD STRICKLER, Sheridan, Pa.

Chicks

White Leghorns	$20—100
Barred Rocks	25—100
R. I. Reds	25—100
White Wyandottes	30—100

Tappan Poultry Farm, Tappan, N. Y.

Ducklings Tiffany's Superior Mammoth, Pekin, Giant Rouen, Beerlay Indian Runner (all varieties) Eggs. ALDHAM POULTRY FARM, R 30, PHOENIXVILLE, PA.

Baby Chicks and hatching eggs from our high-egg-laying strain. White Leghorn baby chicks $20.00 hundred. Hatching eggs $10.00 hundred. Safe delivery guaranteed. We invite your inspection of our birds, if possible. TENACRE POULTRY FARM, Princeton, N. J.

Sicilian Buttercups

Free range, prize winning Buttercups. Investigate this wonderful variety. Write for circular. MAPLE LAWN FARMS, CORTLAND, N. Y.

Baby Chicks S. C. Rhode Island Reds and White Leghorns. Improve your flock by buying chicks from these heavy laying strains. Bred for twelve years for heavy egg production. Write for delivered prices. A. FELL, Route No. 1, Bethesda, Md.

Selby Service Satisfies Ship us your produce, poultry and eggs. Penna Potatoes a specialty. Returns day goods sold. Ask for our market letter. SELBY PRODUCE CO., PHILADELPHIA

Eggs $1 Setting Parcel Post paid. Purebred, Barred, White and Buff Rocks; White and Brown Leghorns; Reds, White Wyandottes, Buff Minorcas; Black Langshans; Buff Orpingtons. Philip Condon, Box 113, West Chester, O.

20,000 Big Hatching Chicks For 1920, 15 cents up. Barrons, S. C. Leghorns, Ringlet Barred Rocks. 28 years' experience. CHESTNUT HILL POULTRY FARM, Aspers, Pa.

Barred Rock Eggs, from Chicago and Indianapolis winners. Great layers. $3 per 15, $10 per 100 and up. Buff Duck Eggs. Circ free. G. E. Hoover, Matthews, Ind. R-5

Hatching Eggs of Pure-Bred Poultry
Prices reasonable. Catalog free.
H. H. FREED, TELFORD, PA. BOX C

Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Cat Vomits—Our pet cat has been inclined to vomit after eating food. Until a few months ago he has always been healthy, but if allowed to eat food that is greasy he is very likely to vomit. If he eats bread and drinks milk soon after he usually vomits. R. E. Annandale, N. J. If I owned your cat I would feed him chopped fresh lean meat, part of the time raw, at other times, well cooked but he will thrive best on raw. If fond of fish let him have some. Give him five grains bicarbonate of soda three times a day. If you believe he is wormy give him one grain of powdered Kamala for each pound of body weight in a tablespoonful milk once a week.

Bacterial Navel Infection.—I have a mule colt born March 18th that has soft bunch on knee joint, but whatever it is, it is causing no lameness. Have examined for injury, but failed to find any, and up to the 23d of March the joint was normal. What can be done to reduce bunch? F. M. G., Frankford, Del.—Apply 1 part tincture of iodine and five parts camphorated oil to bunch once a day. No strong liniment should be applied, gentle hand rubbing will do some good. This is the result of failure in cleaning and thoroly disinfecting the navel promptly after birth. A mare should foal in a clean box stall which has been prepared for her. Wash navel with one part lysol and one hundred parts water, or one part coal-tar disinfectant and thirty of water, then paint end of cord with tincture of iodine. Apply one part tannic acid and nine parts boric acid daily until navel heals. The udder of mare should be washed clean before the foal is allowed to nurse.

Sore Feet. — Swollen Joints. — Rheumatism.—I have a bunch of hogs that will weigh about 140 lbs. each that I have been feeding well. They were wintered on wood floor and had open yard to run in when inclined to do so. Several of them have sore feet, others have enlarged hocks. When down they are fairly comfortable, but when forced to walk they seem to suffer pain as they squeel considerably. O. J. O., Hustontown, Pa.—Perhaps you have fed them too much corn and not enough of food which contained protein. Feed some oats, oil meal, tankage, roots, alfalfa and clover. Give each hog ten grains of sodium salicylate twice a day, and to swollen joints apply equal parts turpentine, aqua ammonia and raw linseed oil every day or two. Painting swollen joints with tincture of iodine three times a week is considered good practice. Some walking exercise twice daily, would do the whole bunch some good. Their bowels should be kept open, by feeding food which has a laxative effect.

Loss of Appetite.—Impure Blood.—I wish you would tell me what to give my horse to improve his appetite. I also have another horse that is inclined to have boils under collar and saddle pad. He is fleshy; is fed corn, oats and hay. During cold weather he is free from boils. During the summer I have fed him oats in place of corn, thinking this a less heating food, but his shoulder boils come just the same. I am told his teeth are in good condition. B. W., Eagels Mere, Pa.—Give him thirty grains potassium iodide, 3 drams Fowler's Solution at dose in feed or in drinking water 2 or 3 times a day. Dissolve ¼ lb. acetate of lead and 4 ounces tannic acid in one gallon of cold water, shake and apply to shoulders and under saddle pad twice a day.

Fliver.—"What's the most you ever got out of your car?"

Second Ditto.—"I think seven times in one mile is my record."

HOGS Make 'em Grow Fast

Hog and poultry raisers in all parts of the country are using Semi-Solid Buttermilk because they know it is the "Best Hog and Poultry Feed on Earth." It gives quicker gains, earlier marketing and bigger profits. 100 per cent digestible.

Semi-Solid Buttermilk

"The Best Hog and Poultry Feed on Earth."

Just creamery buttermilk with the water removed and nothing added. The same as home churned. Contains high percentage of protein and natural lactic acid. Contains no sulphuric acid or other injurious preservatives. Natural lactic acid keeps it fresh indefinitely. Semi-Solid Buttermilk is pure enough to drink or use in batter cakes. Don't use a substitute or so-called modified buttermilk. Get the Genuine Semi-Solid Buttermilk, absolutely pure and unadulterated, for quick results.

Better Than Grain Feeds. Order a barrel of Semi-Solid Buttermilk (average weight 500 pounds). One barrel makes 1000 gallons of pure, rich, buttermilk feed. **Order today.**

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Dept. 212 Lincoln, Neb.
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Makefield Farms Quality Durocs

Will furnish you with foundation stock, registered and of most approved blood lines. Address, Makefield Farms, 803 Broad Street Bank Bldg., Trenton, N. J. Farms nearby at Yardley, Pa. All stock cholera immuned.

Palmyra Quarry FARMS OFFER Fine Big Type Reg. Berkshire Hogs for sale. Outstanding Pigs, either sex, with stretch, up on toes, smooth, and splendid heads, out of exceptional big sows; Rivals Champion, Lord Premier Successor and Superbus breeding. Also bred Gilts, bred to our outstanding herd boar, Highwood Rival 431st. Pay when you see the stock. Satisfaction guaranteed. **Galen G. Grubb, Palmyra, Pa.**

Blue Hogs. Shipments desired the coming summer should be booked at once. Now shipping Spring orders. These hogs are actually Blue in color. They are the largest growthiest and most prolific breeders on earth. Write for information. Mention this paper. THE BLUE HOG BREEDING CO., WILMINGTON, MASS.

REGISTERED DUROC-JERSEY PIGS

$10 each while they last, all from imported Southern stock, none better. Bargains in bred gilts, service boars, brood sows and spring pigs. C. W. Ellis, Jr., Maple Lawn Farm, Cortland, N. Y.

Durocs Young pigs, very best of bloodlines. Strictly big type, either sex. Reg. free. Sat. guaranteed. Good enough to ship anywhere. Write your wants and for circulars. ORANGEDALE FARM, Orangeville, Pa. R. 1.

REG. BERKSHIRE SWINE

Both sexes, all ages. Reasonable prices. G. NORMAN ACKER, West Chester, Pa. R. 2.

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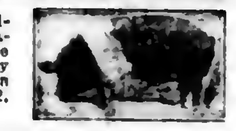

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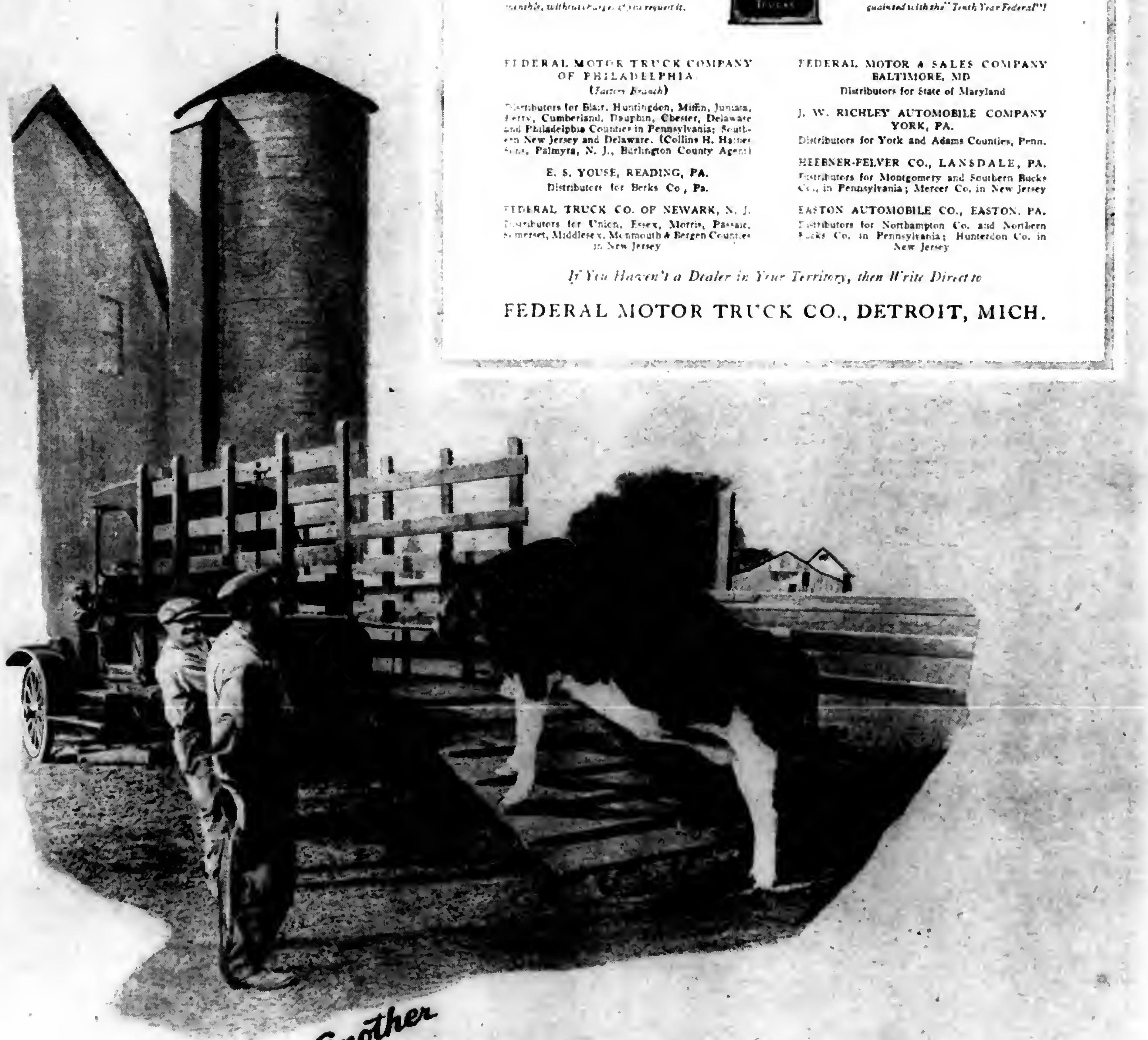

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ESTABLISHED 1880
PUBLISHED WEEKLY

Published by The Lawrence Publishing Co., 261-63 So. Third St., Philadelphia, Pa.
Entered as Second-Class Matter, at the Post Office at Philadelphia, Pa., under the Act of March 3, 1879.

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PHILADELPHIA, PA., SATURDAY, MAY 15 1920
75 Cents per Year

Forage Crops for Pork Production

Condensed From an Address by Professor F. C. Minkler, New Jersey Experiment Station

Champion Chester Whites at National Swine Show

The livestock farmer is interested in any system of feeding, breeding or management that will coin for him a new dollar. Naturally the process of converting farm crops into more concentrated and thus more easily marketable products is an economical one and must be viewed from the financial angle. Breeding is an art and feeding is a, science however, the value of a new dollar coined in a pig mint by means of practical application of feeding and breeding methods is determined by the finished product as it finally appears on the butcher's block. Pork production has forced itself ahead for two reasons; first, because the pig as a unit is an economical producer of human food, ranking second only to the dairy cow in the amount of edible solids it can produce from a given amount of digestible organic nutrients, and second because the pig turns one's money quickly. Naturally, milk production and pork production go hand in hand, and we find this combination prevailing on a great many of our best livestock farms. We have but to refer to comparatively recent agricultural literature to find that pigs were only considered adapted for the traditional "pig sty," and any endeavor to associate the pig with the soiling or forage crop system of feeding would be quite ridiculous!

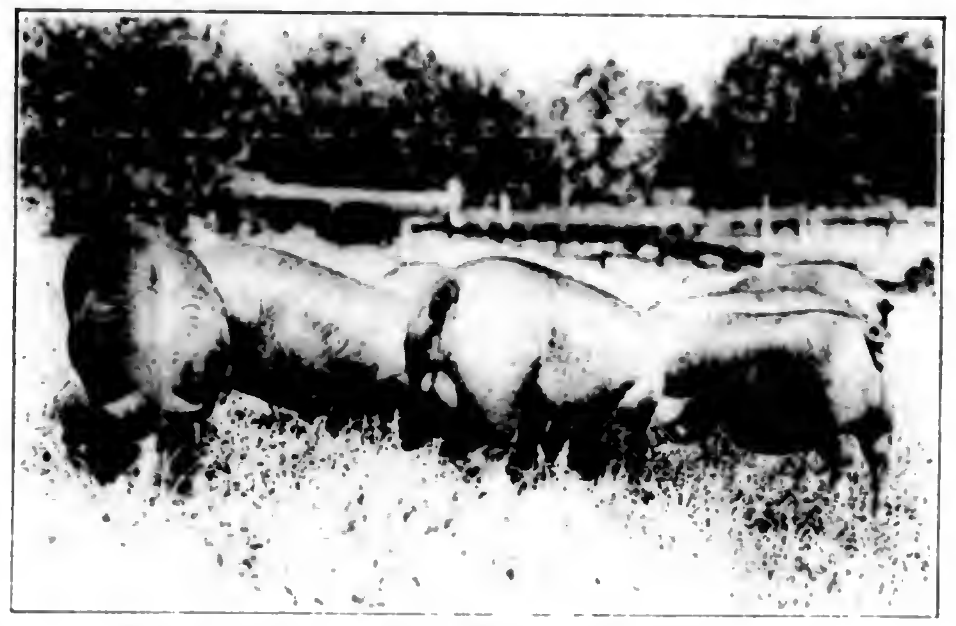
It was not long, however, until it was generally recognized that the pig was an economical unit for converting farm products into meat, and that the extensive development of this industry would create a cash crop for the livestock farmer. The swine herd that is confined in restricted areas is very apt to be less vigorous and thrifty than specimens found in a herd that have foraged on growing crops, and are thus permitted to greatly increase their resistance to disease. Without a healthy pig as a unit, even home grown feeds fed in the form of a balanced ration will not produce satisfactory results. What the silo and soiling crops have meant to the dairy industry, the colony hog house and forage crops mean to the swine industry, and one system is quite as essential as the other.

There are three crops well adapted for swine feeding that stand out pre-eminently: Alfalfa, dwarf Essex rape and the clovers. Combination mixtures including oats, Canada Field peas, vetch, soy beans and sweet clover in various proportions have been used to advantage, while rye and wheat supply the earliest forage, and blue grass or combination grass mixtures are used for permanent pastures. In addition to crops intended for forage, corn, sorghum, barley and rye must be depended upon to supply finishing or fattening feeds, while supplementing any or all of the above must be included such concentrates as digester tankage or oil meal, and such by-products as skim-milk, buttermilk and otherwise waste products from the house, garden, granary or field.

Blue Grass and Timothy

Blue grass is highly prized since it is palatable and supplies a permanent pasture. When once established, trampling does very little injury. It can be pastured eary in the Spring, likewise late in the Fall, but furnishes very little succulence during the Summer months of July and August. Unless there is some clover in the grass mixture there will be a deficiency of protein, and it will be necessary to feed some digester tankage as well as ear corn in the ration for swine pasturing on such areas. For New Jersey and Pennsylvania conditions the best results in the establishing of permanent pasture would result from seeding the following mixture:

Blue Grass, 1 bushel; June Grass, 1 bushel; Red Top, 1 bushel; Timothy, 15 pounds; White Clover, 5 bushels per acre.



Forage Crop Necessary to Economical Pork Production

Seeding is preferably done during the month of September, following either oats and Canada Field peas or potatoes. Such permanent pastures would be of the greatest service where large areas are devoted to swine, in which case the blue grass and timothy mixture would supply permanent pasture intermediate to the regular forage crops that follow.

Red Clover

At the New Jersey Experiment Station the following mixture intended for permanent meadow grass has been used with excellent results, seeded in September following oats and Canada Field peas or potatoes:

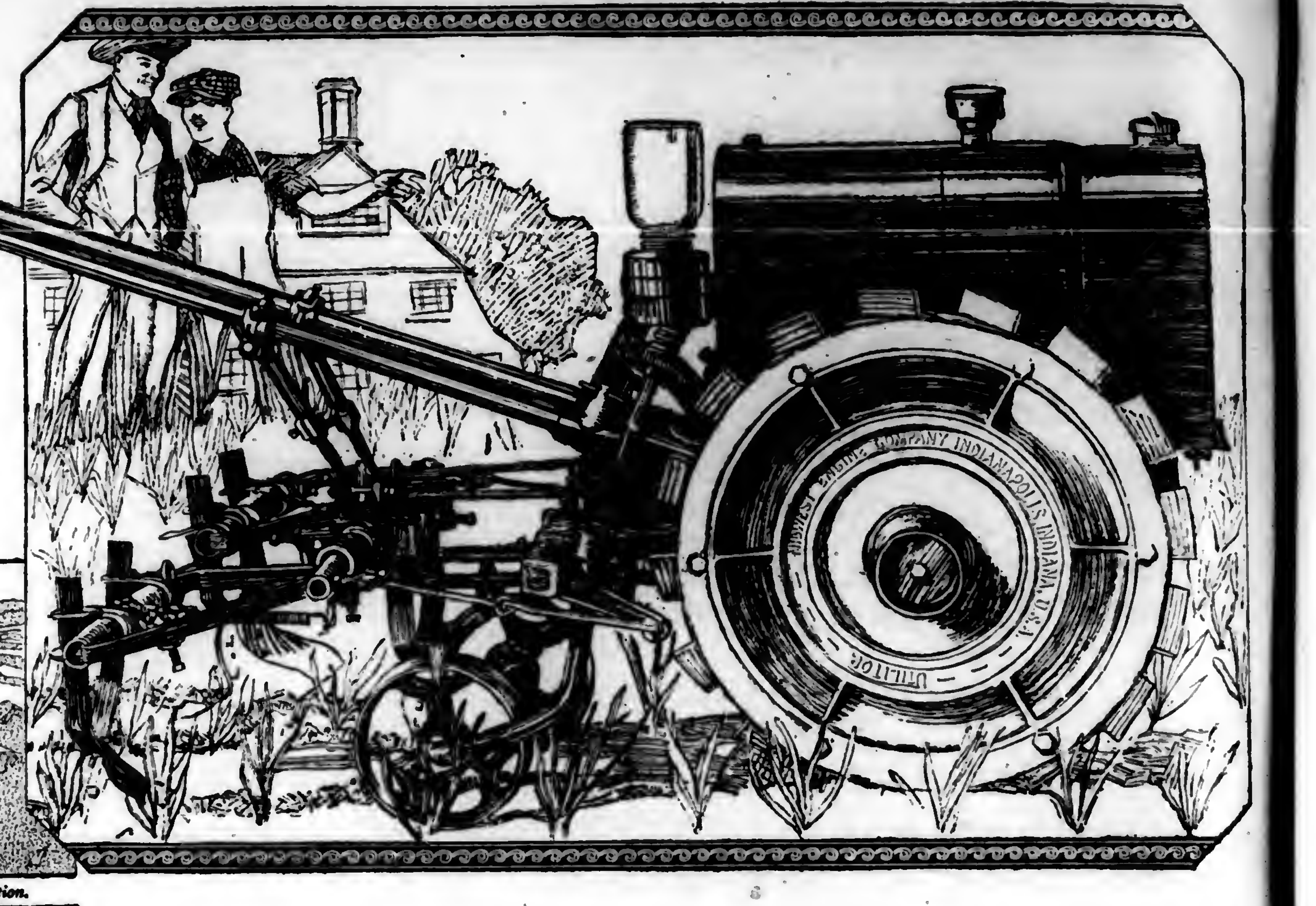
Timothy, 16 pounds; Red Clover, 8 pounds; Alsike Clover, 4 pounds; Alfalfa, 2 pounds per acre.

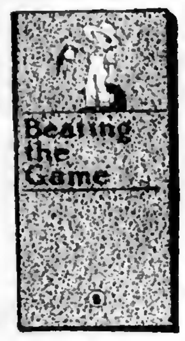
This is seeded without a nurse crop. The first crop is harvested and cured as hay, while the aftermath or second crop is allowed to remain on the ground. It is necessary to have the ground well limed to secure a satisfactory stand of clover, and with swine it would be safe to pasture this area during the second season.

Dwarf Essex Rape

This is clearly the most promising and perhaps the most popular forage crop for swine. Its popularity is due in part to its low cost as far as seeding is concerned, and the further fact that it may be seeded early in the spring or late in the summer, and it may be pastured as soon as the plants are nine inches high. Where the seed is drilled in rows twenty-four inches apart, three pounds of seed per acre is sufficient. In case the seed is broad casted, six pounds of seed per acre is recommended. Usually the pigs may be turned into a rape field six weeks from the date of seeding, and if care is exercised and the fields not pastured too severely, green forage will be available thruout the entire season. At the New Jersey Station a mixture of 6 pounds of dwarf Essex rape, and 15 pounds of sweet clover were seeded during the early spring, and thruout the season an average of one ton of live weight of pigs was pastured per acre. During the early stages of growth the rape plants contain a great deal of protein, some chemists claiming that it compares very favorably with alfalfa or the clovers in this respect. The ground should be well worked over, and thoroly prepared for the seed bed, since the seeds are very small, and should be given every opportunity to germinate promptly. When the plant

(Continued on Page 22)





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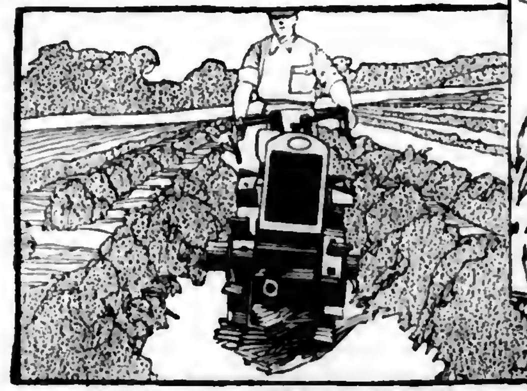

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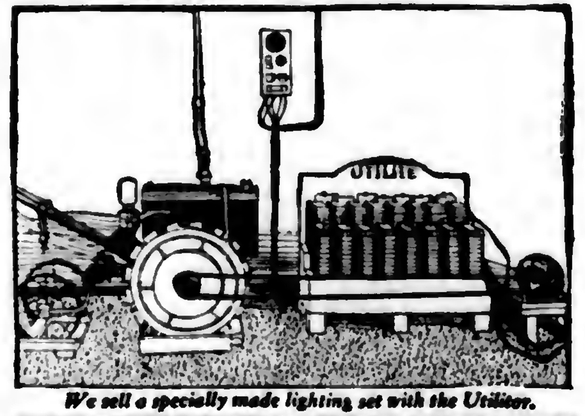

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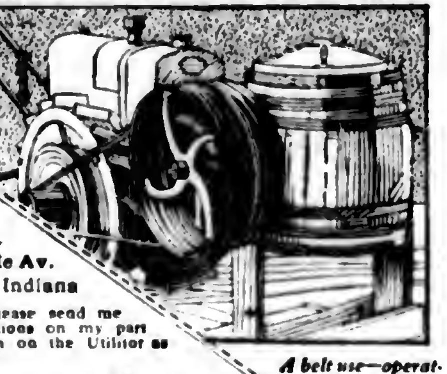

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[If you will give us the information requested below we will be better able to show you how the Utilitor fits your particular problem.]

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I am raising ________. Nature of soil ________
Level? ________. Rolling? ________. Hilly? ________
Name ________
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MIDWEST ENGINE COMPANY, Indianapolis, U. S. A.

Dependable Power

Growing Sweet Clover

Some years ago when attending the Normal Institute or spring meeting of the Board of Agriculture, I saw white aweet clover (melilotus alka) growing along the railroad on what looked like poor soil in Clearfield County and noticed the similarity of its leaves to that of alfalfa.

A few years later I saw stalks of white sweet clover growing along the road on their soil in Huntingdon County, and one stalk along the road at a school house in Union County.

Five years ago, many stalks of this clover grew in my mowing field from clover seed which I had bought in Lancaster County. Within the last few weeks, a noted writer of this state in an agritural paper, called this clover a weed, and thinks little of it, while a writer from an adjoining state, in the same farm paper, speaks highly of white sweet clover, and "Col. Bob Seeds" writes an article about how white sweet clover seed shipped from Gilby, N. D., has made it a rich community.

With this clover called a weed by one writer and praised highly by others, what opinion shall the average farmer have concerning it; shall he try it or confine himself to the medium red?

Having seen how tall this white sweet clover grew on poor soil, I sowed one-half bushel of this seed with my other clovers on 16 acres the past three spring seasons.

Three years ago I sowed a mixture of this sweet clover and alfalfa on three acres of wheat and these two clovers with medium red and alsike on five acres of an eight acre field.

The three acres seeded with the two clovers, we harrowed with a spike-tooth harrow to cover the alfalfa.

We had a good crop of wheat on these eight acres, and in September we cut the clover crop which had grown after harvest, and the eight acres made eight big loads of hay which were fed to the cows during the winter.

In 1918, these eight acres made 14 big loads of good hay at the first cutting in a poor season for hay. We made a second cutting from this same field, but it was a light crop of hay. This eight acres grew a big crop of silage corn last year.

On 16 acres of wheat in the spring of 1918, we sowed these four mentioned clovers; and last haying we cut and hauled from this field in June and July, 42 big loads of mixed clover hay, with some timothy which by weight would have made 48 tons of hay at least, as our loads average 1½ tons easily.

Some of this white sweet clover was six and one-half feet tall, being as high as the team and the stalks or stems were quite thick and coarse, being difficult to dry.

Cut at the proper time sweet clover makes good hay and a second growth for pasture or to plow under for corn. It makes a better growth the first season after wheat is harvested, either for pasture or for hay, than other clovers do, but it does not make the second growth the second year that medium red clover does. In 1919 and again this spring, we sowed these four clovers on wheat for hay this year and for next year's hay crop.

The seed was less costly this year than medium red, which was another reason for sowing it. The roots grow deep in the soil which helps loosen the soil and it is a nitrogen gatherer too.

I believe it will make a heavier growth of grass or hay on thin soil to plow under to enrich the soil or for hay than any other clover, and under adverse conditions, without inoculation so far as my experience is concerned.

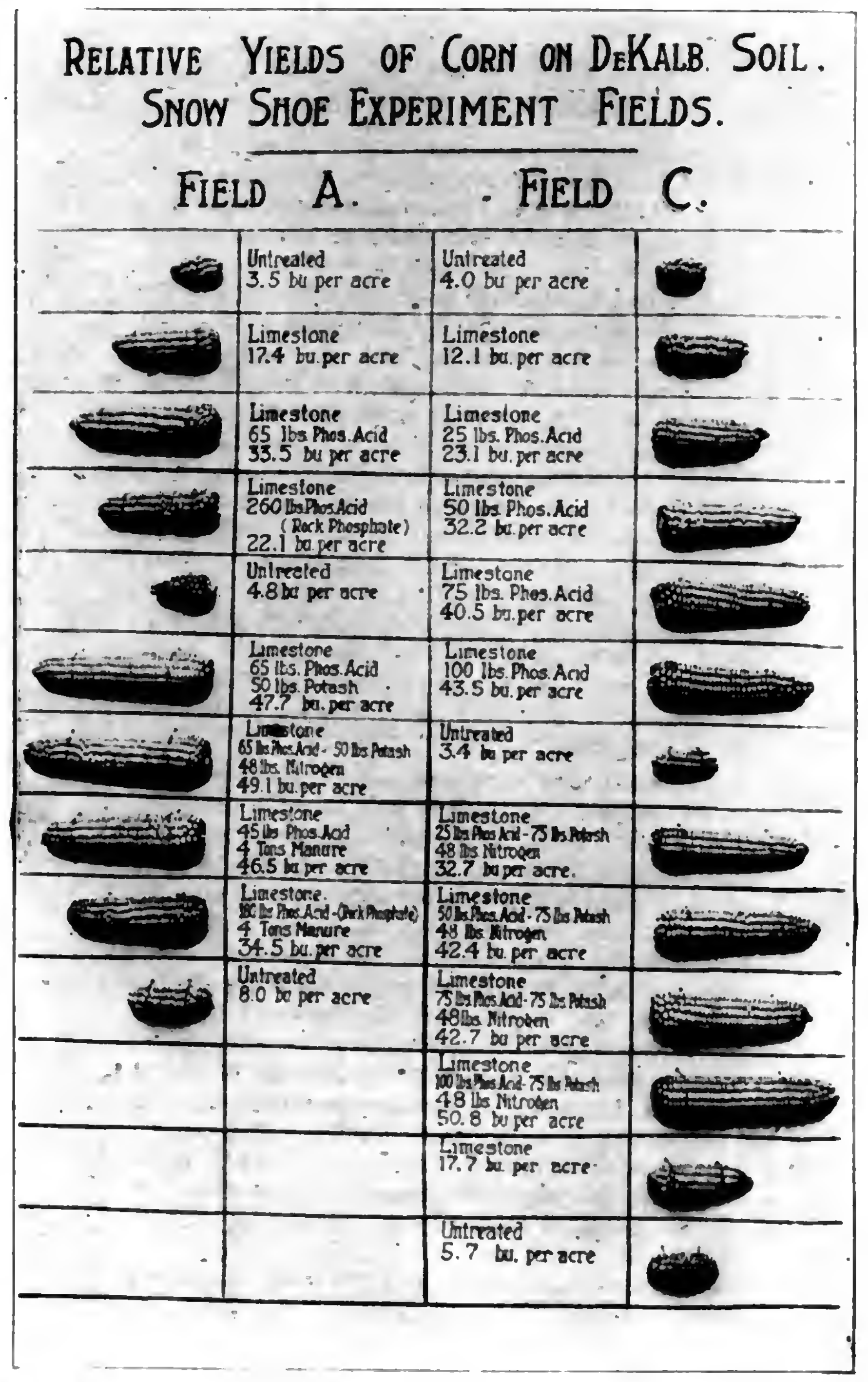
As to its feeding value. The hay made last year had very heavy stalks, which cows do not or will not eat, unless they are very hungry, but horses eat these stalks up clean and like it apparently.

True, our hay was a mixture of four clovers and timothy, but in spots in the field the white sweet clover either was not thoroly mixed with the others or it had taken possession of the soil and crowded out the others, and it was in these spots where it was the rankest and tallest.

While this clover has grown and yielded for me as stated, yet I would not recommended any one to sow it alone for hay, unless it is seeded thick to avoid too rank a growth, but with other clovers it makes a heavier hay crop and enrichs the soil for the corn crop following.

With other clovers, we sow only about two pounds per acre, while seeded alone, some advise as much as 18 pounds to the acre.

Since growing this clover on our farm, it is seeding itself, so that we see both it and alfalfa growing along the fences along the road. Ours is a limestone clay and clay loam soil.—J. N. Glover, Union Co., Pa.



RELATIVE YIELDS OF CORN ON DEKALB SOIL.
SNOW SHOE EXPERIMENT FIELDS.

FIELD A.	FIELD C.
Untreated 3.5 bu per acre	Untreated 4.0 bu per acre
Limestone 17.4 bu. per acre	Limestone 12.1 bu. per acre
Limestone 65 lbs. Phos. Acid 33.5 bu per acre	Limestone 25 lbs. Phos. Acid 23.1 bu. per acre
Limestone 260 lbs Phos. Acid (Rock Phosphate) 22.1 bu. per acre	Limestone 50 lbs. Phos. Acid 32.2 bu. per acre
Untreated 4.8 bu per acre	Limestone 75 lbs. Phos. Acid 40.5 bu. per acre
Limestone 65 lbs. Phos. Acid 50 lbs. Potash 47.7 bu. per acre	Limestone 100 lbs. Phos. Acid 43.5 bu. per acre
Limestone 65 lbs Phos. Acid - 50 lbs Potash 48 lbs. Nitrogen 49.1 bu. per acre	Untreated 3.4 bu per acre
Limestone 45 lbs Phos. Acid 4 Tons Manure 46.5 bu per acre	Limestone 25 lbs Phos. Acid - 75 lbs Potash 48 lbs Nitrogen 32.7 bu per acre.
Limestone. 180 lbs Phos. Acid - (Rock Phosphate) 4 Tons Manure 34.5 bu. per acre	Limestone 50 lbs Phos. Acid - 75 lbs Potash 48 lbs Nitrogen 42.4 bu. per acre
Untreated 8.0 bu per acre	Limestone 75 lbs Phos. Acid - 75 lbs Potash 48 lbs. Nitroben 42.7 bu per acre
	Limestone 100 lbs Phos. Acid - 75 lbs Potash 48 lbs Nitrogen 50.8 bu per acre
	Limestone 17.7 bu. per acre
	Untreated 5.7 bu. per acre

Improving DeKalb Soils

Forty-three percent or twelve million acres of Pennsylvania land is of the DeKalb soil series. Not all of it is as barren as that shown in the photograph, but a great deal of it is, and much of it might be materially improved.

The situation of the Pennsylvania experimental field at Snow-Shoe in Center County was very rough before Professors Gardner and White laid out the plots. The field had been abandoned for forty years and was grown up to sweet fern, sedge, and jack pines.

The tests to date prove clearly that the low yields characteristic of this soil type in Pennsylvania are due to the lack of plantfood in the soil. On the unfertilized plots the yield of corn runs from three and one-half bushels to eight bushels to the acre.

To vizualize the yield of the different plots under fertilizer treatment the Pennsylvania Station made up the above chart. For comparison each acre yield is in proportionate size to the ear of corn shown. Alongside is given the yield and the kind of treatment the land received.

This chart should be of great interest to anyone farming the DeKalb type of soil. It certainly shows that the corn crop on this type of soil responds to fertilization. The results of this test will also be of considerable assistance in choosing the fertilizer for corn.

Keep the Auto in Shape

If you always wish to have a fine, polished surface on your car, do not wash it with hard or soft soap. Either is ruinous to the coating. Paint and varnish makers have joined the automobile manufacturers in a campaign against the use of alkali and soda soaps in washing automobiles. Chemists have evolved a harmless and economical preparation which can be obtained at auto accessory dealers. It is considered best for auto washing.

It has long been customary to clean the cylinders with long handled scraping tools, the cutting edges of which are hardened. In scraping a cylinder in this manner, it is important to have the piston in the upper-most position of its sweep, since otherwise the scraping tool is likely to slip into the bore of the cylinder and injure the smooth surface of the cylinder wall.

To prevent trouble on the road with the electric system of your machine, make an occasional inspection of the wiring. Look for loose cables and worn places where they vibrate against the frame of other parts. Keep the wires free from soil and grease. Keep the terminals and switch points clean and the battery charged. These precautions taken, you should have no trouble with the electric system.

The first packing for use in the water pump glands is either wicking, lead and graphite, or waterproof asbestos. If asbestos, loose twisted rope packing is used, soak thoroly in cylinder oil and cover with fine flake graphite and coil the packing around the shaft in the direction of rotation of the gland nut when tightening it. If packing is too large to squeeze it in a vise, cut to size with snips or heavy scissors. The gland nuts should not be tightened more than necessary to prevent leakage of the water. This should be done with the aid of a wrench.

In cleaning the headlight reflectors, care should be taken to guard against gritty substances. To do this effectively, wet a piece of absorbent cotton with grain alcohol, wipe the reflector from the bulb socket outward and dry with a piece of cotton.

To repair celluloid windows is not a very difficult job. All that is required is some sheet celluloid and some celluloid cement. The later makes it unnecessary to use needle and thread in replacing windows. Smaller breaks or rips in the celluloid may be repaired by cementing a patch of new celluloid over it, which will give excellent service for a long time.

To get the most out of a tire, the most care should be put into it. Kept in good shape continually, mended for the smallest cuts soon after each trip, the tire will run up to, and perhaps above, the mileage set by the manufacturer. Neglect means waste and disappointment over the service the tire is supposed to give.

Most important in the care of the tire is the almost daily habit of keeping the tread uncut and unbroken. As fast as they occur all cuts should be mended so that water, sand and other destructive matter may not gain a start on the tread and wear it away quickly.

If the tire is worn down to the carcass, it should be taken to a reliable concern for retreading. Men who are trustworthy will say whether this operation would only mean an added expense. If the canvas base is worn thru in spots, retreading will not help it. An inner liner will give additional life to the tire, but not for long.

Metal strips used to bind the running board frequently become loose because they have been fastened with round-headed nails instead of screws.—Alvah H. Pulver, Wayne Co., N. Y.

PENNSYLVANIA FARMER
AGRICULTURE THE KEYSTONE OF NATIONAL PROSPERITY
ESTABLISHED 1880

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Member Standard Farm Paper Ass'n and Audit Bureau of Circulations

PHILADELPHIA, PA., MAY 15, 1920

VOLUME 47 NUMBER 20

Our job is to serve our readers. Whenever and wherever we can help you, write us.—The Editors.

We are still hampered by the paper shortage and are unable for the time being to send you the kind of paper we would like. We had hoped that the situation would be relieved by this time but indications do not point to any immediate relief in the world-wide shortage of printing paper. We realize that it is little satisfaction to know that all publications are laboring under the same difficulty and we hope readers will accept the situation as a forced one and make due allowance for the crowded appearance of the paper. This will also explain to our correspondents the delay in the appearance of their articles. However, this should not deter any from sending in timely articles and comments of interest. Short articles from "the folks" always receive first consideration.

Transportation by Trucks

THE hauling of goods and produce by truck has developed within the past few years from a novelty into a business of large proportions. The strikes, embargoes and car shortage troubles would have caused serious shortage of food and other necessities at different times during the past four years if it had not been for the development of the truck traffic. Not only were the wants of consumers supplied, but the ability of farmers to transport their produce to market prevented the loss of thousands of tons of perishable products. Now that the practicability of this kind of transportation is established it is being made permanent and largely extended. Good roads, a good truck supplimented by handy trailers place farmers and consumers beyond the harm of strikers and whimsical transportation companies.

More Money For Schools

THERE is encouragement at least in the widespread agitation for improving the present school situation. The weakest link in the chain at present is the teaching force. Of course, many qualified and efficient teachers have stuck to their profession at financial loss; but the ranks as a whole have been sorely depleted by resignations in favor of better paying positions and these places filled by young, inexperienced and inefficient teachers. As a result the condition of the public schools today is lower than it has been since they were established. We challenge the assertion that boys and girls of sixteen to eighteen are better educated today than were the school teachers of fifty yars ago. They probably have a smattering of a greater number of subjects, but they are less qualified in the "Three R's," and above all they lack the knowledge of life's fundamentals which age and experience alone can give.

No more serious happening can befall a nation than to suffer a lowering of its religious and educational standards and institutions, but that is just what has happened in this country where we have been leaders in both lines. The churches have set out to raise the money to retrieve their rightful place and they will probably succeed, because certain ones are sufficiently interested to keep at it until it is raised. But what about money to advance the public schools? In spite of our boastfulness, about the freedom of opportunity and our universal educational advantages the lack of sufficient money is the primary cause of our educational slump, and the sad part of it is that public sentiment is averse to providing the necessary money. We should be at least as generous to our fundamental institutions as we are to charitable projects.

Shoddy Clothing

IT would seem upon first thought that it would not be difficult to pass laws preventing one class from practicing deception and dealing dishonestly with other classes. But the difficulty of getting Congress to enact the Truth in Fabrics Bill shows that it is a most discouraging undertaking. The public is perfectly justified in asking that manufacturers be compelled to state the kind, quality and proportions of materials used in the manufacture of cloth, but the cloth makers object to telling the truth. So expert have manufacturers become that it is impossible for the layman to tell, by examining a piece of cloth, of what material it is composed, and as a consequence he frequently pays wool prices for shoddy, or worse. It is the principle of selling everything for what it is that must be enforced. Substitutes have their place in almost every line, but the manufacturer must be prevented from deceiving the buyer by misrepresentation and from selling them for the genuine article.

There are now huge stocks of virgin wool lying in storehouses unmanufactured because unidentified shoddy permits the manufacturer to make greater profits from it than he could make with virgin wool. It is estimated that there is thruout the world an accumulation of about 1,265,000,000 pounds of wool—the accumulation being partly due to lack of shipping facilities during the war. On September 1, 1919—10 months after the war closed—there was in the United States more than 700,000,000 pounds of virgin wool, or 100,000,000 pounds more than the annual consumption in this country. The clip of this year will add 2,500,000,000 pounds more. These figures disprove the contention that the use of shoddy is necessary because of low supply of wool.

Let your Congressman and Senators know that you want the Truth in Fabrics Bill enacted at once. It is known as H. R. 11,641.

Unused Helps

NO farmer would buy a potato planter and leave it stored away year after year without using it when he might make economical use of it. Yet many farmers are acting on this principle by not making full use of the many helpful agencies at hand. In these days of high costs, high prices and scarce help it behooves every one to make use of every opportunity to lower production costs and increase selling returns. He who is best informed in the science and practice of his business is best able to do this.

The unused helps we have reference to just now are those made available by the state and federal government. It is time to discard the prejudice many have against what they call "impractical book larnin'" and realize that only they whose practices are scientifically correct can succeed, no matter whether they were learned from a book, a neighbor, or by experience. No other business depends so completely upon scientific knowledge and practice as does farming. Like the potato planter mentioned, there are in existence, paid for and ready for use books and pamphlets—bulletins—upon almost every subject. They contain the latest information and may be had for the asking by simply writing a postal card to the State College or the Department of Agriculture at Washington.

Another agency is that of the Farm Bureau. The possibilities of this organization in connection with the County Agent are not fully realized by a large proportion of farmers. It is established and paid for, so why not use it. It is another case of the unused potato planter with a great many farmers. If it is not doing all that you think it should, you may be partly to blame. It has great possibilities and what it most needs is the intelligent cooperation of farmers.

Our Washington Letter

President J. R. Howard of the American Farm Bureau Federation has returned to Washington, after having made an extended trip throughout the farming sections of the country, where he has investigated the food production situation.

Mr. Howard presents a rather gloomy prospect for the consumers in the large cities. Every immediate condition indicates lower production. The labor shortage is practically identical everywhere. Easy hours and high wages in the city have drained the farm of its labor supply. Iowa is 150,000 farm workers short of her needs. Alabama farmers are leaving untilled 1,000,000 acres of cultivated land formerly devoted to the production of food crops. Thousands of farms in New State State will lie idle this year for lack of labor. Throughout the entire country farmers are letting their fields stand in hay or pasture because they either cannot get or cannot afford to pay the prices demanded by farm labor.

In New England Mr. Howard found a spirit of progressiveness among the farmers, who have the advantage of good markets, but many are flocking to the manufacturing cities. The Farm Bureaus all through the New England states have voted for a membership fee of five dollars, which will enable them to build up strongly efficient county organizations. The leaders of the Farm Bureau movement are insisting on the development of strong, effective county and state organizations as a permanent foundation for the national federation.

* * *

The bonus proposition agreed to by the Ways and Means committee includes five optional plans for rewarding the soldiers and for raising the money, as follows: (1) A cash payment to all service men at the rate of $1.25 per day in excess of sixty days of active service; (2) payment at the rate of $1.75 per day if service men wish to take vocational training; (3) advance payment to apply on home purchase, either city or country, at the rate of $1.75 per day for time actually spent in service; (4) paid up war risk insurance policy maturing in twenty years on basis of $1.75 per day for time spent in service; (5) loans to service men not exceeding $1,000 for reclamation and development of farm lands. All service men may be beneficiaries of one plan, if in service more than ten days, except those above the rank of captain.

The five parts of the tax scheme are: (1) A one per cent tax on all retail sales, contracts and leases; (2) one per cent increase over present surtaxes on incomes between five and ten thousand dollars a year, two per cent increase on incomes between ten and twenty-six thousand dollars per year; (3) graded increase in tobacco revenue tax up to 66 per cent; (4) a one-fifth of one per cent tax on all stock and bond transfers; (5) a one-half of one per cent tax on all real estate transfers.

* * *

There is a bitter fight on over the proposition to levy a tax on all retail sales, an element in Congress demanding that the money for the bonus be raised by levying a tax upon excess war profits. This discussion over the tax feature has attracted so much attention that it has apparently overshadowed the fact that the Fordney bill includes the obnoxious features that were in the old Mondell Land Settlement bill which was so strongly opposed last summer by the farm organizations and the farm press.

I find by examining this bill that provision is made for establishing the "National Veterans Settlement Board," authorized to establish "veteran settlement projects for the reclamation and settlement of lands by means of irrigation, drainage, or other method of development;" that this board will be empowered to purchase lands, develop farm units, contract with irrigation corporations, build roads, establish townsites, and "as far as practicable" employ veterans in the development of these reclamation projects. It is further provided that "at the earliest practicable date each soldier so employed upon a project shall be allowed to select and shall be allotted a farm unit upon which he may construct a dwelling and make other improvements."

A significant clause in this soldier bonus bill land proposition, one worthy of considerable study, says that "any unit not allotted to a veteran or repatriate within one year after public notice in respect thereto, as provided by this section, may be disposed of to qualified citizens under the provisions of the reclamation laws."—E. E. R.

HARRISBURG LETTER

Labor Situation Acute.—From all accounts, state as well as county in origin, the labor situation in the farming regions of Pennsylvania is now at an acute stage. In counties not regarded as of the same agricultural class as the socalled "garden counties," farmers are far short of the necessary help and it is believed nearer 100,000 than 85,000 farms in Pennsylvania are facing curtailment of production. Commission merchants, grain dealers and handlers of garden products at retail have been sending agents thruout the State to see conditions and are now endeavoring to arouse local sentiment for adoption of plans for helping production such as were in vogue, altho to a limited extent, during the war. Attention of chambers of commerce and other organizations has been called to conditions and the State Employment Service has been posting information about farming jobs and opening its offices for farmers and men wanting to work in the fields to meet and talk over matters on designated days. The first days were not a howling success, but it is believed these places can be made of value when industrial conditions change.

Reducing Forest Fire Hazards.—Rainy weather this spring has reduced forest fires and enabled plans of Commissioner Gifford Pinchot to bring about a reduction of the forest fire hazard to be worked out without stress. Big corporate owners of woodland, lumber companies and rialroads have been united in cooperative measures, the latest arrangement having been made with the railroads whereby strips from 100 to 200 feed wide will be cleared along tracks and patrolmen employed during the dangerous season. The Department of Forestry has agreed to seek cooperation of private owners of woodland where railroads do not control the strips beside tracks.

Rural High Schools.—Word reaching the State Department of Public Instruction is to the effect that additional rural high schools, some of them with agricultural courses, are being organized in counties. Dr. L. L. Driver, head of the rural schools has been at work on consolidation projects and is planning the merging of schools in some typical districts which will afford opportunities for observation. Some of them have been effected this year and others will be undertaken when schools reopen in the fall.

The Apple Survey.—Preliminary work on the survey of the apple industry in Pennsylvania, second of the surveys to be undertaken under direction of Secretary of Agriculture Fred Rasmussen, has been started. The tobacco survey is well advanced and not the least valuable of its features will be photographs showing actual conditions in Lancaster and York and the other tobacco counties. The apple survey will go thru everything from planting to the training, cultivating, spraying and picking. Great care will be taken with the grading in order to demonstrate.

NEW YORK LETTER

Shipping Conditions Cut Farm Crops.—A valuable carload of nitrate of soda destined for Rochester market gardeners cannot be moved from New York City. Carloads of fertilizer in Syracuse and other points badly needed by farmers cannot be moved. One fertilizer company had 300 such cars held up, and they were only moved when the State Federation of Farm Bureaus sent its president to Wasihngton to secure authority from the government. New York farmers who buy seed corn of Long Island growers have been able to get only one half their supply delivered. The Grange Exchange has had to cancel orders for thousands of dollars worth of seed because it could not be moved.

Onion Lands Vacant.—Owners of much land in central New York have been unable to lease all their onion lands and fear many fields will lie idle. Some owners have already sown oats on these fields. About 100 days are required to mature a crop of onions.

Cheese Opening.—The Watertown Cheese board closed its week's sale at 23 cents. The Gouverneur board also sold at that price.

Foreign Seeds Cheaper.—Foreign-grown cabbage seed brings $5 a pound as compared to $18 last year. Cauliflower seed is $20 and was $50; Turnip seed is 75 cents and was $1.50. The drop is due to a big supply and to the fact that Europe could not buy these seeds.

County Fairs.—Eighteen of the county fairs of the State get the limit of $4000 each of State support for premiums. Over $327,000 wss paid out last year by the 79 county and town fairs of the state.

Grange Exchange Enlarged.—At a recent joint meeting of the State Grange officials, Farm Bureau and Dairymen's League leaders in Syracuse it was arranged to increase the capital stock of the New York Grange Exchange to $1,000,000 and to increase the business done by the Exchange, which buys and sells farm supplies.

Farmers' Condensed Milk Plant.—The Dairymen's League Co-operative plant in Auburn will shortly open the work of making condensed milk on a large scale. It will have an initial capacity of 700 cases of sweetened condensed milk a day or 33,600 cans. The plant is now making thousands of pounds of butter every week and running two big evaporated milk machines night and day.

NEW JERSEY NEWS

Trees on Road Fills.—Under the advice of State Forester Gaskill, the Board of Freeholders of Salem County have adopted a policy of planting trees on road fills for the purpose of doing away wtih guard rails, and, it is expected, that this move will lead to an extension of roadside planting thruout Salem County. Guard rails are expensive to maintain and by their prominence invite injury by passing vehicles, while they offer little or no more security to travelers than trees.

Farmers Reduce Acreage.—Food scarcity and high prices in New Jersey are indicated by reports of the curtailment by farmers of their crops for the coming season. It was stated some time ago, particularly at the hearings by the Legislature on the daylight saving bills, that agriculturists in the State intended to raise products for the use of their families only and that they would not transport foods from their lands to the public markets in various parts of New Jersey. The diminished purchases of seeds by farmers during the past few weeks showed that this was not an idle threat, but that the agriculturists had fully decided to decrease their acreage to a point where they could attend to the land themselves and not bother about trying to obtain the services of help in these abnormal times at an exhorbitant figure. It was announced from one of the farm bureaus in the State that where there have been more customers this season and while the amount of business done will exceed that of 1919, yet individual sales are much less in quantity than heretofore. It was said, that, where last year, farmers purchased ten sacks of seed potatoes, this year they purchased only three or four bushels, while others, who in 1919 had bought as high as seventy sacks, had reduced the number this season by more than two-thirds.

Beetle Campaign Stopped.—Because County Auditor Worrell, of Burlington County, cannot find any warrant in law for the expenditure of $3,000 for extermination of the Japanese beetle in certain parts of the county, particularly the Riverton area, it is reported here that the campaign against the pest that has caused thousands of dollars worth of damage last year to crop, may be stopped. The auditor has declared that he has investigated the matter and cannot find either moral or legal grounds for the spending of the money for the purpose, which was authorized by the Burlington County Board of Freeholders.

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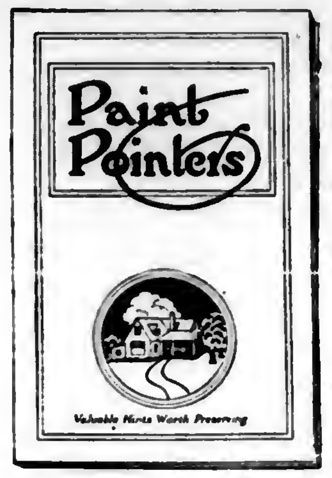

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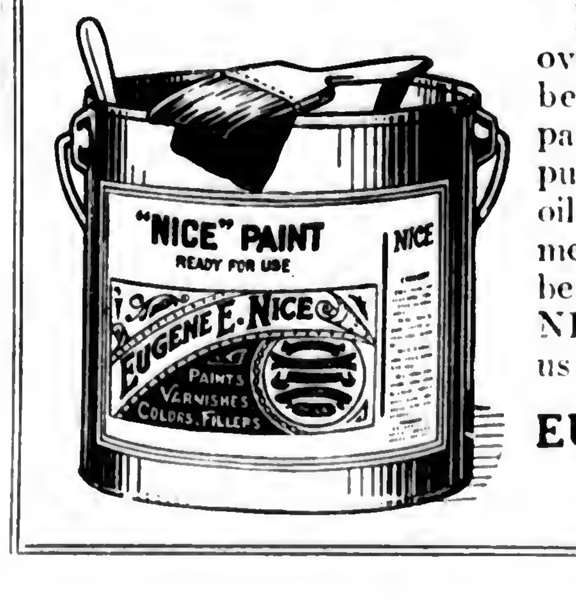
As paint manufacturers, we realized long ago that we would be serving and helping our farmer friends if we could impart to them some of our knowledge covering paint and painting.

Different paint jobs usually call for different paint methods of application and many other things that go to make the job wholly satisfactory. Ofttimes, money and time could be saved if the average man and woman could have a ready reference that they could depend upon to safely guide them. In "PAINT POINTERS", we have tried to cover every angle of the painting question. It is full of practical, honest, common sense explanations and suggestions of every conceivable character. Even if you are not thinking of painting, it will pay you to have a copy of this booklet on hand. We would like our many farmer friends to write for a copy. We will be pleased to send it free without obligation whatsoever.

By following its suggestions, you will find that by using a good paint---

TRADE MARK **NICE** REG. U.S.A. **Paint**

---that most lasting results will be obtained.



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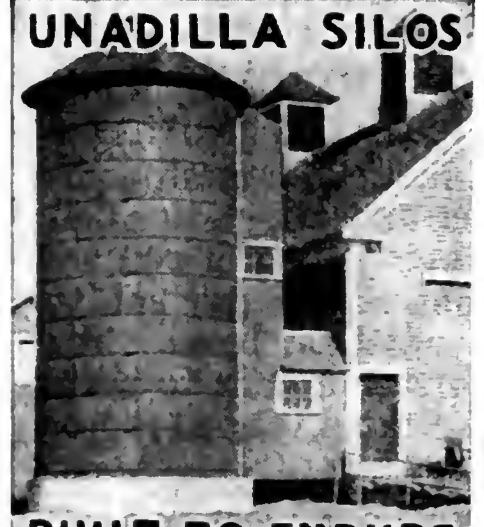

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It's made of strong, smooth staves that fit closely to form an air-tight, frost resisting and storm defying structure. Base and top anchors of steel cable, hold the silo erect, steady and secure on its foundation.

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MARYLAND CLUB BOYS GET GOOD RESULTS

Harford County, Maryland, has two powerful assets that bid well for its agricultural future. A county agent, and an active, wide awake Boys' Club. Recently I asked the county agent why it was that the boys got such splendid results in all their work, even the lowest records being worthy of any good farmer, and head and shoulders above the average yields of corn and potatoes, and pork production equally creditable.

"The best records," he said, "were made by the boys who most closely followed our recommendations. Let us take, for instance, the results obtained by the corn boys. A few exceeded 100 bushels of shelled corn, and the best ranged on down thru the nineties and eighties to seventy-five bushels an acre. Our recommendations were simple, such as any boy could carry out. They were practical for any farmer and applicable to any acreage."

"First of all good seed was selected. Every ear was tested for germination. That was a big factor, for it sometimes happened that fine looking ears have only a 55 percent test and mean only half a stand. Then the seed was graded so that the planter would drop the same number of kernels in each hill.

"On land that was in good fertility six to eight tons of manure were used. If the land was poor and especially needed humus, ten tons were used. The manure was supplemented with fifty pounds of acid phosphate for every ton. Manure is low in phosphorus and corn needs about four times as much phosphorus as nitrogen.

"Perhaps more failures and poor crops are due to poor seed beds than all other things combined. That is one thing the boys did. They prepared their ground well. If necessary the corn was thinned out but this was not needed much because practically no thinning was required. Another big help was taking out the smut. I believe that helped to grow a big crop. At harvest time, before cutting, most of the boys field selected seed for the next year, and they will have the advantage of good seed that is acclimated to their own soil. Its a big mistake to send way off somewhere for seed when you can raise it yourself just as well and cheaper."

"That certainly was a fine record Robert Evans made with his pig and I bet he was a proud boy when that big breeder from Virginia offered him five hundred dollars for his pure bred Duroc sow. Just 354 pounds gain in 210 days, an average of about 1.7 pounds a day was a real record. "Yes, it was very good, and young Evans told the breeder that if the sow was worth that much to him he'd keep her himself and keep right on breeding even better ones.

"What were the special points to which you might credit such big gains?" "First of all, as soon as he got the pig he gave her a good scrubbing and oiled her to get rid of any vermin. The pig was kept on good pasture nearly all the time and was fed waste and skim milk when it could be had and five pounds for each hundred pounds of weight of a mixture of equal parts of ground barley, ground oats, and cornmeal, with ten percent of that total of tankage when skim milk could not be had. The boys who had damaged wheat used it instead of barley. This year the boys are going to have a lot of pigs from their sows and some of them ought to make handsome profits. Several boys plan to keep all their sow pigs and get right into the pure bred business."

PREVENT SUMAC AND IVY POISONING

If one must handle these poisonous plants such as ivy and sumac, gloves, preferably of rubber, should be worn. After the gloves have been removed they should be thoroly washed with soap and water and rinsed several times. Inasmuch as the clothing which comes in contact with the leaves may be a source of infection for a considerable period, care should be taken in changing the garments, and also the shoes. Many cases of poisoning have resulted merely from contact with exposed clothing.

One of the surest and best methods of minimizing or preventing infection after the hands, face or other parts of the body have been exposed, is to wash and rinse them repeatedly with an abundance of good kitchen soap and hot water. The poison, after being deposited on the skin, requires some time to penetrate, and if this penetration can be prevented by thoroly washing, eruption and irritation will not result. While exposed parts should be cleansed in this manner as soon after exposure as possible, it is worth while to make the attempt even 12 or 20 hours afterwards in the hope that at least a portion of the poison may be removed. A heavy lather should be produced and the washing should be continued several minutes. Severe scrubbing with a brush is not advisable, but several swabs or small compresses of gauze may be used, discarding each in turn, so that the poison may not be distributed by the cloth.

Bathing with alcohol diluted with an equal amount of water is also an effective preventive. Where exposure has been more general, a bath for the entire body, followed by a change of clothing, is a good preventive measure. The hair should not be neglected. Bathing, if not accompanied by sufficient changing of water on rinsing, may result in spreading the rash to skin that had not been infected. In cases that are at all serious a physician should be consulted.

Sugar of Lead Not Recommended

The investigators call attention to the fact that scores of remedies and prescriptions are more or less in popular favor, but in spite of the claims they assert that no specific treatment for poisoning from ivy and sumac is yet available. Ointments should not be used in the acute stage of the disease. In the later stages, however, soothing and astringent ointments may be of value in allaying irritation and hastening cure. Sugar of lead, formerly much used, often proves disappointing if applied after inflammation has developed, and the user runs the risk of lead poisoning if this substance is applied extensively.

Eradicate Poisonous Plants

Eradication of these plants should be widely undertaken and followed up systematically. Every landowner should feel a measure of responsibility in this matter. The simplest method is by grubbing, in which care should be taken to cover the hands properly, and also to prevent infection by means of the clothing. The plants in fields may be destroyed by plowing them up and putting in cultivated crops. Often repeated mowing is also effective. The use of kerosene is recommended where injury to other plants or trees is not to be feared. It may be applied with a sprinkler or a spraying pump, and in many cases one application is sufficient. Arsenate of soda has been used very successfully to kill poison ivy on trees six to ten inches in diameter without injury to the trees, as well as on stone walls, buildings, and along fences.

SOIL INOCULATION

By soil inoculation we mean the adding to the soil of bacteria that may be lacking or may be present in limited numbers. In the case of crops like alfalfa, soybeans and lupines it always pays to inoculate when the particular crop is grown for the first time on any field. To a lesser extent this is true also of the clovers, vetches, cowpeas and beans. The question is now and then raised whether or not it would pay to inoculate alfalfa fields that had already grown alfalfa, or soybean fields that had already grown soybeans.

This is a question that cannot be answered by "yes" or "no." In the case of land that is maintained in a good state of cultivation and is well supplied with humus and lime the legume bacteria remain active for many years, and a second inoculation may not be necessary. In the case of land that has become markedly acid, or has lost much of its humus, repeated inoculation will probably pay. Marked increases from repeated inoculation of such land are reported from the southern states in the case of peanuts, cowpeas, soybeans and other legumes. Similar experiences are reported from New York State in connection with the growing of field peas for canning, and from Monmouth County in our own state in connection with lima beans grown on a field scale for canning. It would not be amiss to suggest that where the soil is not in the best physical and chemical condition the subject of inoculation of legumes should be carefully considered.—Jacob G. Lipman in N. J. Agriculture.

Increase 25 Barrels per Acre

MODIFIED and Improved Kil-Tone are especially recommended for potatoes, tomatoes, egg plants, melons, cucumbers, peppers and grapes. Their use insures better crops and bigger yields.

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is a Bordeaux paste for ground crops. It controls most fungus growths and blights and also stimulates leaf development.

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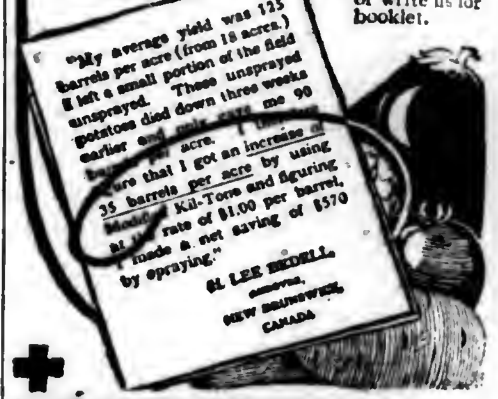

"My average yield was 125 barrels per acre (from 18 acres.) I left a small portion of the field unsprayed. These unsprayed potatoes died down three weeks earlier and only [illegible] me 90 barrels per acre. [illegible] that I got an increase of 35 barrels per acre by using Modified Kil-Tone and figuring at the rate of $1.00 per barrel, I made a net saving of $570 by spraying."
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THEO. BURT & SONS, Box 44 [illegible]

OAK LEAVES TELL WHEN TO PLANT CORN

Time of planting corn in Pennsylvania ranges from May 1st to 20th. Many farmers use the leaves of the oak as a barometer. When the oak leaves reach the size of a squirrel's ear—start the corn planter to going. The soil must be sufficiently dry and warm to give prompt germination. The following are essentials for success:

Plant only good seeds of a variety well adapted to your local soil and climatic conditions.

Provide a good seed bed by deep plowing, thoro disking and harrowing. Corn likes a moist, loamy soil. Fall and early spring plowing are generally better than late spring plowing.

A clover or timothy sod is a good preparation for corn. Barnyard manure may be spread on the sod at the rate of six to eight loads to the acre and plowed under. The manure should be supplemented with acid phosphate at the rate of forty pounds to each ton of manure, or at the rate of 250 to 300 pounds to the acre if applied thru the fertilizer attachment of the planter.

It is important to have a good stand of corn. Ten thousand plants to the acre, uniformly distributed in rows 40 to 44 inches apart is a favorable rate when planted for grain on good soil. This is equivalent to one plant for every 14½ inches in rows that are 44 inches apart. For ensilage the rate of planting may be increased by one fourth.

PINK MOLD ON COBS INDICATES ROOT ROT

That farmers should make an effort to discard ears of seed corn that give any appearance of being affected with root rot is pointed out by specialists at the Ohio Experiment Station who are now working on a control for this plant disease.

Root rot in corn is rather a misnomer, it is stated, as the effects of the disease really appear in the grains of the corn as well as the roots of the plant.

Generally, stalks of corn affected with root rot fall over before harvest time, but a white or pink mold on the cob or grains seems to be indisputable evidence that root rot is present.

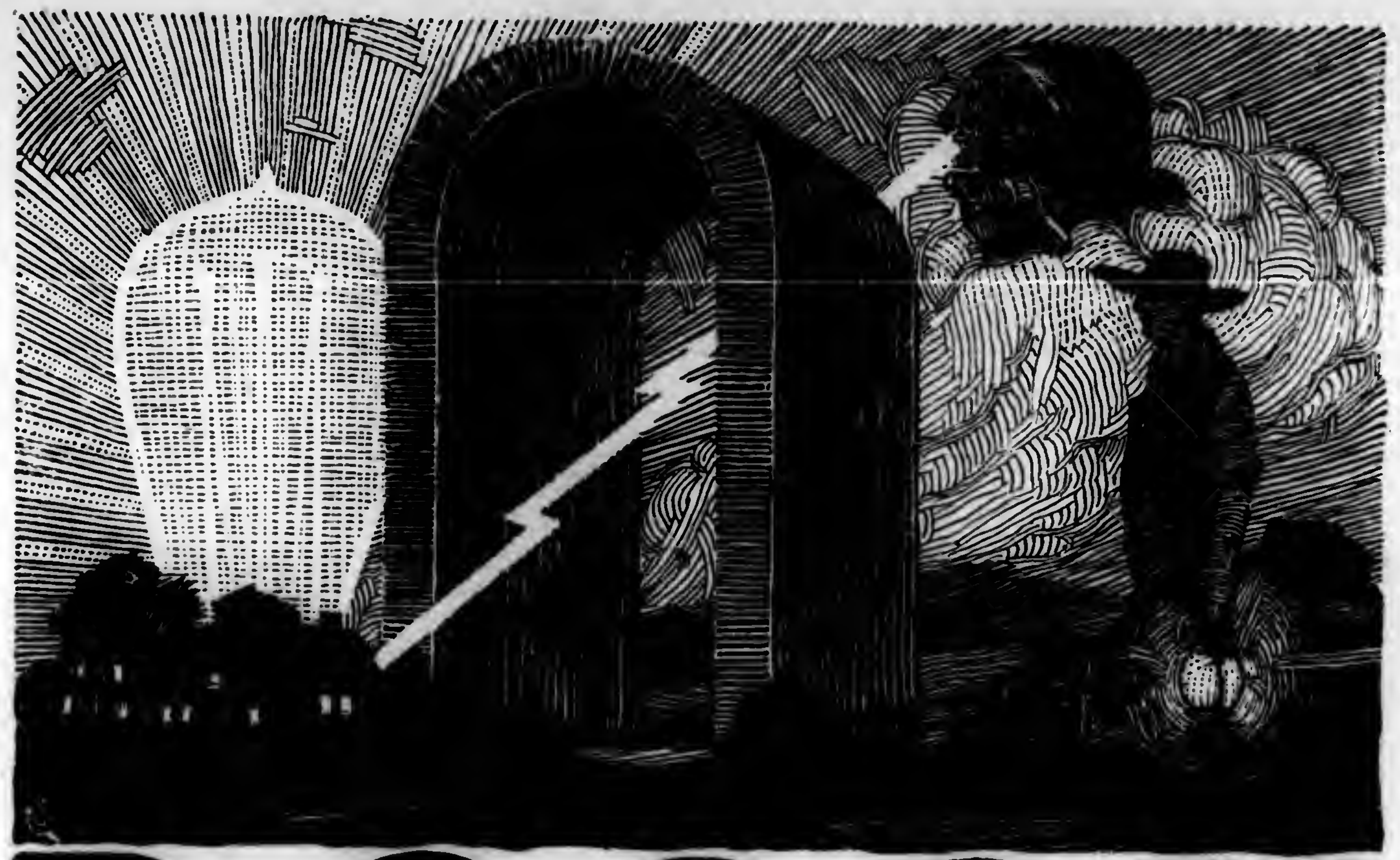
A flabby, weak-resistant easily-broken cob of a seed corn ear is indicative of root rot.

Farmers last fall complained of the great amount of moldy corn, believed to be due in some instances to wet weather. Rainy weather causes root rot to be more noticeable during corn harvest.

The planting of seed corn from ears that give no evidence of mold is but the first step in control, however, as the disease may be in the soil or even in other farm crops.

The average housewife has the duty of spending for food, about thirty or forty percent of the family income. Good buying is based on knowledge and knowledge comes only with study and experience.

Trees grow; they grow in height, in volume, in value and in quality.



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If your engine does lay down it is always at the worst possible time—isn't that true?

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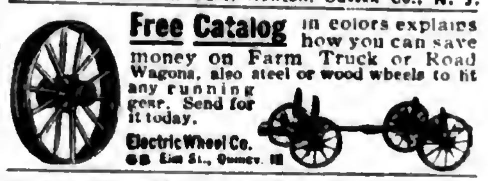
The Farrell Hoist

for unloading hay with Gas Engine. Can be operated from load. Has quick return drum and band brake. Price right. For Circular address
JOHN FARRELL & SON, Newton, Sussex Co., N. J.



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Early Jersey, Charleston Wakefield and Flat Dutch Cabbage and Stone, Earliana and Livingston Globe Tomato. 100 for 50 cents; 500 for $1.75; 1000 for $3.25 postpaid. By express collect, 1000 for $1.75; 5000 for $7.50. Satisfaction guaranteed.
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Copenhagen Market, Wakefield, Ballhead, etc., 300 $1.25; 500 $2.00; 1,000 $3.00 postpaid. Express, $2.50 thousand; 10,000 $20.00 cash. Shipped safely anywhere well packed.
TIDEWATER PLANT CO. FRANKLIN, VA.

DURABLE DURHAM HOSIERY

Hosiery that stands the hardest wear of outdoor work and play

HOSIERY that frees you from the slightest discomforts because it wears much longer without holes. And you are never "stocking conscious" with Durable-DURHAM. It is always good-looking—always comfortable.

Durable-DURHAM is honest worth in hosiery. Styles for every member of the family. In all sizes and weights. Children's stockings made doubly strong. Socks and stockings for women and men. Heavy weights for outdoor wear—and light weights that are stylish for dress.

Every pair is carefully made of finest yarns—uniform strength throughout—and Durham dyes do not fade. Tops wide and elastic. Feet and toes smooth, seamless, and even. Legs full length. These are real Durham values. Look for the trade mark ticket attached to every pair.

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A heavy and substantial sock. Strongly double-reinforced heels and toes. Feet and toes are smooth, seamless and even. Black only.

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Made Strongest Where The Wear is Hardest

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You Can Afford a Farm in Fertile Ontario or Quebec

The wave of high land prices may well turn your attention to the opportunities to be found in these two older Provinces of Canada. Here, close to immense cities—great industrial centers—with all the conveniences to be found in any land anywhere, are farms which may be bought at very reasonable prices. Owners are retiring, independent—in many cases rich. High prices for all farm products, good markets, all the conveniences of old, well-settled districts, beckon you to investigate.

A Wonderland of Opportunity for the Pioneer.

If your means will not permit you to buy an established farm, Ontario and Quebec offer great fertile regions where the pioneer can hew out a home for himself and family—where prosperity and independence are to be won by those who will put forth the effort. Every branch of agriculture may be followed in these Provinces; dairying and stock raising are particularly successful.

For illustrated literature, maps, etc., write Department of Immigration, Ottawa, Canada, or

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200 N. Second St., Harrisburg, Pa.
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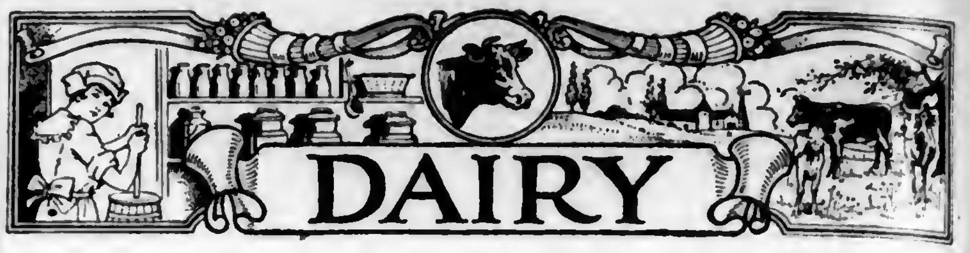


MILK FEVER AND ITS TREATMENT

While milk fever has been recognized for years and is the cause of the loss of some of our best cows in our largest and most valuable herds, it has naturally been the subject of much study but while the treatment at the present time is practically, a specific one, yet little is known as to the real cause and nature of the disease. The theories are very numerous but do not follow any one classification of causes.

We do know that this is a disease that is only found in cows that give a large quantity of milk and which are from five to ten years of age. It does occur in younger cows and in older cows, but only rarely. It begins usually within the first twenty-four hours after calving, but it may occur just before, during or as late as several days after calving. It attacks only cows that are in good condition, and does not occur in thin poor cows and those that have had feed of very poor quality.

As with most diseases, the symptoms may vary somewhat, especially early in the attack. If you are watching the cow closely, some little time before this attack comes on you may notice a wild staring look; a look of fear. The animal may appear nervous and restless and may grind the teeth and occasionally shake the head. The gait will be weak and unsteady. Sometimes the cow may lie down and get up, but often when she goes down she is unable to get upon her feet aagin. As a general thing she places her head in the flank with the nose resting upon the ground or floor, apparently unconscious of any movements near her. Up until this time she usually lies upon her breast but after unconsciousness is well established the cow may stretch out on her side. While this period of unconsciousness is coming on the cow may struggle in an attempt to get up. In some the movements are very slight or wanting altogether while in others they may be very violent.

The eyes remain open and are dry to the touch. The cow has no reflexes and the eyes can be touched with the fingers without any notice being taken of it.

The breathing is slow and there is usually a moaning sound or grunt at each breath. There is no movement of the bowels or kidneys and the throat is paralyzed which makes it impossible for the animal to swallow. For this reason, no attempt should be made to drench the cow or to give any medicine by way of the mouth. There is no secretion of milk, but the udder may contain a very small amount which was in the udder when the cow developed the condition.

The sooner this disease comes on after birth of the calf, the more severe it is. In some cases death may occur in six or eight hours, and it is rarely prolonged more than two or three days.

The cow rapidly gets worse and the heart beats get slower and weaker, while the breathing becomes shallow. The animal will lay flat on the side unless held upon the breast, which should always be done. If the animal is allowed to lie flat on the side for any length of time, bloating will result and some of the food from the paunch may find its way to the throat and the lungs where it would produce pneumonia.

Contrary to the common belief, the cow does not have any fever but rather the temperature is below normal. During the insensibility the animal does not give any reaction to pin pricks or any other slight injury to the skin.

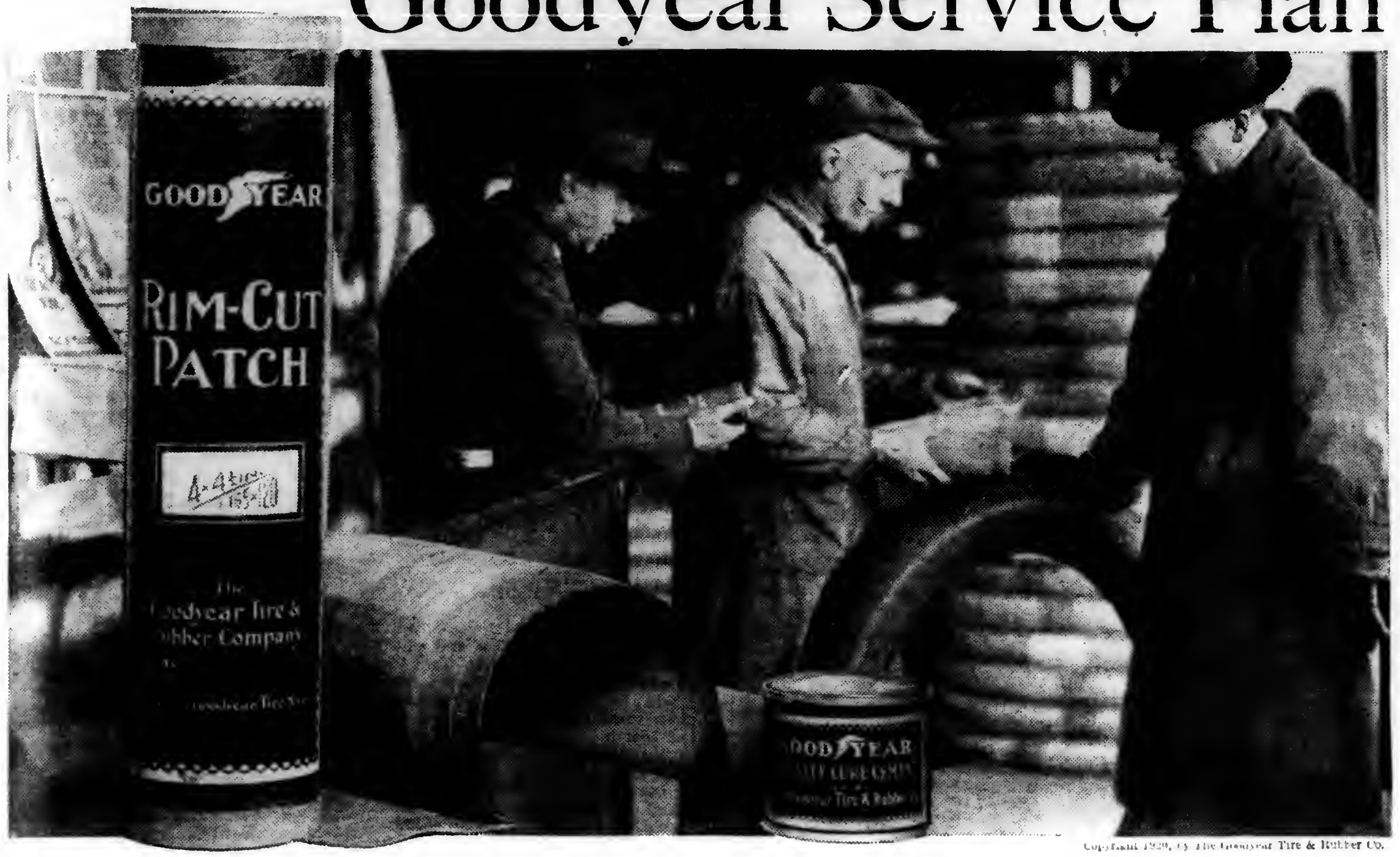
Ordinarily, this is one of the easiest diseases that we have to diagnose, due to the fact that usually the cow has just calved and that she goes down rapidly, that she has a good appetite until she goes down, and that she rapidly loses consciousness. All these symptoms are indicative of milk fever. Anyone who has seen a case or two of this disease can very easily recognize all, save the very unusual cases.

We do not know what causes it, but we know that it only occurs in animals that yield large quantities of milk, and those that are well nourished and in good condition. It is seen most often in those cows that are stabled, but will occur occasionally in animals that are on pasture. Excitement due to sudden changing of the cow and calf among strange animals, as well as a sudden change in food and housing may also have some effect upon this condition. It usually follows a very easy birth; we never saw a case in which the cow had milk fever following a difficult birth.

There is only one treatment that will give any results at all and that is by the inflation of the quarters of the udder with oxygen or air. This should be done as early in the attack as possible. It makes little difference what kind of an outfit is used as long as it is sterile. If it is not, an infectious condition may result in the udder that will be serious. This should always be done by a skilled veterinarian when one can be had. In some cows it may be necessary to tie a soft tape around the teats to keep the air from leading out of the teat. Care should be used in using the tape as injury to the teat may result and it should not be left

Outside Milking of Clean Cows Insures Clean Milk

Greater Tire Mileage and—the Goodyear Service Plan



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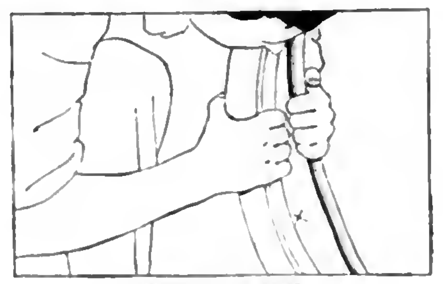
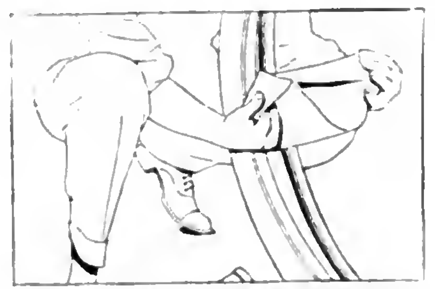
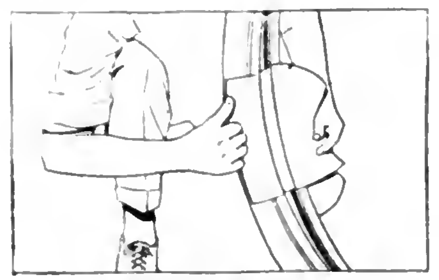


FABRIC BREAK



RIM-CUT PATCH BEING INSERTED



REPAIR COMPLETE

A fabric break may be repaired on the road by using the Rim-Cut Patch without cement. It should be vulcanized later. If the tire is too old to be worth vulcanizing, a satisfactory repair can be made by using the Rim-Cut Patch and CEMENTING IT IN with Goodyear C-35 Patching Cement.

To do this follow these directions: First be sure that the fabric at the break is dry; then clean the inside of the tire at the break with gasoline; after it is dry apply two coats of C-35 Patching Cement, allowing each to dry. Give the outside of the patch the same treatment; insert the patch by seating the toe of the tire bead in the crease in the patch wing. Now work the patch down all the way across the tire, pressing it down firmly and smoothly, and then adjust the other wing of the patch around the other bead. For cord tires, the Goodyear Cord Patch is the ideal tire saver to use.

EVERY Goodyear Tire Saver, like the Rim-Cut Patch illustrated, is designed to insure that greater mileage which is the purpose of the Goodyear Service Plan.

To the fine quality of Goodyear Tires and the convenience of their distribution, this plan adds effective means of prolonging the usefulness of injured tires.

In the case of a fabric break, for example, it provides in the Goodyear Rim-Cut Patch a dependable emergency repair which protects the tire until a permanent repair can be made.

But in addition to tire savers, the Goodyear Service Plan provides also tire conservation lessons, instructive advertising and the helpful advice of Goodyear Service Station Dealers everywhere.

Take full advantage then of the Goodyear Service Plan. Ask your Goodyear Service Station Dealer for the Conservation Bulletins; use his advice; keep Goodyear Tire Savers in your car—these are the means to greater tire mileage.

GOODYEAR
TIRE SAVERS

Says the dairyman who knows separators

"Insist on The Separator with The Million Dollar Bowl"

THAT will be the sentiment of dairymen everywhere when they realize just what the EMPIRE-BALTIC—**the Separator with the Million Dollar Bowl—means to them.**

Everyone knows that the Bowl is the whole separator—it is there that all the work is done—the profits all made. Therefore if the Empire Bowl is superior, the separator must be superior. And our Million Dollar Bowl is superior! The world's foremost centrifugal engineers, our laboratories, our whole organization have spent years in developing it to its present perfect stage. Considering all this, and the enormous additional butter-fat saving it will effect for dairy farmers this Million Dollar figure is but a small item.

The trade-mark below is the family "coat-of-arms" of the leading line of dairy machinery—EMPIRE. You will find it on the EMPIRE-BALTIC dealer's store.

EMPIRE-BALTIC
THE SEPARATOR WITH THE MILLION DOLLAR BOWL

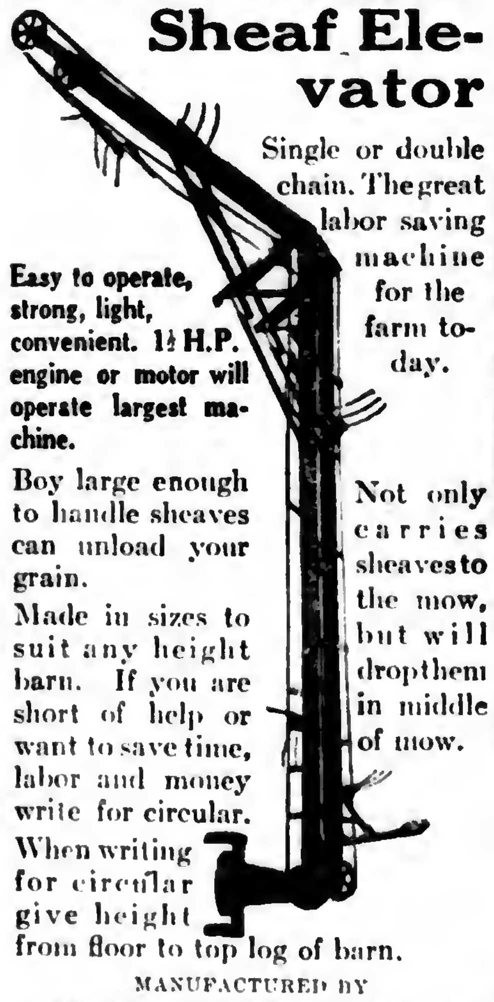
Why does this Million Dollar Bowl save more butter-fat? It's this: BECAUSE—it is **self-centering, self-balancing and free from vibration,** and you, as a dairyman, know that vibration wastes butter-fat since it shakes the cream back into the milk after separation. This same freeness from vibration means greater endurance—that fact is obvious.

We have told you just what we have accomplished. The question now is: What are you going to accomplish in extra profits this year? How much more butter-fat are you going to get out of your milk?

With the EMPIRE-BALTIC on your farm you are going to have a better chance of making extra dairy profits this year than you could possibly have otherwise. Write for our literature 104-S.

Empire Cream Separator Co., Bloomfield, N. J.
Manufacturers of Empire Milkers and Gasoline Engines Chicago, Denver, Atlanta, Toledo, Syracuse, Minneapolis, San Francisco, Montreal, Toronto

EMPIRE-BALTIC
The Separator with the MILLION DOLLAR BOWL



The Eshleman Sheaf Elevator

Single or double chain. The great labor saving machine for the farm today.

Easy to operate, strong, light, convenient. 1½ H.P. engine or motor will operate largest machine.

Boy large enough to handle sheaves can unload your grain.

Made in sizes to suit any height barn. If you are short of help or want to save time, labor and money write for circular.

Not only carries sheaves to the mow, but will drop them in middle of mow.

When writing for circular give height from floor to top log of barn.

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The Farquhar principle of separation ever insures clean fast threshing. We have manufactured Threshers for nearly 60 years, and our present modern line has been developed by continuous field experience.

Rake Separator shown here is a most practical and economical machine for the farmer who does his own threshing. Made in two sizes with capacities from 350 to 600 bushels of wheat a day. Suitable for Gas Engines 7 H. P. and larger.

Our Vibrator with Self Feeder, Wind Stacker, etc., is suitable for large crops and merchant threshing. Improvements giving increased separating and cleaning facilities added this year.

We also make a special Thresher for Peas and Beans, and a Peanut Picker.

Farquhar Threshers are best operated by Farquhar Steam and Gas Portable and Traction Engines. Illustrated Thresher and Power Catalogs sent free on request.

We also manufacture Sawmills, Potato Diggers, Grain Drills, Hydraulic Presses, etc. Write us concerning your requirements.

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THRESHES CLEAN

BEAN HARVESTER FOR SALE, universal, extra blades used one season. Cost $75, price, $40.
GEO. C. JARMAN. NOTTINGHAM, PA

For Sale Cow Peas, Soy Beans, Crimson Clover Seed, Cracked Peas
JOSEPH E. HOLLAND. MILFORD, DEL.

on longer than three to four hours. The tape should only be used on cows that leak their milk. If the cow shows very little improvement in three or four hours, the udder should be distended again with air. No harm will result if you are cleanly. The teats should always be washed off well with a good antiseptic and the tube should always be sterile. The cow should be kept propped upon her breast at all times.

Under no conditions should any medicine be given by way of the mouth. It is more than likely that a portion of it will run into the lungs and result in the death of the animal. When the animal gets on her feet she should not be milked for ten or twelve hours and then the milk flow will be very scanty. Allow all the water that the cow will drink and grass if the season will supply it, but no grain until the end of 24 hours.

The only safe treatment for this disease is inflation of the udder and results will be very satisfactory unless meddlesome giving of medicines by way of the mouth kills the animal from the ensuing pneumonia.—George H. Conn, D. V. M., Iowa.

EXPERIENCES OF A ONE-HORSE FARMER

Success and Failure of the Forage Crop

Not having enough land devoted to annual crops, I had largely used the same ground for silo corn for many years.

Crops of crimson clover sown in the corn in September and cut for hay the following spring, and about 8 one-horse loads of manure plowed in kept the ground in fair condition. Ten years ago, the corn grew 10 to 12 feet high, planted 8 to 10 inches apart in the rows which were four feet apart.

Later, the clover crops failed to catch in the fall for several reasons, probably drouth and poor seed. To get an early crop for cows, wheat was sown in the fall and cut green in the spring, part going into the silo. The cows did well, but the land suffered. The last 3 or 4 years, oats has been sown early in the spring, in rows two foot apart. It grew 30 to 34 inches high but was poor silage, tho the crop was good for the light soil.

In 1918, the silage corn following the oats planted one foot apart in the row made a good growth about 10 feet high—with fair sized ears. This was pretty rich corn for silage but there was not enough for the silo. A neighbor pulled up his pepper vines with a big crop of peppers on them and this was run thru the cutter with the corn, and also about one-eighth acre of rich soy beans. The silage was rich in fats, carbohydrates, and protein besides the contents of the peppers.

The cows did well with this rich silage and a heavy feed ration. Sometimes I was afraid the heavy flow of milk would injure the cows, and I cut down the ration. This was the winter of 1918-19.

The past year was my first failure in forage crops. To enrich the corn ground it occurred to me, after cutting the oats, to plant the corn rows alternately, 4 and 6 feet apart, with soy beans in the 6 foot spaces, two feet apart. I have a big cultivator which would cover the 6 foot spaces going both sides of the soy bean rows at once. The soy beans will furnish nitrogen for the corn for in New Jersey Extension Bulletin No. 23, March, 1919, page 6, it reads:

"The corn may also be expected to derive some benefit from atmospheric nitrogen secured by soybean bacteria."

"The tonnage of the corn is commonly reduced somewhat thru competition with the beans for moisture."

It worked with me just opposite with abundant rains and frequent cultivation. When the corn was 5 or 6 inches apart in in the row, and the beans 4 or 5 inches the corn leaves dried up about half way from the ground, with no ears, and the beans 2½ feet high with lots of bean pods. I considered it half a crop.

In the later section of the field where the hired man drilled both corn and beans about one-half thicker the corn grew about 6 feet high and dried from the bottom as the other corn, but the beans to my surprise grew luxuriently 3 to 4 feet high. It is evident to me the corn got no "atmospheric nitrogen" from the beans.

This failure of the corn of course makes a lack of silage which has to be made up by hay. The milk flow is kept up by adding about one quart of corn meal for each cow three times a day in the other grain ration to make up the lack of corn in the silage.

I am keeping up the milk this way, and the two cows do not eat nearly as much as the horse. I have some new ideas about corn and bean silage for the coming season to try, unless some one writes of a better way. I think if farmer writers would write as if we were visiting each other and talking over each other's plans in detail we could learn more.—C. W. Gardner, New Jersey.

ANNUAL MEETING OF THE A. J. C. CLUB

The American Jersey Cattle Club has just closed the most successful year of its existence. The past 12 months have witnessed a great deal of progress in every phase of the Jersey business and in every branch of the club's activities.

Registrations and transfers of Jerseys have reached a new high record, showing a substantial increase over the figures for the previous year. The number of breeders doing official testing at the present time is an increase of more than 80 percent over last year. New production records have been made in the various classes. "Plain Mary" captured the title of champion producer of the Jersey breed from "Vive La France" with a production of 1040 pounds fat. A record no less remarkable is the one made in the yearling class by "Lulu Alphea of Ashburn," which produced 800 pounds fat in a year's test begun at the age of 22 months.

At sales, both public and private, Jerseys have brought higher prices than ever before. New high price records were set for both cows and bulls.

The fifty-second annual meeting of the American Jersey Cattle Club will take place on Wednesday, June 2nd, in New York City. The club's banquet will be held at the Waldorf-Astoria Hotel the night before the meeting.

INCREASING MILK CONSUMPTION

To increase the use of dairy products—especially whole milk, skim milk, and buttermilk—is a project that is being conducted in Michigan under the direction of the Extension Division of the Michigan Agricultural College and the U. S. Department of Agriculture. In previous years large quantities of surplus skim milk had been poured into the sewers during the "flush" season in the spring and summer because there was no market for it. Every effort is now being made to utilize all of this valuable food.

At Flint, Michigan, thru the efforts of the home demonstration agent, the schools have been used as the center for the distribution of whole milk. The children are examined by the school-teacher and nurse, and to the parents of those found undernourished a note is sent by the home demonstration agent requesting that they be allowed to bring 3 cents each day for a glass of milk and a slice of bread, which is served every morning at 10 o'clock. The response from the parents has been encouraging. Only five of the many children who needed the luncheon were fed at public expense and a marked improvement in their condition has already been demonstrated.

If you want a nice lawn, start the lawnmower early. It helps to level and smooth the surface.

USE BUTTER AND MILK AT HOME

Let us not be argued out of the idea of using butter on the table as a food. In these days of the high cost of living there is a tendency on the part of some to eliminate expensive articles of diet from the daily menu. But let us keep butter on the list as one of the essential luxuries, even tho it is 80c a pound.

Here are some of the arguments in favor of not cutting butter, or milk at least, out of the diet. It has been found by repeated experiment that milk in one form or other contains a substance which is not obtainable in the vegetable fats. This substance, wanting a better name has been called fat soluble A. There is in vegetable fats a substance called water soluble B. The two are called vitamines of harmonies. It has been further demonstrated that fat soluble A is absolutely essential to the growing body, in man as well as in animals. A subject not receiving fat soluble A loses in weight and has a rapidly decreasing growth curve, even while receiving water soluble B. Upon restoring to the diet fat soluble A the subject at once begins to show signs of improvement, gains in weight rapidly and shows an upward moving growth curve.

Of the two substances, butter and oleomargine, the former is the purely animal fat while the latter is a mixture of very little animal fat with a preponderance of vegetable fat. Inasmuch as butter is made of milk, a fat in a highly emulsified condition and therefore very easily digested, and contains fat soluble A in large amounts, it is eminently more desirable as a food than oleomargine. If it is absolutely necessary to use oleomargine in the diet in place of butter, some other form of milk should be substituted in order to supply the necessary vitamines. In infant feeding these facts are especially important because the infant, if not receiving the right amount of vitamines in its diet will not be healthy and will not grow normal.

THE NATIONAL DAIRY SHOW AS A SERVICE

The National Dairy Show is the greatest single factor for bringing together and co-ordinating every branch of the dairy industry into a solid, progressive fighting force, and every man in the industry allying his strength with this great force just hastens the day when the strength of the whole becomes irresistible for advancement and progress to the benefit of all.

Do not miss the Annual Dairy Show this year—October 7th to 16th, inclusive, at Chicago.

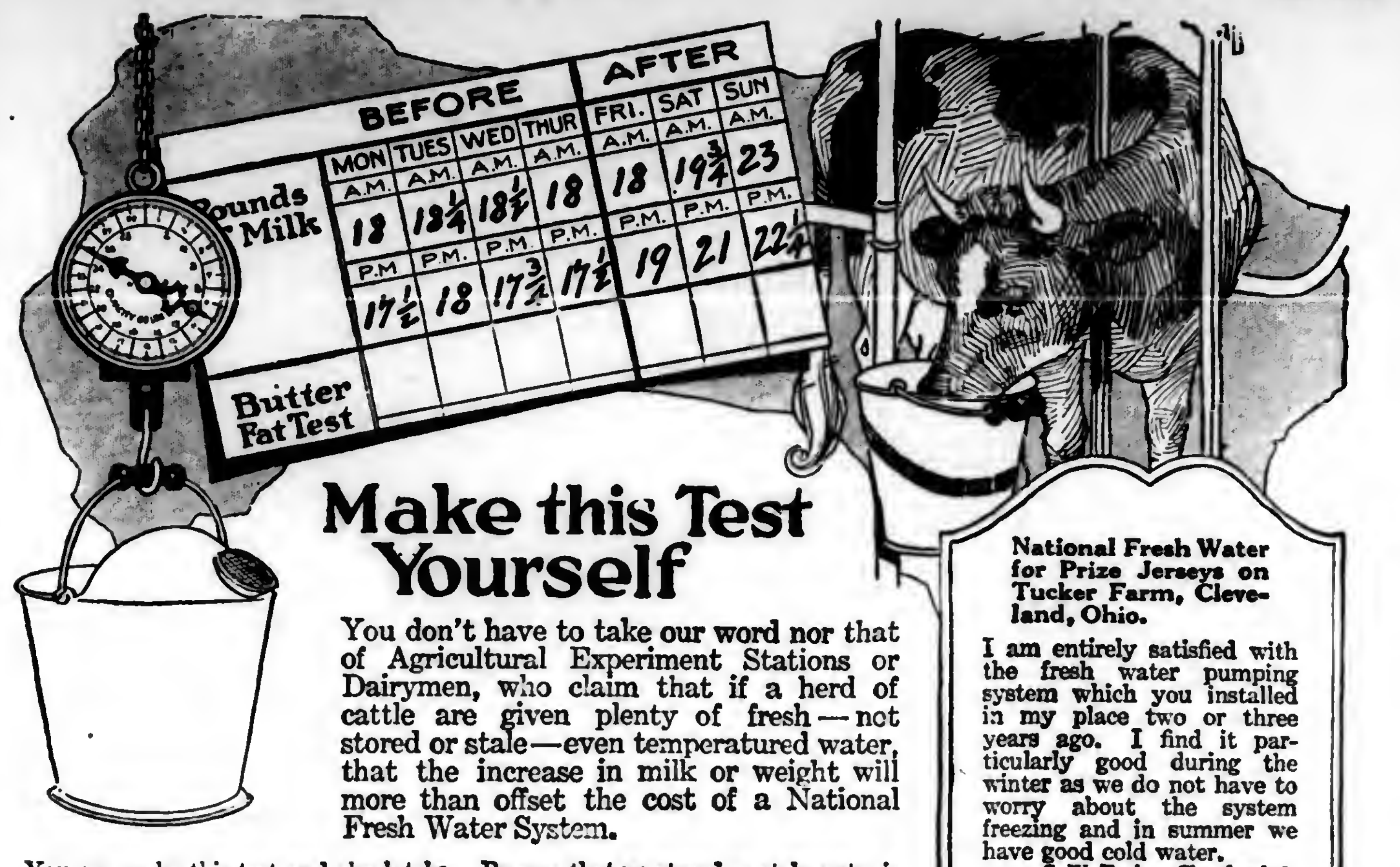
SWEET CLOVER

Because sweet clover defies drouth, this legume is regarded as one of the most satisfactory to grow for soil improvement purposes in Ohio. At the Ohio Experiment Station, sweet clover has been found to have but one special soil requirement; that is, a sweet soil or one which has plenty of lime in it.

Sweet clover is similar to alfalfa in the fact that it is a deep-rooted legume. Specialists regard sweet clover as quite necessary in farm rotations because it develops a fleshy root which penetrates the subsoil to a depth of at least three feet, whereas many of the other legumes are only shallow-rooted crops. The deep-rooting tendency has been found to greatly improve the drainage and deepens the soil effectively.

Master of the House:—"Why did you tell the mistress what time I came in this morning, after I expressly paid you and told you not to?"

The cook.—"Sure, sir, an Oi didn't tell her. She asked me what time your got in, Oi tould her Oi was so busy getting the breakfast that Oi didn't look at the clock."



	BEFORE				AFTER		
	MON	TUES	WED	THUR	FRI.	SAT	SUN
Pounds Milk A.M.	18	18¼	18½	18	18	19¾	23
P.M.	17½	18	17¾	17½	19	21	22¼
Butter Fat Test							

Make this Test Yourself

You don't have to take our word nor that of Agricultural Experiment Stations or Dairymen, who claim that if a herd of cattle are given plenty of fresh—not stored or stale—even temperatured water, that the increase in milk or weight will more than offset the cost of a National Fresh Water System.

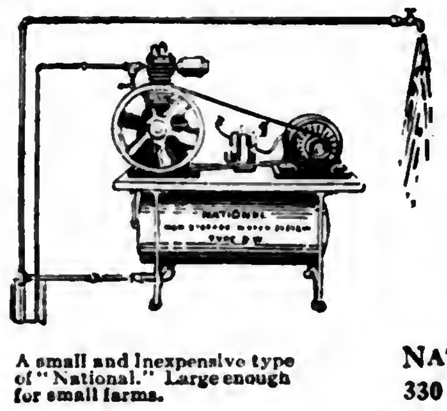
You can make this test and absolutely convince yourself. Just keep a careful record of the feed, the milk yield and butter fat for one of your herd for the first part of a week. Then fasten a pail within easy reach of the cow and have your boy or girl fill this pail with pure, even temperatured water, **"right from the depth of the well,"** every hour Saturday and Sunday.

Be sure that no stored or stale water is left in the pail when filling. Then weigh the milk and test the butter fat for these days. Even this two-day test will show you an increase in quantity of milk and butter-fat yield.

The National Non-Storage Fresh Water System often increases milk yields from two to ten pounds per cow per day. Because of this, it has helped many Champions to make records. It not only gives you pure, fresh, not stored or stale water, for the barn, but for the bathroom, the kitchen or wherever you wish. Saves labor too.

No pump house, no stored or stale water, no freezing.

Let us send you our catalog telling what others say of this water system that pays for itself.



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S. W. Tucker, Cleveland, O.

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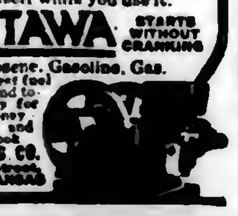
Chas. W. Davis South Euclid, O.

I installed a running water system which proved absolutely useless. I thought all running water systems were fakes and the salesman had difficulty inducing me to install the National. It has not only proven satisfactory but fifteen other farmers in my county have thrown out their systems and put in the National.
L. P. Wilder, Washburne, Me.

NATIONAL NON-STORAGE FRESH WATER SYSTEM



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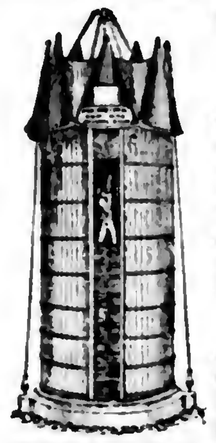

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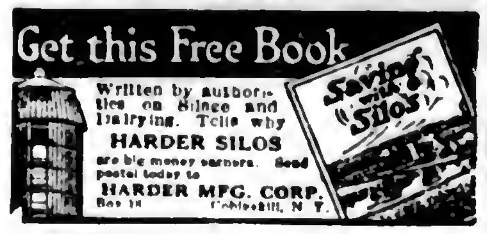

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PRUNING AND HEADING YOUNG TREES

By J. P. STEWART

One of the most important occasions in the life of the young fruit tree is the pruning treatment that it receives soon after planting. Experiments have shown that both the time and extent of this pruning are matters of great importance. In regard to the time, it has been shown that pruning before any considerable amount of growth starts, gives much better results than any kind of later pruning. In regard to extent, the general principle that all pruning is essentially a checking process to growth is applicable here as elsewhere, but probably on account of the unavoidable large reduction to the root-area involved in transplanting, it appears that relatively more cutting can be safely done to the tops at this time than at any later date.

Pruning the Peach

The pruning of the peach is naturally considerably different from that of the apple,—a fact which is often not realized, especially in those orchards in which the peach is used as a filler, and in which the apple is most likely to suffer as a consequence. The peach thruout its life will thrive under much heavier pruning than the apple will. For this reason many people have gone to extremes in its pruning immediately after planting. In such cases it is not uncommon to see six or eight-foot trees trimmed completely to a whip and then cut back to a height of fifteen inches or even less, probably with the idea of getting low-headed trees above all else. As a result many of these stumps often go half thru the season or more before anything resembling limbs or foliage appears, if in fact any growth ever starts from them.

At the present time, however, the best and most observant growers are deviating very widely from the stump-forming course even in the case of the peach. They are also getting away from the idea of very low heads. At the present time, eighteen to twenty-four inches is considered most satisfactory for the lowest permanent limb on a peach tree. Such trees allow better circulation of air among their branches, which doubtless aids in the control of rot and other diseases, and they also admit of easier cultivation and often of easier borer-control than the trees with much lower heads. The best growers are also avoiding the complete removal of all the original side branches, most of which are trimmed to stubs of one or more buds, and the main trunk is cut off at a height of about thirty inches or more.

This treatment secures a much quicker development of foliage on the new tree, which thus gets a start of at least a half season of growth on the average "stump," and the framework limbs are chosen later from the numerous side branches that normally form on the trunk and which should be carried thru the season for best results. Many of the short side branches left at the original pruning do not live and are not expected to do so, but by leaving them on, the area immediately around their base is protected from drying out as it often does when they are trimmed off close, and thus the starting of new limbs from their bases is greatly facilitated.

Pruning the Apple

In the case of the apple, some change of ideas as compared with those in vogue several years ago is also apparent. At that time the strictly open-centred tree was largely the fashion. Since these trees have come into bearing, however, and the frequent results in breakage and absence of definite [illegible] when loaded with fruit have appeared, this form of top has been less popular, especially with larger commercial growers. In its place, the preference is now being given to the so-called modified leader type of tree, which is somewhat

(Continued on Page 14.)

PASSING EVENTS IN PICTURES

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Photo Copyright Underwood & Underwood

1.—College Students Leaving Hoboken For Scranton to Break Railroad Strike.

2.—Hon. J. Hampton Moore and Mrs. Murdock Kendrick Christening a New Vessel.

3.—The Misses Sam, Two Little Chinese Girls who have Adopted the Overall Fad.

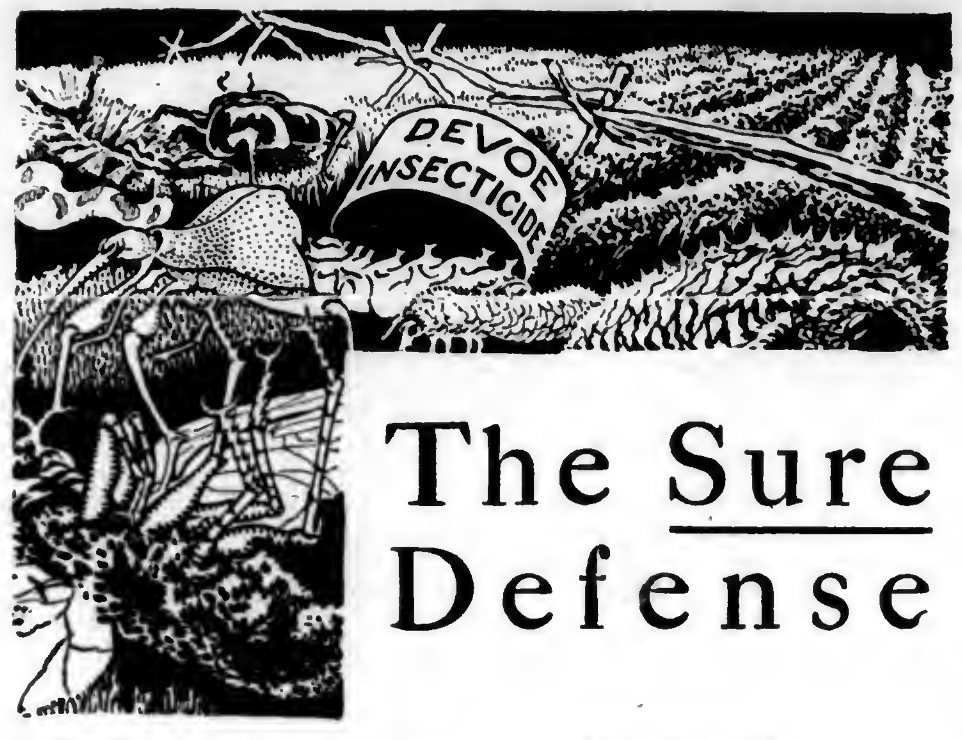
4.—Members of the President's Cabinet Leaving Conference on Railroad Strike. Secretary Meredith of the Department of Agriculture is on the left.

5.—A Naughty Little Girl hung on the clothes line to dry after falling into the wash tub.

6.—Giants and Braves open the Baseball Season at the Polo Grounds, New York.

7.—A Public School Girl of Philadelphia with her ten cent hot lunch.

8.—Prince of Wales is Entertained by the Mayor's Family of San Diego, California.



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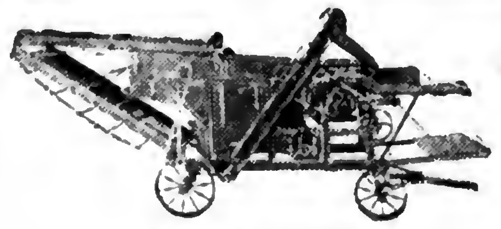

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PRUNING AND HEADING YOUNG TREES

(Continued from Page 12.)

intermediate between the old central leader type and the more recent open-centred form of tree.

This type of tree offers many advantages when it comes to starting the head, if the operator is properly onto his job. By a proper application of the principle of unequal pruning, if we may dignify the matter by such a pretentious title, it is generally possible to save practically all the best limbs in the tree when forming the head, instead of having to cut many of them out in order to avoid forks or apparently objectionable crotches, as used to be the case under the open-centred order. With a proper understanding of the effects of unequal pruning, one can readily correct practically any fork simply by cutting one of the prongs back considerably harder than the other. The effect of this, normally, will be to throw the main growth into the prong left longest, thus causing it to thicken much more rapidly and also to straighten up, all of which tends to swing the shorter prong over into a typical side branch within a relatively short time.

This plan also enables one to change the central leader in a tree when necessary to secure a better balance in the top. This is often necessary, especially when one side of the tree is practically bare of limbs. In such a case one of the limbs just below the original leader can be chosen for the new leader and be left relatively long, while the original leader is trimmed much shorter with the idea of changing it into a side branch in the direction needed.

In the apple, a height of about thirty inches, or even somewhat more, is plenty low for the first general frame-work limb. The others are best separated somewhat, up-and down the trunk, and should be distributed around the trunk so as to develop into a properly balanced tree. From three to five of these side limbs in addition to the central leader, are generally ample to start the top, and they should be headed so as to give a reasonably even start. They should also be headed to buds pointing in the direction desired for future growth, such as inside buds for the limbs now too spreading, and to outside buds for those now too vertical.

The subsequent pruning should not air to secure too much of a spreading habit, especially in the young tree, as this will come of itself when bearing gets well under way, and if developed prior to bearing, they are likely to become too spreading and often break, when bearing gets started. In case one-year whips are planted, they may be cut off at a height of 40 inches or thereabouts, and let go for the first season.

A Simple Method of Bridge-Grafting

The excessive amount of girdling of trees this past winter and spring has developed an unusual interest in bridge-grafting. The writer recently saw a relatively simple and effective method of doing this in a large New York orchard. In this case, the scions were cut about four or five inches longer than the space to be bridged. A groove was then cut for them clear thru the bark both above and below the girdle, with a very small "gouge" or half-round chisel, which cut a groove not more than a quarter of an inch across. The bark was cut off of the under side of the two ends of the scion so as to enable these ends to just fit into the grooves and bring the cambium layers together, and each end was tacked fast with a little nail or brad. The ends and grooves were then thoroly covered with grafting wax, and the job was done. There was thus no sharp bending and weakening of the scions, nor no time wasted in trimming the edges of the bark away, and a considerably greater area of cambium in contact than is the case in the method now commonly advised.

Incidentally, we may say that one of the best methods of preventing this mouse injury to apple trees at least, is to paint them every year or two with a pure thick paint made of white lead and pure raw linseed oil, without any turpentine or other special "drier" in it. I know of one rather large orchard which has thus been protected for about nine years without any appreciable injury, while practically all of a recent planting left unprotected in this way, in the same orchard, was seriously girdled. This coating usually roughens the bark somewhat, on apple trees, but it has not given any serious injury in an orchard which has been painted annually for the last nine years. The sediment and full-strength, lime-sulphur solution will not roughen the bark, but it does not always give as complete protection against the mice as might be desired.

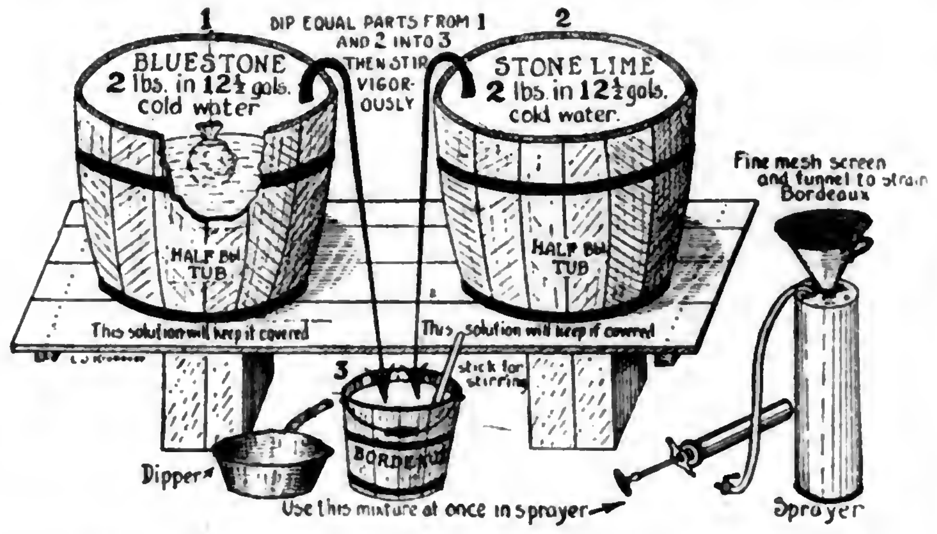

1
BLUESTONE
2 lbs. in 12½ gals. cold water
HALF BU. TUB
This solution will keep if covered
DIP EQUAL PARTS FROM 1 AND 2 INTO 3 THEN STIR VIGOROUSLY
2
STONE LIME
2 lbs. in 12½ gals. cold water.
HALF BU. TUB
This solution will keep if covered
3
BORDEAUX
stick for stirring
Dipper
Use this mixture at once in sprayer
Fine mesh screen and funnel to strain Bordeaux
Sprayer

Illustration Showing How to Make Bordeaux Mixture on the Farm

THINNING FRUIT SAVES ORCHARD TREES

Thinning of fruit is sometimes necessary with apples, peaches and plums to insure the production of the highest quality of fruit. An apple tree will often produce sufficient bloom for twenty times the number of apples that it could possibly mature.

In some years the June drop of fruit removes about the right quantity, but at other times it is necessary to thin fruit by hand to prevent the trees from breaking down and to insure well-colored fruit.

For thinning apples it has been found that the best time is between four and eight weeks after full bloom. Small shears or the thumb and fingers may be used to clip off the excess fruit.

With peaches and plums, thinning lessens the danger from rot and keeps the trees from breaking. On peach trees a distance of six inches may be made between fruits.

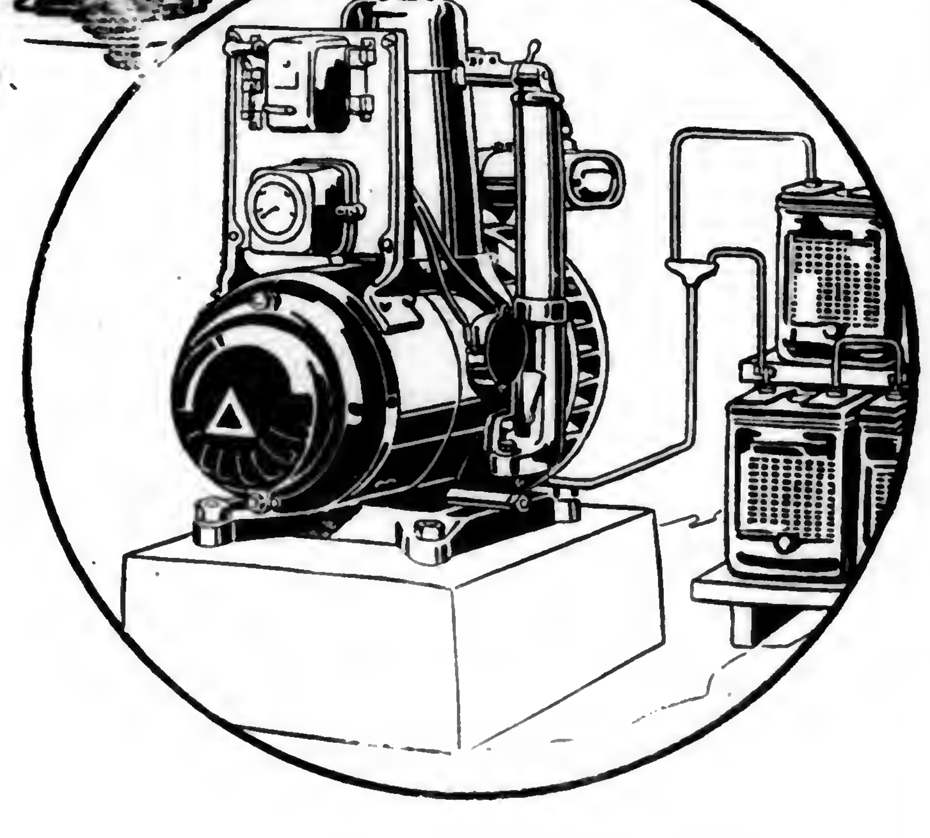
"Did you ever contribute to 'The Atlantic Monthly'?" asked the sweet young girl of the famous author.

"Not monthly—daily," replied the author.

"Daily?" echoed the girl in surprise.

"Yes," said the author sadly, "last summer, when I crossed to Europe."

DELCO-LIGHT



"DELCO-LIGHT Makes Chore Work Easier"

Letters we receive from thousands of our 100,000 satisfied users tell us that "Delco-Light makes chore work easier."

When so many users say that Delco-Light is a good investment, that it saves time and labor and that it increases the joys of life, you have assurance it will do as much for you.

Delco-Light does away with all dangerous open-flame lamps and lanterns.

At the push of a button, clean, safe electric light floods the house and all farm buildings, speeding up the work and making everyone just a little bit happier.

Electric power pumps water quickly to the kitchen, bathroom or watering troughs, turns the cream separator, churn or grindstone or operates an electric iron, fan or vacuum cleaner.

Delco-Light helps answer the labor shortage problem and in addition makes the farm home more attractive and comfortable.

A complete electric light and power plant for farms and country homes, self-cranking—air cooled—ball bearings—no belts—only one place to oil—thick plates—long-lived battery.

Valve-in-Head Motor
Runs on Kerosene

DELCO-LIGHT COMPANY
DAYTON, OHIO
J. J. POCOCK, 824 N. Broad St., Phila., Pa.

There's a Satisfied User near you

Lee Union-Alls

The Most Popular Work Garment in America

Better Made-Longer Wear-Greater Comfort

BUT REMEMBER—UNION-ALLS is a trade-marked name—no garment can be UNION-ALLS unless it's a LEE.

Dept. 4715

The H. D. Lee Mercantile Company

Kansas City, Mo. Kansas City, Kas. St. Louis, Mo. Chicago, Ill.
Trenton, N. J. Minneapolis, Minn. South Bend, Ind.
"Just Like Dad"
Union-Alls

VENTILATING COLONY HOUSES

In using small poultry houses there is often difficulty in providing enough ventilation without giving too much. The houses are not deep and if the open-front is entirely open there may be some draughts on the birds. This can be avoided by constructing a combination of windows on the front. Four small windows next to the floor can be opened or closed according to the outside temperature or the direction of the wind. Additional control is furnished by two long windows just under the roof which can often be left open when the condition of the weather requires the closing of the lower windows to keep the wind and snow from blowing directly on the chicks.

Young chicks are often brooded in colony houses during the early spring when blizzards and cold rains may occur. If an open-front colony house is protected only by curtains, the house is too dark when the curtains are closed and during storms it is often necessary to keep the curtains down all day. By simply closing the lower windows the house can be protected from draughts and the upper windows can be raised enough to allow fresh air to enter and still keep out most of the rain and snow.

When stove brooders are used in a colony house it is necessary to study ventilation very carefully. If the house becomes overheated it will have a devitalizing effect on the chicks. If it is too cold, they will spend the entire day huddled near the stove and will not obtain enough exercise. The combination of windows which permits a regulation of the temperature is very handy and practical in the management of early hatched chicks.—K.

GEESE LIKE GRASS

At the present cost of grain for feeding poultry many farmers are finding a few geese profitable. When the grass grows green in the spring the geese begin to range and from that time until the heavy frosts arrive the feeder of geese can forget the grain bins, for geese like grass and thrive upon it.

Waste land can be made to yield a profit as a range for geese. Near a pond or swamp the birds find much of their natural food and they thrive and grow rapidly. A small open shed is all that is needed on their range to protect them from severe storms. They seem to enjoy ranging on days when the hens are hiding from the cold and wind. Their house should not be damp as it may cause the birds to have rheumatism. They like to swim and paddle in the mud along the shore of a pond but at night they need a well drained and dry spot on which to rest.

Small goslings thrive best if they are on a range where there is protection from wind and rain. If they swim too early they may fall prey to snapping turtles. Keep them on a fenced range until they are fairly well deveolped and able to protect themselves. Then they can have free range and there will be few losses. They will soon become heavy eaters of fresh green grass and their cost of production is small until time for finishing on corn in the fall.—R. G. Kirby.

LISTS BETTER LIVE STOCK BOOSTERS

The Farm Bureau News for Summit and Morgan Counties, Utah, publishes the names of local livestock owners who have enrolled in the Federal-State "Better Sires—Better Stock" movement. Sixteen names are included in the list published early in March.

Tommy was out playing till he was very tired, and did not feel inclined to say his prayers, but his mother insisted. So Tommy began:

"Now I lay me down to sleep, I pray the Lord my soul to keep—"

'If," prompted his mother.

Tommy (sleepily)—"If he hollers let him go. Eney, meeny, miny mo."

KILL POULTRY LICE WITH Bee Brand INSECT POWDER

McCORMICK & CO. BALTIMORE, U. S. A.

10,000 Baby Chix AND EGGS

for May, June, July and August delivery by prepaid parcels post. Safe delivery guaranteed on greatly reduced prices. Only Bred-to-Lay S. C. White Leghorns. Catalog free.

SLATY RIDGE FARM
Box 5, Palmyra, Pa.

SHIREY'S S. C. White Leghorn Baby Chicks 14c and up according to season. They make the greatest egg producers on earth. C. P. Shirey, Stewartstown, Pa.

Chicks

Better Produced Day-Old Chicks are the kind you want—17 leading breeds at reas. prices. Send for free catalog today. Springfield Hatcheries & Poultry Farm, Box H. Springfield, Ohio.

Sick Baby Chicks?

There is only one way to deal with baby chicks and that is to keep them well. Doctoring a hundred or more chicks is mighty discouraging work.

It's pure carelessness to lose more than 10 per cent of chicks, from hatching to full growth. Many lose 40 per cent to 60 per cent, and even more. No profit in that.

Our book, "Care of Baby Chicks" (free) and a package of Germozone is the best chick insurance. WITH BABY CHICKS YOU MUST PREVENT SICKNESS—NOT ATTEMPT TO CURE. "I never had a sick chick all last season"—C. O. Petrain, Moline, Ill. "Not a case of white diarrhoea in three years"—Ralph Wurst, Erie, Pa. "Have 800 chicks now 5 weeks old and not a single case of bowel trouble"—Mrs. Wm. Christiana, Olive Ridge, New York. "Two weeks after we started last spring we were a mighty discouraged pair. Every day from three to six chicks dead. A neighbor put us next to Germozone and we are now sure if we had had it at the start we would not have lost a single chick"—Wm. E. Shepherd, Scranton, Pa.

GERMOZONE is a wonder worker for chicks, chickens, pigeons, cats, dogs, rabbits or other pet or domestic stock. It is preventive as well as curative, which is ten times better. It is used most extensively for roup, bowel trouble, snuffles, gleet, canker, swelled head, sore head, sores, wounds, loss of fur or feathers. 25c, 75c, $1.50 pkgs. at dealers or postpaid.

GEO. H. LEE CO., Dept. F-49 Omaha, Neb.

200,000 CHICKS

Reds, Rocks, Leghorns, Minorcas and Broilers at rock bottom prices by Parcel Post. Prepaid and safe delivery guaranteed. Our 11th year. Catalog free.
KEYSTONE HATCHERY, Richfield, Pa.

June Chicks Strickler's Husky, Pepful Baby Chicks Tom Barron 300 egg strain S. C. White Leghorns. Greatly reduced prices for June delivery. Special delivery parcels post prepaid; safe delivery guaranteed. $17 per 100; $70 per 500. Hatching Eggs, 8 cents straight.
LEONARD STRICKLER, SHERIDAN, PA.

Look! BABY CHICKS $15 a 100 up!

By insured parcel post, postage paid. 40 breeds chicks. 4 breeds ducks. Get May and June chicks for December layers. Catalog free, stamps appreciated.
NABOB HATCHERIES, GAMBIER, OHIO

That Lay and Pay Beautiful Buff Rocks. Vigorous and prolific. Eggs, $1.50 for 15, balance of season.
M. W. THOMAS, Chestertown, Md.

Saves Baby Chicks

Put Avicol in the drinking water.

Most people lose half of every hatch, and seem to expect it. Chick cholera or white diarrhoea is the trouble. The U. S. Government states that over half the chicks hatched die from this cause.

An Avicol tablet in the drinking water, will positively save your little chicks from all such diseases. Inside of 48 hours the sick ones will be as lively as crickets. Avicol keeps them healthy and makes them grow and develop.

Mrs. Wm. May, Rego, Ind., writes: "I was losing 10 or 15 chicks a day from diarrhoea before I received the Avicol. I haven't lost a one since."

It costs nothing to try Avicol. If you don't find that it prevents and promptly cures white diarrhoea and all other bowel diseases of poultry, tell us and your money will be refunded by return mail. Avicol is sold by most druggists and poultry remedy dealers, or you can send 25c or 50c today for a package by mail postpaid. Burrell-Dugger Co., 497 Columbia Bldg., Indianapolis, Ind.

AVICOL stops chicks dying

EXTRA PROMISING

Twelve weeks old White Wyandotte cockerels from our trapnested stock for meat and eggs, $3.00 each. These cockerels will sell for Ten Dollars when full grown. Limited number selected eggs at $15.00 per 100, $8.00 per 50, $2.50 per setting of 15. Chicks 40 cents each. Eggs and chicks forwarded Parcels Post prepaid. Terms, cash with order. We know you will be pleased with our stock.
J. V. BITNER, GORDONVILLE, LANC. CO., PA.

LEG BANDS 15 styles, all sizes. Chick to Turkey. Free circular.
A. C. SINE, QUAKERTOWN, PA.

CHICKS that bring bigger CHECKS

Strong sturdy—from Record Layers. Four big hatches weekly

	100	50	25
White Leghorns	$20.00	$10.00	$6.00
R. I. Reds	26.00	13.00	7.00
Barred Rocks	25.00	12.50	7.00

Safe delivery anywhere in U. S. A. guaranteed. Postpaid
W. F. HILLPOT Box 28 FRENCHTOWN, N. J.

HILLPOT QUALITY CHICKS

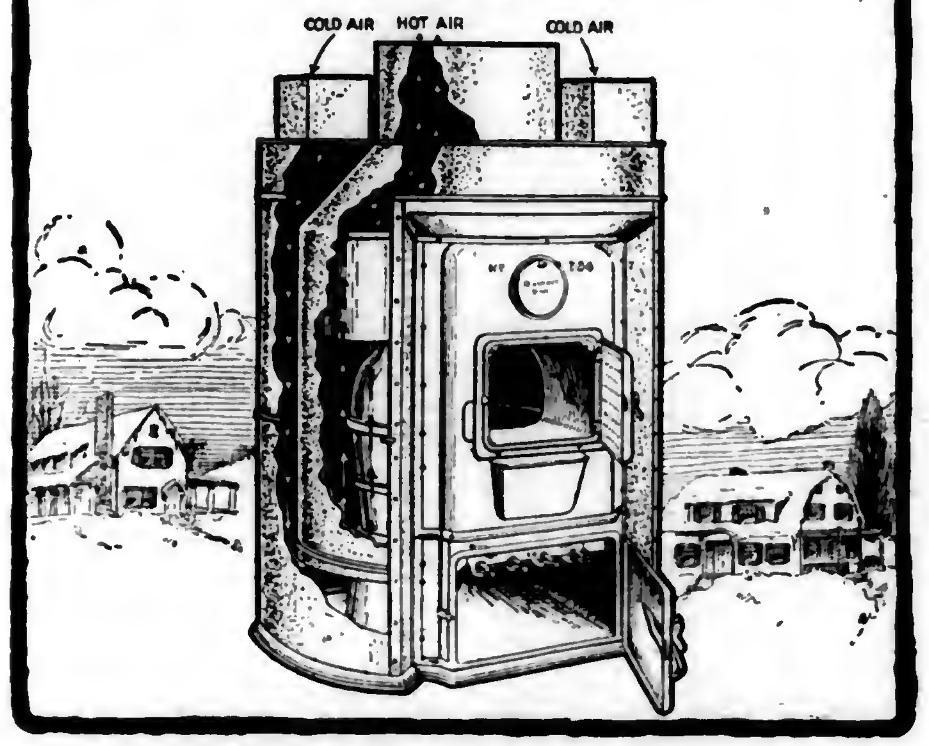
SUMMIT PIPELESS FURNACE

The furnace that heats every type of building—home, store, shop, school, church, etc., and does it with a minimum of fuel. No pipes—no lost radiation in walls, under floors, etc., and positively

NO COLD AIR FLOOR DRAFTS

Just one central hot air register directly over the furnace and two cold air returns completes the Summit Installation. Easily and quickly set up in old or new buildings. Made in different sizes and fully guaranteed. Write for further particulars and name of dealer handling the Summit in your locality.

SUMMIT FOUNDRY CO.
GENEVA, N.Y.



A Thresher You Can Operate With Your Own Help and Your Own Power

WHEN *you* are ready and the grain is right you can get your threshing done if you have a Huber Jr. Thresher. Your tractor supplies the power. Your own help does the work. There is no waiting on the convenience of a custom thresher.

THE HUBER JUNIOR THRESHER

You stop losses from shelling out in a dry season, and from sprouting in a wet one. Your work will not be upset because you must go yourself or send some of your men to help your neighbors thresh regardless of your own convenience. Your wife will not have the burden of feeding a big threshing party.

Three or four men—or even two—can thresh with the Huber Jr. They can thresh a load at a time and shut down while they go for another. The saving in threshing bills will pay for the Huber Jr. in a few seasons. Any 12-25 tractor will supply sufficient power for the purpose. The Huber Light Four Tractor is especially adapted to run it economically.

The Huber Jr. is a real thresher. It does as good work as any custom size machine. It has all the important features of the large Huber Threshers recognized as standard for half a century.

Write for the "Farmer's Insurance Policy" which describes the Huber Junior Thresher in detail.

The Huber Manufacturing Company
709 Center Street, MARION, OHIO

Desirable tractor territory still open for live dealers.

Canadian Branch: Brandon, Man.

The Farmer's Insurance Policy
HUBER JUNIOR THRESHER

FINCK'S

DETROIT SPECIAL
OVERALLS & COMBINATION SUITS

WEAR LIKE A PIGS NOSE
ASK YOUR DEALER

Tough On The Rough Jobs

Finck's "Pig Nose" quality is guaranteed by the pig on the label. Insist on "Pig's Nose" brand and get the best

You can put it down as a fact, that Finck's Overalls and work clothing *do* "wear like a pig's nose." They stand the grind and strain of farm work better by far than any work clothing you can buy. That's because of the score of Finck's features—the extra high quality of materials used and their perfect construction in every detail. If you don't know that there is a difference in overalls, compare Finck's with any other kind. We'll accept your own good judgment.

Ask your dealer. If he doesn't handle Finck's "Pig's Nose" brand, write us and we'll send you the facts

W. M. Finck & Company
Detroit, Mich.

Manufacturers of High Grade Overalls, Men's and Women's Combination Work Suits

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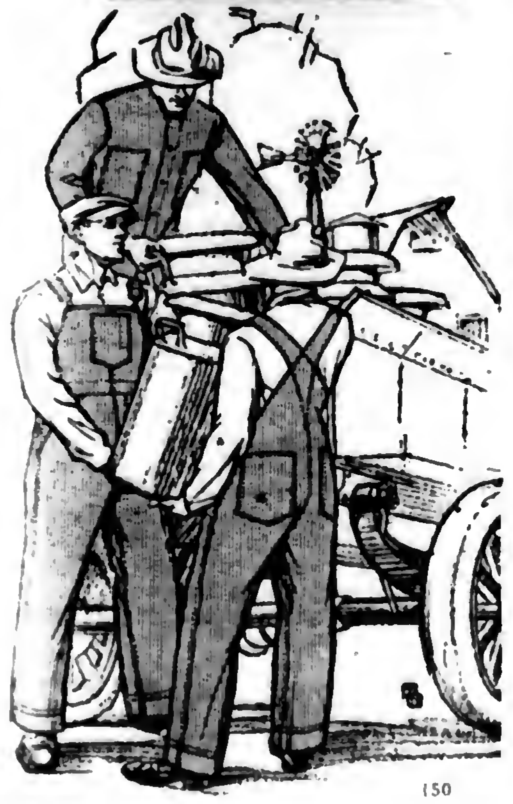
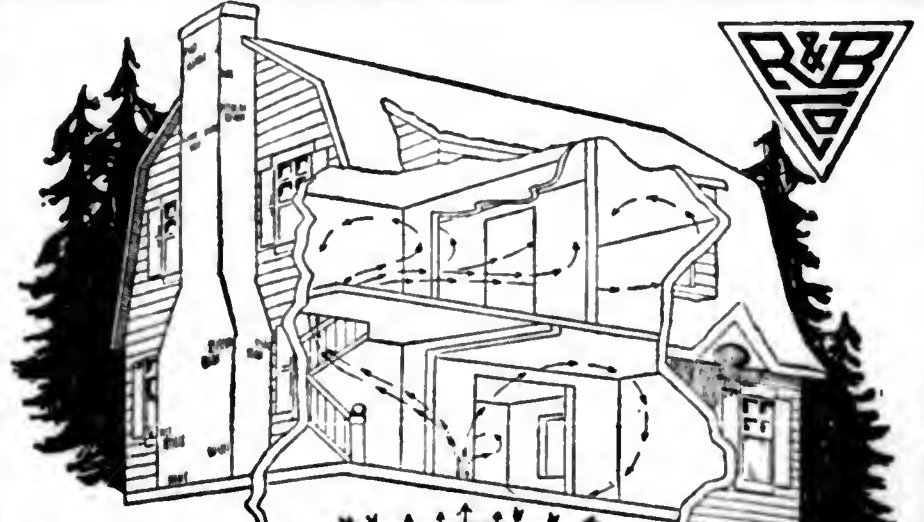




Warmth at a Saving

Save all the expense and the labor of cutting up your walls and partitions for pipes. Install the famous Richardson One Pipe Heater, which burns any fuel available. And because there is no waste heat, it is the most economical and efficient heating system used.

Permit us to send you Booklet E describing the

Warmth in Every Room

Notice the direction of the heat in the accompanying picture. All the cold air in the house is drawn into the single register and the one pipe heater, where it is warmed and sent into every room. Know that true comfort and the kind of warmth which Richardson & Boynton Company has made famous because of its efficiency and economy.

RICHARDSON ONE PIPE HEATER

Keeps the cellar cool for vegetables — warms every room above

RICHARDSON & BOYNTON CO.
Established 1837
258-260 FIFTH AVE., NEW YORK
Boston Chicago Philadelphia Providence Rochester

COUPON

Dear Sir: Please send us full particulars of your Richardson & Boynton One Pipe Heater for house of..........rooms.

Name........................

Address........

HOUSEHOLD

NOW FOR THE PINEAPPLES

Refreshing and Wholesome

Make good use of the pineapples this season both for present and future needs, for pleasure of the palate, and good of your family's systems, for they possess excellent medicinal properties. Served as a dessert after a meal of meat and other hearty foods, the mineral salts in their juice aid very greatly in digestion and body regulation.

Uncooked pineapple may be preserved for a time by adding an equal amount of sugar to some shredded pineapple and letting stand for a few hours in a cool place. Then pack tightly into thoroughly sterilized cans, screw on the sterilized rubber rings and covers, and keep in a dark, cold place; you should have ice in a refrigerator for this.

Canning Pineapple Slices

Slice the pineapple into very thin slices, making sure that your knife is not darkened if you use a steel blade (you can use a silver knife, but it does not cut the slices so neatly because of the blunter edge); if you work quickly, the steel knife will not corrode before you can get one "pine" sliced, then you can scour it for the next one. When the slices are off, cut off the peel and the eyes from the edges and remove the core. Allow ¾ lb. sugar per each pound of the fruit, and put the slices into large-mouth cans, sprinkling each slice well with its portion of the sugar allowance. Then put on the rubber rings and the covers loosely screwed on, immerse in a lukewarm water bath, bring to boil and boil 15 minutes after the water about the cans commences to boil thoroughly. Then lift out at once, tighten the covers, stand on their heads until cold to make sure that none of them leak, then put away.

Preserved Pineapple

Or here is another way: Sugar each layer of the fruit and let stand over night; next morning add ½ cup water per each pound of the fruit, and cook 15 minutes; remove the slices, spread separately on a white agateware platter, and set in a warm oven while you simmer the syrup down to a thick consistency, then put the fruit back into the syrup and cook another 15 minutes; pack into well-sterilized cans, pour the boiling syrup over the fruit and seal at once with well-sterilized rubbers and can covers. This makes a delicious preserve. You should use wide-mouthed cans for this.

Pineapple Marmalade

Prepare the fruit as for the preserved slices, using pound for pound of sugar and fruit. Let stand over night, then cook 30 minutes and press thru a sieve. Put on the stove and cook slowly 45 minutes, stirring constantly until jelly-like in consistency. Pack in glasses or small jelly jars. The clear amber color is very attracive, and the flavor is delicious.

Pineapple Shortcake

It is just as delicious as strawberry shortcake, and is made much the same, with tender biscuit dough, sweetened or not as you like, and baked in layers, or in one layer and split. Spread with butter while hot, then with shredded pineapple which has been sweetened and allowed to stand for a few hours to get the sugar thoroughly incorporated. Use the extra juice with whipped cream for the sauce to eat on the shortcake.

Pineapple Pie

This is very good. Fill a rich crust with a filling prepared thus: 1 cup sugar, 1 teaspoon cornstarch blended with it; add the well-beaten yolks of 2 eggs to enough shredded pineapple to fill the crust, stir in the sugar and cornstarch, pour into the crust, and when done, cover the top with the stiffly-beaten whites of the 2 eggs, to which 2 tablespoons sugar have been added, and brown this meringue delicately in the oven.

Pineapple Paste for Sandwiches

This is very dainty for sandwiches for the school lunch or for picnics. Make a sauce the same as for pineapple marmalade, and add sliced apples and fresh berries, but not so much sugar as for the marmalade. Cook until of marmalade consistency, then let get firm and cool. Spread on thin slices of buttered bread. Also very good between vanilla wafers.

Pineapple Salad

This is tasty relish for the dinner. Prepare the pineapple slices as for canning, cut them into chunks or triangles, mix with finely-cut, white tender celery, add sweetened mayonnaise dressing until the fruit is well moistend with it, garnish with thin slices of orange or with strawberries, chill and serve on lettuce leaves.

Pineapples and Strawberries Go Well Together

Another attractive way to serve pineapple as a salad is to cut the slices rather thick, sweeten well by letting stand with the sugar on them, then put a few strawberries on the center of each slice as it lies on a lettuce leaf. It is also good with a slice of rich creamy cottage cheese in the middle of the pineapple slice, then a strawberry or cherry on top.

Pineapple vs. Gelatin

Pineapple juice will not jelly, not even when gelatin is used, unless the juice is cooked first. (Editor's Note.—This because a substance in the pineapple juice "eats" up the albumin in the gelatin, which albumin is what makes the gelatin stiffen. But if we cook the pineapple juice we destroy the ability of said substance to eat up the albumin. We call that substance an enzyme. Therefore, remember that whenever you wish to use pineapple in any dessert which uses gelatin for the stiffener, you must first heat the pineapple to kill the activity of this particular enzyme. This enzyme does not thus attack pectin, which is the jelly principle of fruits, the same way, for this is of a different character from the albumin in gelatin.)

The strawberry pineapple comes on the market first; while this is a very good variety for cooking, the sugar pineapple far excels it for serving fresh for desserts and salads, and for icing and ice cream flavoring.—Gertrude Shockey.

ECONOMY IN SWEETENING

It is often noticed that some fruits like plume taste stronger or sourer after they have been sweetened. The strong bitter or sour flavor noticed in these fruits comes from cooking the fruit and sugar together too long. It is more noticeable in very acid fruits than in those which are milder. But there is some lessening of the fine sweet flavor in all cases when fruit and sugar are cooked together too long.

To have the finest flavor in sweetened fruit sauces and also to save sugar cook the fruit first, if a hard fruit, until soft, then add the sugar and remove from the stove. The heat in the fruit is sufficient to thoroly dissolve the sugar without further cooking.

Very soft fruits like strawberries need the sugar added before they are put on to cook, but these fruits need only be brought to the boiling temperature to be cooked sufficiently. The sugar, therefore, is not cooked with them any longer than it is with the hard fruits sweetened at the last moment they are on the stove.

If fruit is too juicy and must be boiled down to have a desirable consistency, boil it down to a thick paste before adding the sugar, or drain off the juice and boil that down, then add it and the sugar to the fruit. When much sugar is added to fruit and cooked for a long time, instead of becoming jellylike it becomes dark and stringy. If a sweetened fruit does not jelly and has begun to turn dark no amount of cooking will make it jelly. Continued cooking will give it a worse consistency and stronger flavor. The only way to preserve the natural flavor of sweetened fruit is to let the fruit and sugar cook together but a few minutes.—Edith Allen.

STRAWBERRIES AT GRANGE MEETING

Last year when our annual strawberry exhibit was held at our Grange meeting, our lecturer, Mrs. Mary E. Gunts, devoted part of the lecture program to ways of using this fruit.

Talking on conserves, most of the women said they found a pound of sugar per each pound of fruit necessary to make a good strawberry conserve, but this year we will have to manage some other way or go without the conserve. Raisins cooked almost to a syrup and put in with the berries would add sweetening and jellying properties as well.

The syrup left from canning strawberries and pineapple, said one of our members, should be canned for eating on hot cakes.

Strawberry Icing for Cake.—Another member told us to crush a few berries, cream together some butter the size of a black walnut and some confectioners' sugar, and mix with the berries, and spread between the cake layers, also on top.

Strawberry Shortcake.—Sift together 2 cups flour, ½ teaspoon salt, ½ cup sugar, 4 teaspoons baking powder, then work in ⅓ cup butter, 1½ level tablespoons lard, and stir in 1 beaten egg and ⅓ cup milk, and a little nutmeg. Roll out and bake 12 minutes in hot oven. When done split open and fill with sweetened berries, and serve with whipped cream or with ice cream.—Mrs. Elizabeth O. Jean, Baltimore Co., Md.

POKE LEAVES AS GREENS

We think of anything coming from the poke plant as apt to be poisonous. True, the root and the large strong leaves of the mature plant do contain a substance that is a medicinal poison, so much of it that if eaten for food it would cause serious poisoning. However, the tender young shoots of the young plants make safe good greens if properly treated before cooking. Indeed, they contain certain substances that are very good for us.

The peculiarly acrid, pungent taste when not properly prepared before cooking is so unpleasant to the palate that most people sidetrack them for other and more difficult to obtain greens. A fear of getting poisoned has also militated against them. But if you will gather the leaves from young plants that come up in cultivated ground rather than in pastures and old fence rows you need have no fear of getting poisoned provided you prepare them this way:

Cut the young tender stalks as close to the ground as possible so as to get the most succulent white stalks. They are most tender just before bursting into leaf. If gathered when thus young and brittle there is no danger of poison. Pick over and wash carefully. Then pour boiling water over the shoots, repeating until the last water is clear and free from the red coloring matter, which is said by old folks to contain the poison.

Then they may be cooked the same as any greens. I prefer to boil them in meat liquor.—Mrs. Julia McS. Miller, Baltimore Co., Md.

HOW FLIES CARRY DISEASE

Government Entomologists who have made a close study of the housefly and his habits pronounce him a criminal of the worst type. They tell of his practices, many of which are deadly to mankind, and attribute many epidemics to his work.

His body and especially his legs—is covered thickly with tiny bristle like hairs. His favorite food is partly or completely decayed materials over which he crawls, becoming thickly laden with germs. Subsequent visits to human foods results in their contamination.

This is one of his methods of sowing death and disease but perhaps a more effective one results from the fact that germs are found in greater numbers and live longer in the alimentary canal. These—so the same experts tell us—are passed out not only in the excrement of the fly but in tiny droplets which are forced out of the stomach and which are known as "vomit spots."

When we realize that there is nothing too filthy for flies to feed upon—whether it be the excreta of typhoid patients or the discharge of those suffering from tuberculosis and that they only too often come direct from such contact to the home and table, it can be readily seen why their control is a matter of such direct interest to every one.

The power of the forest to reproduce itself is great, but it is not sufficient to overcome the destructive tendencies which accompany civilization. Only when man becomes consciously a protector and creator of forests can he expect to have forest growth adequate to his needs.

Some women drag a heavy mop pail from room to room; others screw castors on the corners of a piece of board about 15 inches square, lift the bucket aboard, and roll it easily wherever needed.

The dooryard is part of the home and it should be kept looking beautiful no less than the inside of home.

BREAD AND CAKE BOXES

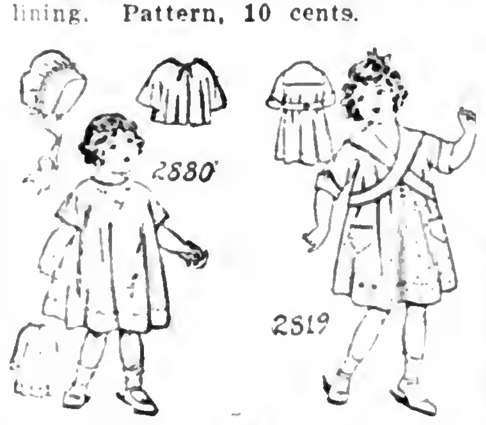
Nearly every farmer's wife owns a japanned bread box and cake box. They are usually brown with gilt lettering. There was a time when this tinware didn't cost much money. If a box rusted out it was carelessly tossed on the rubbish pile and a new one purchased. But price of one of these boxes now! You will think twice before you chuck it.

And really it isn't at all necessary to let it get into a condition that will suggest discarding it. If the japanning shows signs of wear go to the store and buy a small can of colored enamel. Clean the surface of the box and apply a thin coat of the enamel with an ordinary varnish brush. The rust will immediately be checked. That will be much cheaper than a new bread or cake box.

PENNSYLVANIA FARMER PATTERNS

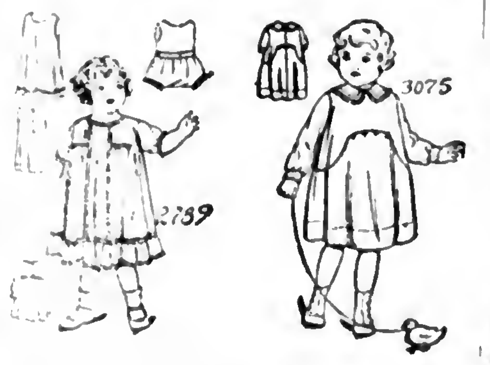
Give figures and letters of each pattern exactly as printed at beginning of each description or we will not be responsible for correct filling of orders. Give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261 S. Third Street, Philadelphia, Pa.

2880.—A Simple Set.—This comprises a pretty bonnet, a sack and a dress with kimono sleeve. Lawn, dimity, crossbar muslin, challie, poplin, voile or crepe are nice for the dress and sack. The cap may be of silk, cloth, lawn, or batiste. The pattern is cut in 4 sizes: 6 months, one year, 2 and 3 years. Size 2 will require of 36-inch material, 2 yards for the dress, ⅞ yard for the sack, and ¾ yard for bonnet, with ½ yard of lining. Pattern, 10 cents.



2519.—A Pleasing Design.—This neat little model may be finished without the collar. The closing is at the centre front under the crossing of the collar. The pattern is cut in 3 sizes: 2, 4 and 6 years. Size 4 requires 2¼ yards of 36-inch material. Pattern, 10 cents.

2789.—A Practical Outfit.— Here is a choice combination for a set of short clothes. It comprises a pretty dress, a petticoat and simple drawers. The pattern is cut in 5 sizes: 6 mos., 1, 2, 3 and 4 years. Size 2 will require for drawers, 1 yard; for petticoat, 1⅞ yads; for dress, 2¼ yards of 36 inch material. Pattern, 10 cents.



3075.—Child's Dress.—This is an attractive model. The pattern is cut in 5 sizes: 1, 2, 3, 4 and 5 years. Size 4 requires 2¾ yards of 36-inch material. Blue or white embroidered or piped with a contrasting color would be good for this style. Pattern, 10 cents.

Blue Buckle Union Made OverAlls

TO turn out the longest wearing, most comfortable work-rig on the market, is the idea back of the manufacture of Blue Buckle OverAlls and Coats. *That means biggest-value for your money.*

You'll appreciate the skillful Union workmanship and the staunch indigo blue denim in Blue Buckles; the non-ripping reinforced back band; the real brass buttons and clasps put on to stay. Blue Buckles will give you premiums in extra-wear and extra-comfort above anything you ever experienced in overalls.

"Strong for Work"

JOBBERS OVERALL CO., Inc.
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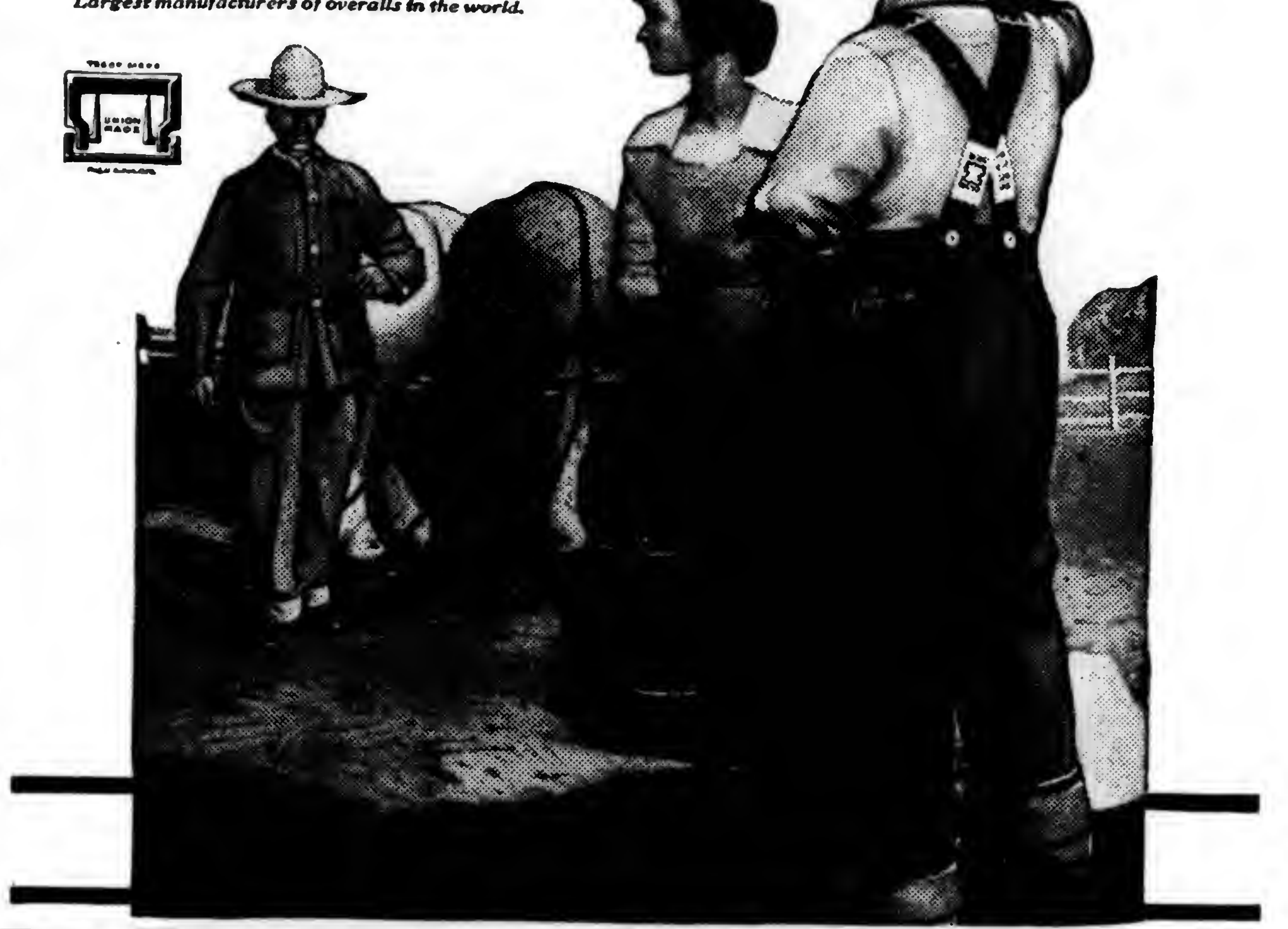

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BLACK TONY'S HORN

By May Wynne

"Ghosts? Of course I believe in ghosts," laughed Diana gaily. "But you don't really mean that there is a real live ghost here, do you?"

"Not exactly here," replied Hugh Bessington, smiling back into her hazel eyes; "but we sport a family ghost, of course. Have you never heard of it?"

"Never, but do tell me; it is just the time and the place for a ghost, isn't it?"

Her companion leant back in his chair, surveying the picture—or as much of it as was visible in the winter twilight.

They were seated in a corner of the great oak-panelled hall which had been the pride of many generations of the Virginia Bessingtons of Bessington Manor. Trophies of the chase and old portraits adorned the walls, but Hugh was not looking at them, but at the girl seated in the wide, big, carved chair opposite, the ruddy flames of the log fire lighting up her pretty, piquant face with its clustering curls and soft hazel eyes. How his heart beat as he watched her sitting there, with one tiny foot stretched out half resting on the back of the great deer-hound who lay enjoying the warmth of the crackling fire. He was longing to take her in his arms, and tell her he loved her, and instead she demanded this idiotic ghost story.

"There's not much to tell," he said with a forced laugh. "It concerns a wild Bessington who lived in the Revolutionary days, who earned the sobriquet of 'Black Tony.' He seems to have been a pretty reckless, devil-may-care sort of fellow, whose only enduring passion was hunting. He owned a mare which was the envy of the country-side, and he always boasted that she would never refuse any leap he chose to put her to. Just near the quarries there is a fence-nothing very formidable—with a deep pit on the other side and a wood beyond it and on the left; you know the place?

"Yes, yes, quite well; Anthony pointed it out to me the other day when we were hunting; there is a gate just to the right."

"That's the place. Well, Black Tony swore he would leap the fence, pit and all, and sound his horn at the same time.

"The mare, — Queen Bess,—rose to the task with all the determination of a lady with her reputation at stake, but the sound of the horn so startled her that she swerved, and both she and her rider were dashed to pieces at the bottom of the pit—which was some old, disused quarry, and of great depth."

"Poor Black Tony."

"Probably deserved what he got from all accounts, but he has had his revenge on future generations, for, immediately before the death of any Bessington of Bessington Manor the sound of his horn is heard, as it was that fatal day when death found him in the old quarry."

"How horrible— have you ever heard it?"

"No,—I believe it is most audible to the doomed man."

"But is it different to any other horn?"

Hugh Bessington rose.

"Here is the original," he replied, taking down an old-fashioned silver horn from the wall. "Yes, it has a curiously sweet note, shall I show you?"

"No, no, I—don't want to talk of it any more. I hate ghosts, let's talk of something else."

Her companion was standing nearer to her now, the twilight hour, the nervous fear in the childish face, the intoxication of her near presence inspired him with a sudden courage mingled with mad desire.

But as the girl understood the purport of the words which he stammered forth so inconherently her pretty face flushed crimson with surprised embarrasment.

"Oh, please," she cried. "You mustn't, no, indeed you mustn't."

"But I love you; you must have known it, and you were not angry, Diana—my dearest—"

But she had risen too, rosy-red with shy confusion."

"I must explain," she faltered. "Altho he asked me to tell no one till his mother knew,—I am engaged to your cousin,—to Anthony."

He repeated her words duly, not grasping the meaning.

"To Anthony?"

"Yes, to Anthony,—only this afternoon, and when we came in his mother was out driving, and he said she must be the first,—but, but—"

"What! all in the dark," cried a strong, masculine voice from the staircase. "Is that you, Diana? Come here, sweetheart, the mater wants to see you."

She had sprung forward eagerly at the sound of his voice, glad to escape from the difficult situation; —something in her future cousin's face had made her afraid, but the feeling passed as she felt her lover's strong arm round her slender waist, and looked up with a joyous little thrill into her bronzed, handsome face with its tender grey eyes.

"What were you talking to Hugh about, little one?" he said, half-jealously, when they were out of ear-shot. "You both seemed—"

"It was your family ghost-story," she interrupted lightly. "Do you know I could not help feeling sorry for Black Tony, he sounded such a man,—but I call it spiteful of him to haunt his descendants like that; they couldn't help him being killed."

Bessington laughed.

"He has never troubled me," he said.

• • •

A glorious December morning,—from a huntsman's point of view,—and a prettier sight it would have been hard to find than the one gathered about the great front door of Bessington Manor. The sun shone down brightly on pink coats and gray faces, for this was one of the most popular meets of the season, as Anthony Bessington was the most popular Master.

How handsome and sportsman-like he looked, thought Diana, with a glad thrill of love and pride, as he stood on the steps speaking to several friends who had dismounted, holding their horses by their bridles.

Rosy with blushes she stood beside him, receiving their congratulations with a pretty shyness, for she was scarcely eighteen, and had not acquired the sang-froid of a twentieth-century demoiselle.

"And how is it that you are not hunting today, Miss Gaythorne?" asked the courtly old Robert Albury. "I think I have seen you in the field before?"

"Oh, yes," she replied. "I love it, but I had such a bad headache that I thought I would rest today,—I want to get it quite well by this evening—it is the Hunt Ball, you know."

He paid her a graceful compliment upon the certainty of being able to name her as the belle of the evening, and hastily mounted as the huntsman's horn sounded near.

"Good-bye, sweetheart," was Anthony's farewell. "By the bye, where's Hugh?"

"I saw him a moment ago," she replied. "He is riding Croisette, and I think she was rather fresh. I expect he was afraid of upsetting some of the other horses."

He waved his hand with a smile and the next moment was gone, whilst Diana stood, shading her eyes to see the last of the gay company, and listening to the echo of the horses' hoofs and the merry jingle of bridles.

"There is nothing like hunting—nothing," she sighed. "I almost wish I had gone, but my head was so bad this morning,—I think it must have been those horried dreams,—I wish Hugh had not told me the family ghost-tale."

It was certainly Diana's regret nearly all the morning, and her headache seemed to grow worse, combined as it was with a vague and unreasonable nervous depression. She could think of nothing, but Hugh, and Black Tony's fateful horn.

"A little walk would do you good, my dear," said old Mrs. Bessington, beaming kindly upon her,—it was such a joy to think that Anthony was marrying this charming girl instead of any of the "smart" women who seemed to alluring to the F. F. V.'s W. in the present day.

"I think I will," Diana replied, "or I shall not be able to go tonight, and I should be so disappointed."

Mrs. Bessington's prescription proved effective, but somehow Diana felt her footsteps drawn towards the quarries. She wanted to go and see for herself where that bygone Squire of Bessington Manor had met his death.

"They will soon be home now," she said to herself, as she paused in the shadow of the little wood,—such a dreary winter wood, with no murmur of voices save the rustling of dead leaves in the breeze.

"Yes," she comforted herself, as a spasm of fear shook her. "The hunt must soon be over—and he is sure to ride home this way, and we can go together by the bridle path." A happy smile dimpled her cheek at the thought.

"Poor Hugh," she whispered involuntarily. "Poor Hugh,—I must always be very kind to him,—I do hope it was not my fault but I never thought—of him."

She little know that Hugh was close to her though, he had not seen her. Yet he was thinking of her too, as he crouched there, on the other side of the hedge, with a curious old-fashioned horn gripped in his hand.

"She would love me if it were not for Anthony," the devil within was tempting him with. "She will love me,—when she has forgotten Anthony."

His pulses throbbed tempestuously, as he recalled the vision of a girl's face looking up at him from the framing of a carved oak chair. How he had longed to hold her in his arms, tightly, tightly,—and she belonged to Anthony,—yes, to Anthony, just as surely as one day she would belong to him. Once again he gripped the silver horn. So, unseen by each other those two waited for the man who came riding blithely across the fields toward them.

There was a smile on Anthony Bessington's face as he rode, the smile of man who goes home to pleasure rather than of the one who rides away from it,—yes altho he was a keen sportsman, and the run had been a record one that day, he knew that the best part would be awaiting him in the twilit hall of his ancestors.

"Hard luck for Hugh, Croisette falling lame so early in the day," he thought. "He looked sulky enough over it too, poor chap. I wonder what Di has been doing with herself; it's a good thing she did not come, it has been a hard day."

He was now close to the fence—he had not seen Diana standing in the wood on his left.

"Steady old woman," he said, patting his mare's neck, and set her at the fence to the right of Black Tony's fatal quarry. Clear and sweet rang out the notes of a horn as the mare gathered herself together for the leap. And, at the sound, even Anthony Bessington grew pale, so silvery, so insistent, so unmistakable was the sound. The reins fell upon Beauty's neck even as the frightened animal swerved in sudden fear at the unexpected noise in such close proximity, and the next moment with a scream of terror the poor creature had slipped on the edge of the quarry and was hurled to destruction beneath.

A man's figure rose up hurriedly from behind the fence.

Only one saw his face as he ran, still clutching the horn, his knees trembling beneath him in a sudden remorseful agony. But, as Diana looked into his face her heart grew sick with horror. She understood.

He did not see her as he fled, striving as he went to realize all that he had accomplished to assure himself that he had succeeded beyond his most glowing expectations.

His rival lay huddled and lifeless at the bottom of Black Tony's quarry, and he, as the master of Bessington Manor, would woo and win his cousin's love. Yes, it was good, altogether good, that sudden inspiration of mushroom growth—yet why did he shudder as he came in sight of the old grey manor? It seemed to him that the echo of that horn still rang clear and sweet in his ears.

And meantime he little dreamt that where he had thought to leave only death, love lingered too.

White to the lips, yet with every fibre of her being alive to the necessity for courage, Diana Gaythorne knelt over the abyss and back into her face looked the eyes of Anthony Bessington as he hung, gripping to a ledge, some few feet below her. She noticed every detail with the strained vision of a moment's glance. The knotted veins of his strong hands, the perspiration on his forehead, the brave smile in the grey eyes, the set determination of his mouth, and, above all, the slight loosening of the ledge of rock to which he held.

"If I can fetch help," she muttered thickly.

"It will be too late," he whispered back, very tenderly. "No, little sweetheart, it is good-bye—good-bye—did you not hear my home call?"

Her eyes blazed. "It was no ghost who sounded that horn," she replied, "I saw him go."

If he understood he gave no sign, but a faint color returned to his cheeks.

"Still, the call came," he said, "and it is still good-bye,—darling,—darling—"

Thru the gloom his eyes looked lovingly up into hers.

But she had risen, a desperate woman with all of life trembling below her on the brink of destruction.

With hurried, nervous fingers she was unwinding the long, thick muffler she wore round her throat.

"A few minutes," she prayed. "Only a few minutes."

She had knotted the ends of her impromptu rope to the trunk of a strong sapling which grew near. Gracious Heavens! If it might only reach."

In agony she leant over again.

"Can you?" she whispered, and told him her plan.

He smiled, tho there was little hope in his face. Would the rock hold firm whilst he raised his other arm to seize the dangling muffler above him.

A breathless moment and then—

"Ah!" gasped Diana as she saw him catch the impromptu rope in a strong grip even as the ledge of stone gave way, falling with dull resounding thuds far below.

Even now Fate trembled in the balance.

Backwards and forwards swung the desperate man, slowly ascending hand over hand whilst the muffler grew even more frayed and strained as he neared the top.

The sound of many waters was in Diana's ears, a mist swam before her eyes as she lay stretching out her arms to clasp the man swaying there in the evening gloom.

She was clutching, dragging with all the strength of her young muscles, and then, then—a sound of something snapping, a mighty spring forward, and Anthony lay upon the grassy edge of the quarry with Diana fainting in his arms.

• • •

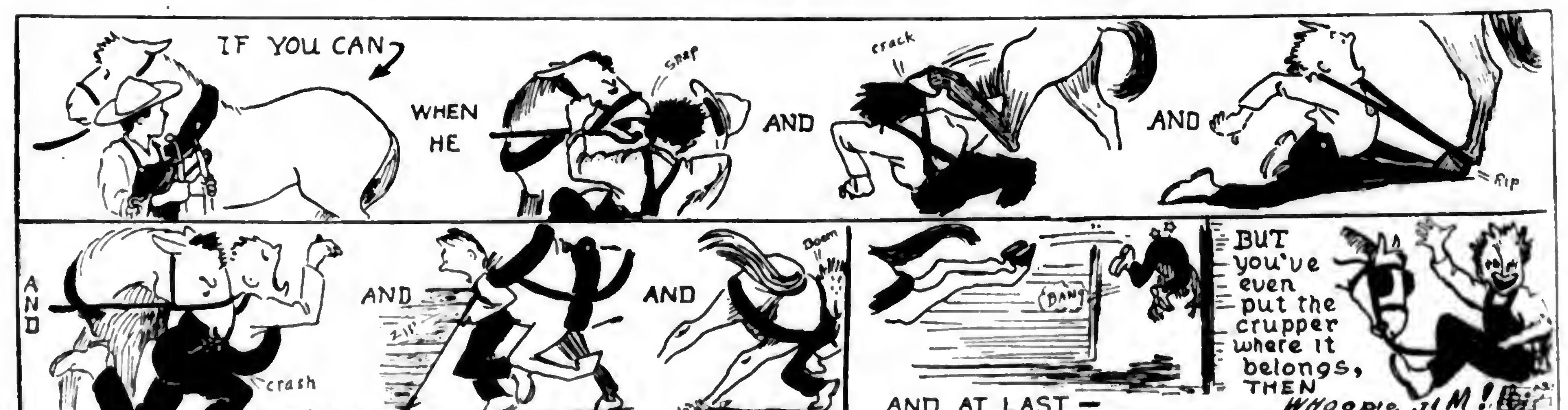
It was almost dark when they reached the Manor to find everything in confusion. Vague rumors of misfortune were current upon the air, grooms and stable men were already scouring the country in search of their missing master. Mrs. Bessington, white and fearful, stood leaning upon Hugh's arm. He was whiter than she—but when he saw them enter, the whiteness fled, leaving a grey lividness behind.

"Anthony, my dear Anthony," sobbed Mrs. Bessington, "the terror we have been in, and that foolish Simmons declared he heard the horn—Black Tony's horn." She was clinging to him as she spoke, and when they looked around again Hugh was gone.

• • •

The good people of Bessington still have it that Black Tony's Horn was

(Continued on Page 25.)



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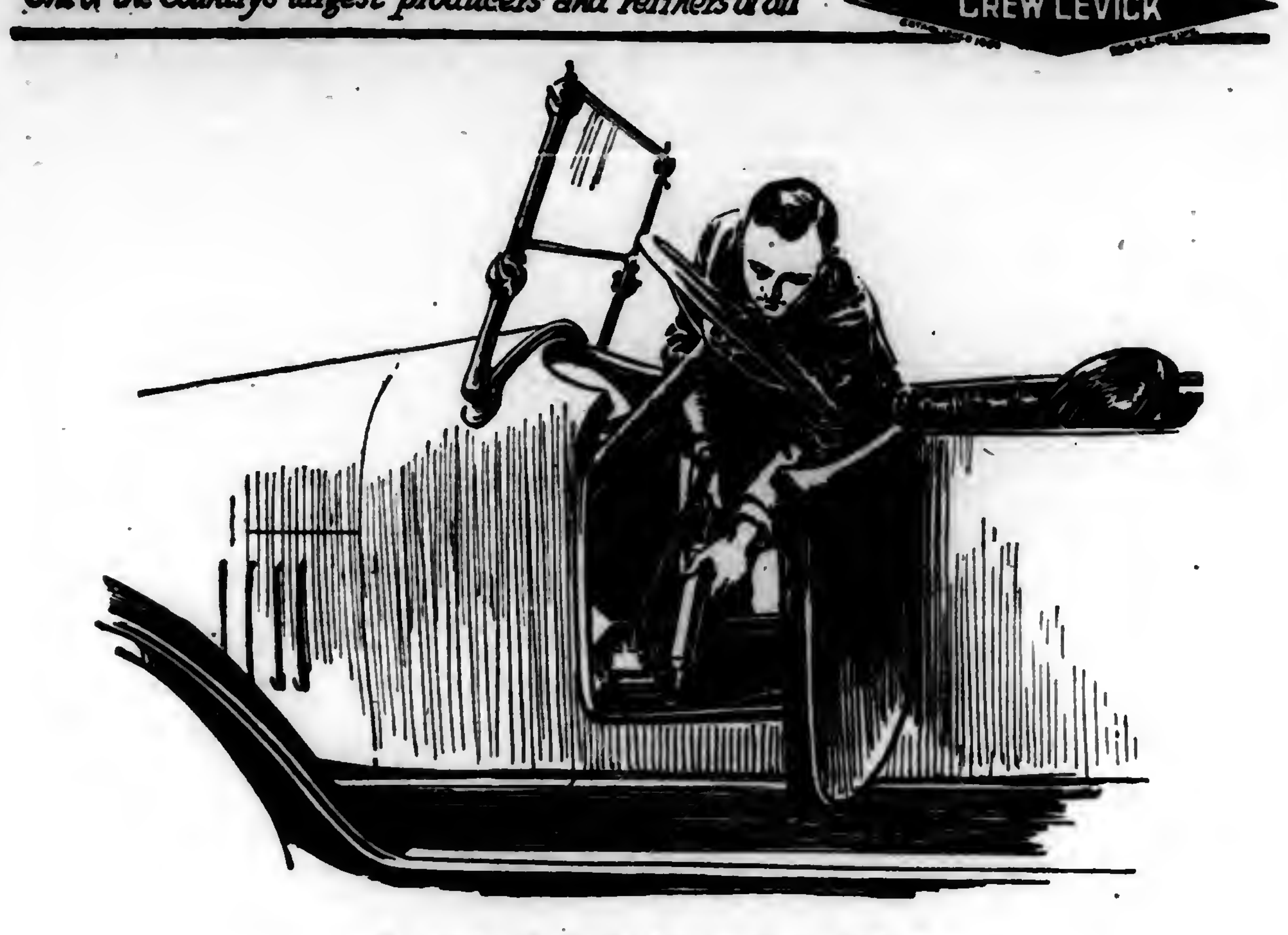

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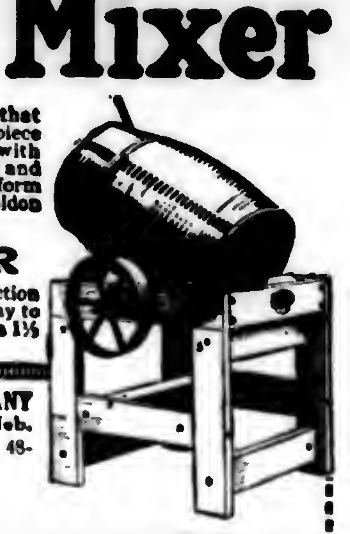

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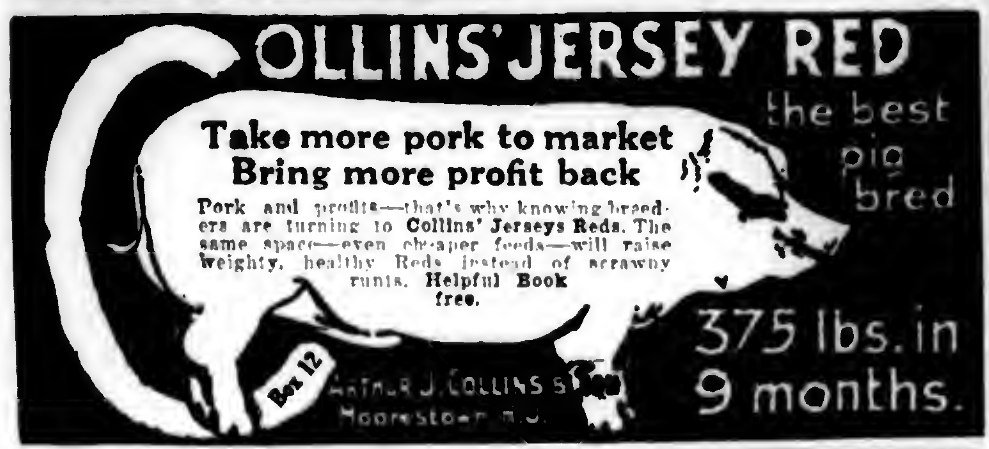

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FORAGE CROPS FOR PORK PRODUCTION

(Continued from Page One.)

are about four inches high, it would be well to stimulate their growth by the use of nitrate of soda to the extent of 75 lbs. per acre, and an abundance of phosphoric acid and potash should be supplied at the time of seeding. Rape blends well with oats, barley, clover or peas, and we have used to advantage the following mixture:

Oats, 1 bushel; Canada Field Peas, 1 bushel; Barley, 1 peck; Dwarf Essex Rape, 5 pounds per acre.

The oats, peas and barley were mixed and seeded by means of a grain drill, while the rape was broadcasted. It is estimated that as much as twenty tons of green forage can be produced from a single acre of rape. The crop must be used as a grazing crop or for soiling purposes, and heavy stocking should be avoided. When pastured so closely as to have the bare stalks exposed it does not yield satisfactorily. It is often an advantage to remove the hogs immediately following a rain, and thus give the plants time to recuperate. Perhaps the most satisfactory mixture that was used at the New Jersey Experiment Station last year consisted of the following:

Rape, 6 pounds; Sweet Clover, 10 pounds, Soy Beans, 1 bushel.

In this case seeding was made on May 20th the hogs turned in on July 20th. The five acre area netted more than $50 per acre. Twenty brood sows averaging 300 pounds, and thirty springs shoats averaging 100 pounds were pastured thruout the season. The brood sows were not fed any grain in addition to the forage, and were in excellent condition at farrowing time. There in some difficulty experienced when white hogs forage on rape. The skin blisters badly, especially of the pigs forage when the dew is on the plants. It is claimed that rape plants harbor insects injurious to some garden products and that the crop should not be planted in the orchard. I believe that such danger is over estimated, and that it is a perfectly safe crop to grow under a variety of conditions.

GOITERS IN PIGS AND CALVES

Calves are occasionally born with enlarged necks or goiter. Sometimes they live and the goiter gradually disappears. This condition is no doubt closely related to what is known as hairless pigs. According to a bulletin issued by the University of Montana the loss in pigs from this cause is fully $100,000 annually. Pigs when born are about normal in size but there is a total absence of hair. The thyroid glands (goiter) are greatly enlarged. The head and neck are apparently larger than normal and the skin from the shoulders forward is thick and wrinkled. Dr Glover, veterinarian at the Agricultural College, states that it has been found that while the glands are enlarged the iodine content of the glands is abnormally low. It seems that this condition may in a measure at least be controlled by giving a proper ration in which at least twenty-five percent is bulk material. They should not be given a concentrated ration containing a high percentage of protein. Further, it may be prevented by administering iodine mixed with the feed in the form of potassium iodine. Calves born with hair but with goiter are probably in the same category. It would seem that this condition represents a disturbance of the complex metabolism of the fetal body because of a lack of available iodine in the ration of the mother.—Colorado News Letter.

"This ought to make life easy from now on," remarked Noah as the ark landed.

"To what do you refer?" inquired Japhet.

"Our monopoly of eggs, butter, milk, beef, etc., with not a soul on earth to start an investigation."

A COVER CROP LESSON

Last winter taught us a costly lesson in the use of cover crops that we are not likely to forget. We learned that we must not rely on one crop alone as a winter covering of the soil. Up until four or five years ago crimson clover was the popular cover crop in our section of the country (South Jersey) on soils that were not too poor to grow it. Where crimson clover would not grow we used rye. However, winter vetch gradually replaced the crimson clover because of its better growth and the certainty with which it survived the winter. This winter however, practically all of the vetch was winter killed, and as a result we have very little organic matter to plow under this spring. This is especially serious because of the high cost of stable manure. Altho another such winter may not occur again for many years, we cannot afford to take any more chances and are therefore planning to mix the vetch with rye rather liberally hereafter, so that we are certain to have some green growth to plow under in the spring. With vetch being quoted at $20 a bushel and over, this may mean economy. Heretofore the practice has been to sow 30 pounds of the vetch to the acre. We propose to cut the vetch to 15 or 20 pounds and sow about [illegible] of a bushel of rye with it.—H. E., New Jersey.

CUTTING SEED POTATOES

In reading an article on potatoes in April 3rd Pennsylvania Farmer by E. V. Hardenburg, I couldn't help but think he discussed the problem fairly from almost every point. Still I will say from a bit of experience I had one summer I do not think size has any thing to do with yield. I took an eleven ounce potato of the Carmen No. 3 type and cut it in 22 pieces all about equal size which is not very large. One would naturally think they were too small for planting as some pieces only had half an eye, but I noticed each one grew as well as the others. I planted on June 19th a couple days after cutting as the ground was not ready and I put pieces 1 foot apart in row. I did not take extra care of them on account of sickness but when they were dug I had 53 pounds of nice potatoes and very few small ones. I was in the Herald garden contest and I got first prize of $10.00 for largest yield from one tuber. While it was not the world's record by any means just sit down and figure what an acre would yield. It should satisfy most any one I think. How much do you figure it to the acre? Let me know please.—F. D. Fulton, N.

WANTS READERS' EXPERIENCES WITH HOG FORAGE

I have just recently subscribed for your paper and must say that I appreciate it very much especially the letters on the different topics for discussion.

Would like very much to hear from those interested in raising hogs on forage crops—different crops recommended and their rotation. also use of self-feeders for feeding corn and mill-feed when hogs are on a forage crop and would like to hear opinions expressed as to whether hogs will do as well pasturing on a sandy as a clay soil.

I have quite recently come from the North to the Eastern Shore of Maryland and from my short experience, I find this the hog-raiser's paradise as the hogs can be pastured from early in March (on rye) till quite late in November or even till nearly Christmas on other crops. Consequently there is little danger of cholera and such a variety of crops can be grown thru the season that it affords a splendidly balanced ration. I presume poultry does better than hogs on sandy soil but I've had splendid success with a small number of hogs.—A. McW., Caroline Co., Md.

The housewife who has a few rhubarb plants in the corner of the yard has the problem of sauce, pie and preserves for many occasions already solved.

HERE is the first tire that ever was given a whole factory to itself!—the 3½-inch Firestone special molded.

Firestone Plant No. 2, with a capacity of 16,000 tires per day is devoted solely to the production of the 3½-inch size.

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Reg. Holstein bulls from $40 to $100 each. High grade Holstein heifer calves $20 each. Fine O. I. C. pigs $6 each. Reg. O. I. C. Boars and Sows. Write your wants.
SUNNYBROOK STOCK FARM, Wyalusing, Pa.

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wanted at market prices. Also poultry and all kinds of farm produce.
GIBBS & BRO.
325 North Front Street, Philadelphia
Established 1844.

All Kinds of Purebred Live Stock
supplied on commission. Terms reasonable. Write for full particulars.
LEWIS H. FURGASON,
WINDHAM, GREENE CO., N. Y., Box No. 106.

Penns Valley Stock Farm Percherons, Holsteins, Berkshires
Special offering in fresh cows and heifers; bull calves, grandsons of King of the Pontiacs; herd boars, with size, breeding and quality; pigs, either sex. W. F. RISHEL, Centre Hall, Pa.

HATCHING EGGS from free farm range Poultry. Rocks, Reds, Wyandottes, Leghorns, Minorcas, Brahmas, Hamburgs, Anconas, Ducks, etc., also Hares, Cavies and Holstein cattle. Cat. free. H. A. Souder, Sellersville, Pa.

HOLSTEIN FRIESIAN Heifer and Bull Calves, High Grade and Purebred Reg., beautifully marked, splendid individuals. Reg. Durocs, pigs, bred gilts, and service boars. BROWNCROFT FARMS, McGraw, N. Y.

REG. P. CHINAS, BERKSHIRES, C. WHITES, large strains, all ages, mated, not akin; 8-wk. pigs, br. sows, service boars, Beagles and Collies. Write for circ. P. F. HAMILTON, Cochranville, Pa.

FLEMISH GIANTS FOR SALE. 3 months old, $3 each. 6 months old, $5 each.
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BABY CHICKS White and Barred Rocks. White Wyandottes, Reds. Anconas, White and Brown Leghorns and Broiler Chicks. Send for Free Catalog and prices before ordering elsewhere. Trial convinces.
NEW WASHINGTON HATCHERY,
NEW WASHINGTON, OHIO. DEPT. N.

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White Leghorns	$20—100
Barred Rocks	25—100
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Baby Chicks and hatching eggs from our high-egg-laying strain. White Leghorn baby chicks $20.00 hundred. Hatching eggs $10.00 hundred. Safe delivery guaranteed. We invite your inspection of our birds, if possible.
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KENDEL'S SUPERIOR STRAINS
Famous for High Standard, Utility Quality, 35 varieties. Leghorns, Rocks, Reds, Wyandottes, Anconas, Minorcas, Brahmas, Langshams, Orpingtons and Ducks. Circular free.
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J. NEVIN STROUP, MIDDLEBURG, PA.

Sicilian Buttercups
Farm range, prize winning Buttercups. Investigate this wonderful variety. Write for circular.
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Buy Big Berkshires of quality. Special offer on spring pigs. M. I. KELLY, Honesdale, Pa., R. I.

Chester White Hogs, All Ages
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Reg. Big Type SPOTTED POLAND-CHINA Pigs, bred from a son of O. K.'s Pride No. 88, also 5 Reg. Holstein Bulls. H. C. Kymer, R 4, Shippensburg, Pa.

For Sale Registered O. I. C. Boars, six months old. Good breeding.
J. W. SNYDER WHITEFORD, MD.

Registered Berkshires Spring Pigs $15.00 each. Bred sows $50 to $75. L. C. TOMKINS, Ellenton, Lyc. Co., Pa.

O. I. C. March Pigs, Reg. free, Big prolific strain; sired by Frank No. 71113 Vol. 21. Prices right, sat. [illegible] Edw. N. Lydick Indiana, Pa. R 23.

Reg. Durocs Choice pigs, Orion and Col. blood lines. Satisfaction guaranteed. Price reasonable.
ALLEN L. METZLER, Somerset, Pa. R4.

LARGE ENGLISH YORKSHIRES, purebred. The bacon hog. Good feeders, gentle and prolific. J. Homer Reams, Luthersburg, Pa.

Large Type Duroc. Boars and Fall Gilts. Also some fine Spring pigs. Guaranteed to please or money refunded. B. H. SAGER, BASIL, OHIO

DUROCS. Sept. boars ready for service. Also 2 Spring boars. Sept. Gilts bred for Sept. Spring pigs not akin. All im. I. O. Jackson, R 10. Van Wert, Ohio

O. I. C. Pigs, either sex. We ship on approval and register free.
L. B. COFFMAN & CO., Palmyra, Pa., R. 2.

Chester Whites and HAMPSHIRE SHEEP. Write your wants. We can please you. TWIN BROOK FARM Newville Pa.

Markets

PHILADELPHIA PRODUCE

Philadelphia, May 10, 1920.

Supplies of old potatoes are quite a little heavier and prices are not quite as high. Pennsylvania potatoes are bringing the top prices, the best selling around $7.25 per cwt. New York State and Maine potatoes are selling at $6.75@7.00 per cwt. There are quite a few potatoes on the market showing age and selling at $6.00@6.50 per cwt. as to condition.

Four cars of new potatoes from Florida sold at $18.00 per barrel for the No. 1 stock, No. 2s at $16.00@17.00 per barrel and No. 3s at $10.00@11.00 per barrel. The supplies of new potatoes will show a gradual increase from now on, and will have some bearing upon the price of the old potatoes.

Sweet potatoes are getting very scarce and prices have made quite a little advance during the past week. This morning New Jersey grown sweet potatoes sold at $3@4 per hamper for the No. 1 stock, while the ⅝ baskets sold at $2.00@3.00 per basket as to quality for the primes with the mediums and No. 2s ranging from $1.00@2.00 per ⅝ basket.

Vegetables

New Jersey and Pennsylvania are now supplying most of the asparagus on the market with a little from Maryland and Delaware. Fancy extra large asparagus sold today at 40c@50c per bunch, with the fancy at 25@40c, the prime at 20@30c, and the culls at 15c@22c per bunch, meeting a very active demand at those prices. The supplies of southern green beans continues to get heavier, mostly poor and ordinary in quality with sales ranging from 75c@$2.00 per basket on the poor and ordinary with the good to fancy at $2@3 per hamper. Beets are very scarce and bringing higher prices, some good stock from Norfolk selling here at 16@17c per bunch. There are a few old beets from Pennsylvania and New Jersey's last year's crop being sold around $3@3.50 per barrel. The first cabbage from the Norfolk section made its appearance this morning, but it was small and brought $6 per crate. Some old carrots brought $8 per barrel, while others in bushel baskets sold at $2.75@3 per bushel. Celery is getting very scarce, two cars here this morning selling at $5@7 per crate this being fully $1.50 per crate higher than a week ago. Kale from the Norfolk section is poor and selling at low prices averaging around $1@2 per barrel, some of good quality from the Baltimore section sold at $2.75 per barrel. Fancy lettuce is scarce and bringing good prices ranging from $3@4 per hamper, but there is some poor lettuce on our market which only brings around 75c@$2 per hamper. There is quite a little Pennsylvania hot bed lettuce arriving. Today's sales of nearby lettuce ranged from $5.50@7 per barrel on the No. 2 stock with the No. 3 at $3@4.50 per barrel. Southern onions are arriving more freely and prices are lower, No. 1s selling around $3@3.25 per crate with the No. 2s or boilers at $2.25@2.50 per crate. There are only a few old onions left, sales being made at $5@5.50 per sack. Parsley is about steady and unchanged at $6@8 per barrel. Peas are much more plentiful and prices are lower, but there is a very wide range in quality, making a very irregular market, sales being made at this writing at $1@2.75 per hamper. Peppers continue very scarce and are still bringing high prices at $7@8 per crate on fancy with choice at $3@5 per crate. Rhubarb from nearby Pennsylvania points is fairly plentiful and meeting a steady and unchanged market at 3@6c per bunch. Radishes are quite plentiful but active at $2@2.25 for Norfolk red radishes and 75c@$1.50 for the white radishes. New Jersey red radishes sold this morning at $2.50@3.50 per hamper, or at 2@3½c for the bunches. Fancy romiane is higher at $2@2.50 per hamper but poor sells at $1@1.25 per hamper. Nearby grown scullions continue plentiful and the market is easy at $1@1.50 per hundred bunches mostly with some fancy at $1.75@2 per hundred bunches. Good Norfolk spinach sold this morning at $3.25@4 per barrel with poor packed at $2.50. Baltimore spinach sold at $1.75@2 per bushel basket. The southern crop of new white turnips has made its appearance, one car from S. C. selling this morning at $4 per barrel while some from Norfolk in bunches sold at 5c per bunch. A car of rutabagas sold at $3.50 per sack. Watercress is fairly plentiful and the market is about steady at 2½@3½c per bunch.

Fruits

About the same conditions prevail in the apple market this week as were noted last week. As the season advances and supplies become lighter prices continue to gradually advance on strictly fancy apples. Today Baldwins sold at $10@12 per barrel, and one car of Ben Davis sold $10 per barrel. Some Albemarle pippins showed some waste and prices ranged from $6@9 per barrel. Far western Box apples are selling mostly at $4@5 per box. Strawberries continue in light supply. There were 5 cars from N. C. here this morning which sold at 28@38c per quart.

Poultry

The live poultry market after ruling a little weak during the greater part of last week appears to be reacting a little and today prices showed a little advance. Fancy small live fowls are now selling at 41@42c per pound with the heavy ones at 38@40c. Staggy young roosters are about steady at 30@32c., with old roosters in moderate demand at 25@28c. Broiling chickens not leghorns are wanted at 75@90c per pound, but the leghorn broilers only bring 55@65c per pound. Ducks are a little lower, sales are now being made at 30@35c per pound.

Eggs

Supplies of eggs are ruling light for this season of the year, and the market is firm and about ½c per dozen higher than last week's prevailing prices. At this writing Pennsylvania and other nearby current receipts are selling at 43½c per dozen with nearby firsts at 44½c. Western firsts are bringing 43c and western extra firsts 44c per dozen. Southern eggs are somewhat irregular in quality and sell at the range of 38@41c per dozen as to quality.

LANCASTER PRODUCE MARKET

Lancaster, May 10, 1920

Produce of all varieties was abundantly offered here today with the usual high prices demanded. Business was brisk and nearly all supplies were moved by the close of market. New potatoes made their first appearance, and brought 80 cents ½ peck, only ten cents more than the old ones. Great quantities of eggs were moved at 45 and 48 cents a dozen. The quotations:

Butter and Eggs.—Creamery butter, 75@80c per pound; country butter, 70@75c. per pound; fresh eggs, 45@48c. per dozen; duck eggs, 55c per dozen; goose eggs, 6@7c each.

Poultry.—Dressed old chickens, $2.25@2.50 each; dressed young chickens, $1.90@2.10 each.

Vegetables.—Asparagus, 15c. per small bunch; lima beans, 20c per pint; cauliflower, 30@35c per head; cabbage, 20@40c per head; sweet potatoes, 50c ½ peck; potatoes $5@5.50 per bushel; do., 70c ½ peck; do., (new), 80c per ½ peck; turnips, 40c per ½ peck; spinach, 40c ½ peck; lettuce, 20@30c per head; oyster plant, 15c per bunch.

Fruit.—Apples, 40@60c ½ peck.

BALTIMORE PRODUCE

Baltimore, Md., May 10, 1920

Butter.—Creamery, Western separator, extras, 65@66c.; do., firsts, 63@64c; Western prints, ½-pound, extra, 66@67c.; do., firsts, 64@65c.; do., 1-pound, extras, 66@67c.; do., firsts, 64@65c.; nearby creamery, extras, 63@64c.; do., firsts, 62@63c.; dairy prints, Maryland, Pennsylvania and Virginia, extras, 43@44c.; do., firsts, 42@43c.; storepacked, firsts, 38c.; rolls, Maryland and Pennsylvania, extras, 41@42c.

Eggs.—Western Maryland and Pennsylvania, nearby firsts, 41c.; Eastern Shore, Maryland and Virginia, firsts, 41c.; Western (Ohio), firsts, 41c; West Virginia, firsts, 40c.; Southern (North Carolina), firsts, 39c.

Live Poultry.—Chickens, large, young smooth, pound, 45@50c.; do., winter, under 2 pounds, pound, 60@65c.; do., spring, 1 to 1¼ pounds, pound, 70@75c.; do., old roosters, pound, 24@25c.; do., old hens, over 4 pounds, pound, 42@43c.; do., small, pound, 42@43c.; do., white Leghorn hens, pound, 41@42c. Ducks—Muscovy and mongrel, pound, 35@36c.; do., white Pekins, pound, 40c.; do., puddle, 4 pounds and over, pound 38c.; do., small, poor, pound, 35@36c. Pigeons, old, pair, 40@45c; do., young, pair, 40@45c. Guinea fowl, young, each, $1; do., old, each, 60.

YORK PRODUCE MARKETS

York, Pa., May 10, 1920.

Apples are almost a thing of the past. What are being offered are not of good quality. Potatoes are almost as scarce. Because of the lateness of the season it is possible that many will not get as large plantings made as desired and this will put additional stock on the markets a little later.

Eggs.—40-42c per doz.

Butter.—Country, 65@70c lb.; separator 75@80c lb.; milk, 12c qt.

Poultry.—Hens, 35@40c lb.; dressed, $1@3 each.

Vegetables.—Potatoes, $3.75@4 bushel; 30@60c ½ peck; lettuce, 3@10c head; cabbage, 10@25c head; radishes, 5c bunch; beets, 5c box; onions, 5c bunch; lima beans, 35@40c quart; soup beans, 25@30c quart; celery, 5@15c stalk; turnips, 20c ½ peck; rhubarb, 5@10c bunch; asparagus, 10@12c bunch; sausage, 38@40c pound; ham, 45@80c pound; whole, 40@55c pound.

Fruit.—Apples, 50@80c ½ peck.

Retail Grain Market.—Wheat, $3.25; corn, $2; oats, $1.25; rye, $2; bran, $3.10 cwt.; middlings, $3.60 cwt.

Wholesale Grain Market.—Wheat, $3; $2; oats, $1.25; rye, $2; bran, $3.10 cwt.; $60 per ton; middlings, $70 per ton.

PITTSBURGH PRODUCE

Pittsburgh, Pa., May 10, 1920

Butter.—Prints, 66@66½c.; Tubs, 63½@66c.; cooking, 58@60c.; Ohio, 61@62c.

Cheese.—New York full cream, 34@37c.; Ohio, 33@34c.; Wisconsin Swiss, 58@60c.; Philadelphia cream, $1 per dozen.

Eggs.—Fresh, select, 48@49c.; at mark, 44@45c. Current receipts, 40@41c.; do., candled, 43@44c.

Potatoes.—Round, $10.75@11 per 150-pound sacks. Onions, Texas, $3@4 crate; Cabbage, Texas, 3@5c lb. Sweet potatoes, $3@3.50 hamper. Turnips, $2.25@2.50 bushel. Radishes, 20@25c dozen. Rhubarb, 30@40c bunch. Spinach, Texas, $2.75@3.

Fruit.—Apples, $3@5 box. Strawberries, 24 qt. crate, $10@10.50.

NEW YORK PRODUCE

New York City, May 10, 1920

Butter easier; receipts, 5986; creamery, higher than extras, 63@63½c; creamery, extras (92 score), 62½c; firsts (88 to 91 score), 58½@62c; packing stock, current make, No. 2, 40c.

Eggs—Irregular; receipts, 28,256; storage, packed extra firsts, 28½c.; firsts, 46@48c; fresh gathered extras, firsts, 47@48c; firsts, 44@46½c; state Pennsylvania and nearby western hennery browns, extras, 50@51c; do. gathered browns and mixed colors, firsts to extras, 46@49½c.

Cheese.—Firm; receipts, 1267; state, whole milk, ats, held, specials, white and colored, 31@32c; do. average run, 30c; state, whole milk, flats, current make, specilas, white and colored, 28@29c; do. average run, 26@27½c.

Live Poultry—Norinal; express broilers, 50c@$1.05; other prices not quoted; dressed, quiet; western broilers, frozen, 40@56c; chickens, frozen, 38@43c; fowls, fresh, 32@44c; frozen, 30@43c; old roosters, fresh, 28@29c; frozen 28@29c; turkeys, frozen, 51@56c.

Vegetables.—Potatoes, old, $12 per 165-lb. sack. Beets, $3@6 per barrel. Carrots, $7@8.50 barrel. Rhubarb, Jersey, $3@4 per 100 [illegible] Turnips, [illegible] 2 barrel.

PHILADELPHIA LIVESTOCK

Philadelphia, Pa., May 10, 1920

Receipts for the week ending May 8th were as follows:

	Beef Cattle	Sheep & Lambs	Hogs
Previous week	1,855	5,280	8,701
Totals for week	2,031	6,371	11,747

Calves.—Receipts of calves were 2,224 head against 2,711 head previous week.

Beef Cattle.—Steers and cows firmer; calves, a shade easier. We quote: Steers, fair to good, $12.50@14; common to fair, $11@12.50; cows, per lb., good to choice, corn fed, 9@10½c.; fair to good, 7@9c.; common to fair, 5@7c.; calves, extra to choice, $20@21; do, fair to good, $14.50@16.50; do. common, $10.50@13.50; do, heavy and rough, $7@10; Tennessee, $15@17; other southern, $8.50@13.50.

Sheep and lambs.—Sheep weaker. Lambs steadily held. We quote: Sheared sheep, wethers, extra, $13.25@13.75; do. good to choice, $12@13; do, medium, $9@10; do common, $7@8; ewes, heavy, fat, $9.50@11; lambs—sheared choice, $18.50@19; do. medium grades, $15.50@16.50; do, culls and common, $11.05@13.50.

Hogs.—In fair demand and firm. We quote: Best western, $18@18.50; hogs, good, $16.50@17.

City Dressed Stock.—Steady under moderate offerings and a fair demand. We quote: Steers, 20@24c.; heifers, 16@20c.; cows, 14@18c.; calves city dressed, choice, 26@28c.; calves, country dressed, 23@25c.; lambs, spring, choice, 33@36c.; sheep, 20@28c.; hogs, 24c.

LIVESTOCK MARKETS

Lancaster, May 10.—Cattle—Receipts, 1690, against 1084 head last Monday; market quiet; prices steady; choice to prime steers, $13.25@14; good to choice steers, $11.00@12.75; fair to choice steers, $11@12.75; fair to good steers, $9.50@10.50; fair to good bulls, $11.10@11.75; medium to good bulls, $8.50@10; common to medium bulls, $7.25@8.50; choice to prime heifers, $10.50@12.10; good to choice heifers, $9@10.50; medium to good heifers, $8.50@9; common to medium heifers, $7.50@8.25; common and cutters, $4.50@6.50; good to choice calves, $17.50@18; medium to good calves, $16@17; common to medium calves, $14@16. Hogs.—Receipts, 327 head; market fairly active prices slightly lower; best grades, $16.75@17.50; lights, $15@16; roughs, $12.50@14; stags to sows, $8.75@11.75.

New York, May 8.—Cattle—Receipts, 430; no trading. Calves—Receipts, 2400; lower; veals, $12@17; culls, $9@11; little calves, $3@10; skim-milk calves, $9@10. Sheep and lambs.—Receipts, 2000; lower; clipped sheep, wethers, $12@13; clipped ewes, $8@12; lambs, $13.50@19; culls, $10@12; Pennsylvania and state spring lambs, $19.50@20. Hogs—Receipts, 2740; steady at $15.50@17; pigs, $16.50; roughs, $13.50.

Pittsburgh, May 8.—Cattle steady; supply light; prime, $13@14. Sheep slow; supply light; prime wethers, $12@12.50; cull and common, $4@7; spring lambs, $18@22; lambs, $9@18.50. Veal Calves, $16@17. Hogs lower; supply, 20 double decks; prime heavies, $14.50@14.75; medium and heavy yorkers, $15.75@16.25; light yorkers, $15.50@15.75; pigs, $15@15.25; roughs, $11@12.

East Buffalo, May 8.—Cattle.—Receipts, 200; slow. Calves.—Receipts, 1000; slow; $1.75 lower; $6@16.25. Hogs.—Receipts, 1600; 10@25c higher; heavy, $15; mixed, $16@16.25; yorkers, $16.25@16.35; few, $16.40; light yorkers, $16@16.35; pigs, $15.75@16; roughs, $12.50; stags, $7@8.50. Sheep and lambs.—Receipts, 2000; lambs 25c lower; lambs, $8@19.25; few, $19.50; yearlings, $12@16.50; wethers, $14@14.50; ewes, $6@13.50; mixed sheep, $13.50@14.

Chicago, May 8.—Cattle—Receipts, 2500; mostly steady, compared with week ago, heavy beef steers and heavy fat cows, steady to lower; medium and light weight, 25c to 50c higher; some yearlings up more; canners, 25c higher. Calves.—25 to 50c lower; stockers and feeders, generally 50c higher. Hogs.—Receipts, 10,000; market, 15 to 25c higher; medium and heavy advancing most; top, $15.40; bulk light and light burchers, $15.10@15.35; bulk 250-pound and over $14@14.75; pigs, steady to 25c lower; bulk 100 to 125-pounders, $13.75@14.50. Sheep—Receipts, 2000, strong to higher; prime 90-pound shorn lambs, $19.10; compared with week ago, shorn lambs, 75c to $1.00 higher; wool lambs, around 50 higher; sheep, unevenly lower.

PHILADELPHIA HAY AND GRAIN

Philadelphia, Pa., May 10, 1920

Baled Hay and Straw.—Receipts, 192 tons of hay and 5 cars of straw. In fair demand and firm. Timothy hoy, No. 1, none here; No. 2, $43@44; No. 3, $40@41; sample, $35@37; no grade, $30@32. Clover-mixed hay, light mixed, $43@44; No. 1 mixed, $40.50@41. Straw, No. 1, straight rye, $22; No. 2 do., $20@21; No. 1 tangled rye, $19@19.50; No. 2 do., $18@18.50; No. 1 wheat straw, $17.50@18; No. 2 do., $16.50@17.

Bran.—Offerings very light and market firm. Soft winter bran, western, in 100-lb. sacks, per ton, $62.50@63; spring bran, in 100-lb. sacks, $62@62.50.

Corn.—No. 2 Yellow, $2.05.

Oats.—No. 2 white, $1.33@1.34; scarce and nominal.

Wheat.—No. 2, Red $3.05, No. 1, No. spring, $3.30.

Rye.—No. 2, $2.22.

Barley.—$1.60@1.89.

NEW YORK HAY AND GRAIN

New York City, May 10, 1920

Feed.—The continued light offers of feed from the mills where production has been seriously curtailed gave the feed market a very firm undertone, altho the volume of business was small.

Quotations.—City feed, bran, $62; middlings, $66, in 100-pound sacks; red dog, $76, nominal, in 100-pound sacks; Western spring bran, $64; standard middlings, $66; flour middlings, $69; red dog, $75, all in 100-pound sacks, 30-day shipment. Oat feet, $42; rye middlings, $62; white hominy feed, $67.50, all in 100-lb. sacks. Cottonseed oil meal, $74; linseed oil meal, $68, in 100-pound sacks.

Hay and straw.—There is not much hay offering and the market holds steady, inclining rather to firmness at the moment; but the New York Central Railroad issued about 200 permits for 33d street station this morning, and with continued liberal boat receipts some receivers are inclined to anticipate lower prices. Rye straw plenty and weak. Oat straw steady.

Large bales, No. 1, $64@65; No. 2, $60@63; No. 3, $58@60; Shipping, $52@57; No. grade, $48@50. Straw large bales, No. 1 rye, $22@23; No. 1 oat, $24@25; No 1 wheat $22.

Wheat.—No. 2, red, $3.23.

Corn.—No. 2, Yellow $2.17¼; No. 3, Yellow $2.14¼; No. 2, mixed, $2.16¼.

Oats.—All grades, $1.48 nominal.

Rye.—F. O. B., $2.56; Barley, feeding $1.60.

PITTSBURGH HAY AND GRAIN

Pittsburgh, Pa., May 7, 1920.

There is not much change in the strike situation at this end of the line at present. There are a few cars arriving in the city proper but it is a difficult matter to get it outside of the city. What few receipts there have been, are being placed at $43 to $45, according to quality and accessibility.

PHILADELPHIA DAIRY MARKET

Philadelphia, Pa., May 10, 1920

Butter.—Receipts, 990 tubs. There was very little wholesale trading as usual on Saturday, but offerings of desirable table grades were light and prices ruled firm. Quotations: Fresh, solid-packed creamery, fancy, high-scoring goods, 64@66c, the latter for jobbing sales; extra, 63c; do. extra firsts, 61@62c; firsts, 59@60c; seconds, 55@58c, sweet creamery, choice and fancy, 65@67c; ordinary to good, 57@64c; ladle packed, as to quality, 44@46c; packing stock, 38@42c; fancy brands of nearby prints were jobbing at 72@74c; good to choice, 64@71c; fair, 61@63c.

Cheese.—Fancy stock was well cleaned up and firm. We quote as follows: New York, whole milk, flats, held fancy, 32c; specials higher; ordinary to good, 25@31; current make nominal; jobbing sales of fancy held goods, 33@34c.

NEW YORK MILK MARKET

New York City, May 10, 1920

The market was flush last week. With continued rain and cool weather the ice cream business could not make a start which would have helped the sluggish demand considerably Surplus heavy and nearly all distributers manufacturing. The May rate in 200 mile zone for 3 per cent milk is $2.55 per 100 pounds; add 4c per 100 pounds for each additional one-tenth of one per cent butterfat.

Receipts of milk and cream in 40 quart cans for the week ending May 8, 1920 were as follows:

Railroad	Milk	Cream
Erie	52,286	3,344
Susquehanna	8,215	111
West Shore	18,126	1,245
Lackawanna	59,422	1,310
N. Y. Central (long haul)	177,845	3,916
Ontario	46,334	2,016
Lehigh Valley	57,629	1,726
New Haven	7,340	75
5Pennsylvania	12,840	468
Other Sources	6,500	300
Totals	446,537	14,511
Same week last year	370,578	15,533

INTERSTATE MILK PRICES

The basis price for 3 per cent milk within 10 miles of Philadelphia is $3.28 per 100 pounds, and one cent per hundred less for each 10 miles distant. Four cents per 100 pounds is paid for each one-tenth of one per cent fat above 3 per cent. These are prices for the basic quantity or less. Amounts exceedings the basic quantity are paid for at a less price.

TOBACCO MARKET

Tobacco growers most of whom are also corn raisers were engaged principally with the latter. Many thousands of acres were planted during the week. It has been noted that those engaged in tobacco culture are too often neglectful of the feed crops often having to purchase the same to an extensive extent. While it is true that "two many irons" may not give best results it is also a fact that the profits of the tobacco crop will not justify the purchase of any large part of the feed for the domestic animals.

Now that the temperature has risen tobacco plants are germinating and the outlook for transplanting is improving every day. Apparently growers are in error in their attempt to procure a heavier strain of tobacco than that grown in recent years including last year's which was characterized by light yields. It should be remembered that the season far more than the strain of seed is responsible for variation in yield and that a dry season like that of 1919 can but result in reduced production. On the other hand the planting of unestablished strains of reputed heavy growing qualities will almost surely result in an inferior product especially in a season of heavy rains and the accompanying vigorous growing conditions.

Despite the almost prohibitive cost it is noticeable that quite a number of new curing sheds will be erected the coming summer. These will be generally more substantially constructed than heretofore as many such builders will have in mind other use for these buildings in the event the growth of tobacco is prohibited [illegible]

PROSPECTS IN DELAWARE

The prospects for a bumper fruit and vegetable crop this year in the lower part of Delaware was never better than they are at present. A beautiful sight is now presented in the large orchards. The peaches, apples, plums and cherries are all in full bloom. Strawberries, raspberries and blackberries are looking fine and a large crop is expected.

Many farmers in the lower part of Sussex County were expecting a large pea crop this year but since the heavy wind which we had last week many patches have been ruined.

The local farmers are refusing to contract for this year's crop of tomatoes, because of the prices they received for their crop last year in the open market. Many of the farmers are not planting their average acreage of tomatoes owing to the unsettled market conditions. The farmers in Caroline County, Maryland, are contracting at fifty cents a basket for tomatoes and are planting a larger acreage. Seed potatoes are selling very high and the demand this year is greater that any previous year. Owing to the high prices of potatoes in the city markets the farmers shipped their potatoes there. Many vegetables are coming into the market but the demand is great and the prices are high. Greens, onions lettuce and asparagus are coming in regularly and much is being shipped to the city markets. Eggs which have been very plentiful in the local market for the past three weeks are gradually becoming scarce since the embargo has been lifted on products by express and freight. The price of eggs has been increasing the last few days, and are now bringing 48 cents in the local market while in the city markets they are bringing 60 to 65 cents.

The wheat crop this year is looking very fine and many farmers are expecting to have a large yield.—K. P. T.

STRAWBERRIES IN DELAWARE

Never in the history of the strawberry industry in lower Delaware were the prospects better for a bumper crop of fruit than at this time. The blossoms are well advanced for this season of the year, and all patches seem to have plenty of foliage, runners and buds. The acreage in lower Delaware is greater than last season, due to the fact that growers found berry culture to be one of the most profitable crops grown last year. Prices remained high thruout the season and several growers, from a few acres, realized enough to purchase small farms. One grower in North West Fork district sold his field of about seven acres for more than $8,000, while another farmer in Dagsboro district got about $7,000 from five acres. The high prices last season were due mainly to the shortage in the crop and the big demand for the fruit from syrup manufacturers who utilized the fruit for making fountain syrup and then converted the fruit into jams. Millions of pounds of sugar were used to preserve them before they are shipped to the extensive syrup manufacturers in Rochester, N. Y. and St. Louis.—K. P. T.

BLACK TONY'S HORN

(Continued from Page 21.)

truly heard on that December evening, but Anthony Bessington laughs, as he draws his fair young wife to his side, saying that love is even stronger than curses,—or ghosts too, for that matter. As for the true story, no one ever knew of it, saving the three actors, tho folks wonder why Hugh Bessington went abroad so suddenly to the Philippines, and why young Mrs. Bessington is so loth to speak of him.

• • •

But no one will ever know the truth—or why even Mr. Bessington looks grim when a chance mention is made of Black Tony's leap.

The Minnesota National Sale

ST. PAUL, MINN., JUNE 3-4-5

Immediately following the annual convention
of the Holstein Friesian Association of America

42 30-lb. Cows
73 from 30-lb. Dams

Six 1000 lb. Cows
26 from 1000 lb. Dams

200 HEAD

"THE SALE OF ALL HOLSTEIN SALES"

100 Consignors

GUARANTEED UNDER RETEST

Champions from Coast to Coast
From the Dominion to the Gulf

The Most Notable Collection of Holsteins Ever Assembled

These semi-official record cows:

Mustinka Johanna Pearl	1163.7
Chloe Pietertje Ormsby	1140.
College Belle Butter Lass	1112.6
O. K. L. Pearl Mooie	1018.
Ava Colanthus Pietertje Ormsby	1000.
Sadie Friend Segis	946.
Traverse Colantha Walker	915.
Colantha Maid Ormsby	913.9
Ruth Textra Beets	810.
Susie Colantha Pontiac Beets	785.9

These 30-lb. cows:

Ruby Pietertje Of Forest Hill 2d	39.74
Hollywood Lilith Mercena	38.92
Changeling Queen	36.18
Anna Lenox De Kol 2d	35.02
Pabst Sweet Clover	34.78
Juno Nattalene	33.
Spring Valley Violet Long Field	32.89
Maid Gerben Lyons	32.95
College Belle Butter Lass	32.69
Vale Cornucopia Fayne	32.53

The champion cow of the Northwest.
The champion long distance cow of the State of New York.
The world record twins.
The highest yearly record bull in the world for his two nearest dams.
The youngest cow in the world to make three 30-lb. records.
A heifer whose resulting calf will have over sixteen 30-lb. dams.
A son of Tilly Alcartra sired by the $106,000 bull.
The youngest 1000-lb. daughter of Sir Pietertje Ormsby Mercedes.
Two heifers whose seven nearest dams average over 1100 lbs. butter in a year.
The only heifer in the world backed by four direct generations of 1000-lb. dams.
Three bulls backed by three direct generations of 1000-lb. dams.
The grand champion cow at the Pacific International 1919.
A son of the world record 42-lb. two-year-old.
A son of the world record junior two-year-old for milk production in a year.

Not only is this a sale of national importance but it is an exhibition comparable to that of any national Dairy Show or state fair ever held. In weeks of travel you would not find a collection to compare with the one you will find at St. Paul June 3-4-5. Even though you might not be interested in purchasing, it will be worth thousands of miles of travel to study the exhibition simply for the type and individuality represented. It is an event that no one interested in Holsteins can afford to overlook.

Owing to the great number of animals to be sold it is imperative the sale start promptly at 9.30 A. M. each morning

Sons and daughters of these semi-official cows:

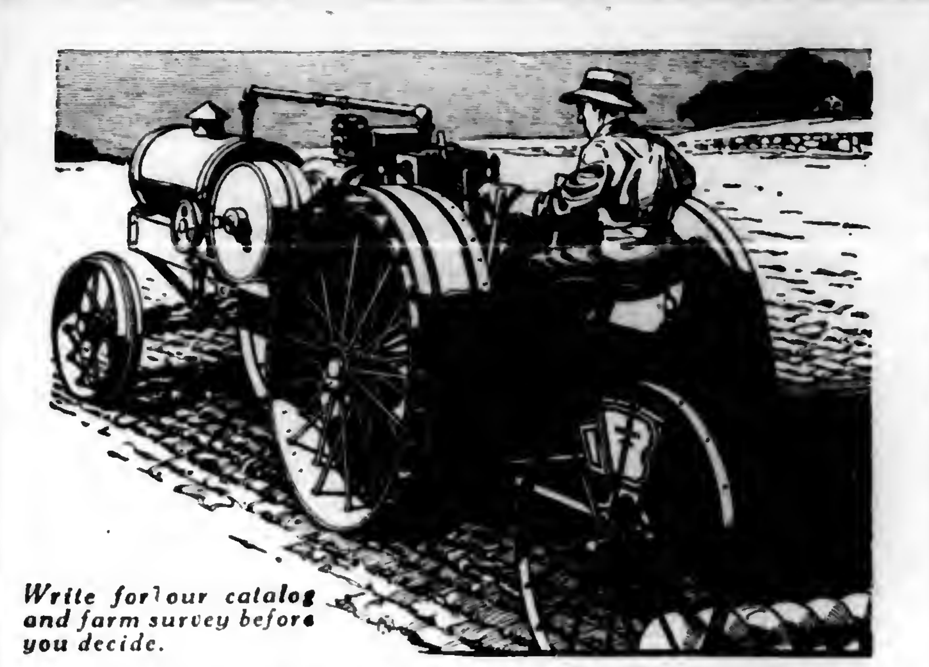
Tilly Alcartra	1323.
Oakdale Burke De Kol	1313.
Early Dawn Peep 2d	1287.6
Colantha Pietertje Lass	1270.
Dutchland Hengerveld Ascalon	1263.
Aaggie Wayne Peep	1250.3
Lucille Jolie Pontiac	1173.
Mustinka Johanna Pearl	1163.7
Mabel Ormsby Pontiac	1140.
Queen Plebe Ormsby Mercedes	1136.
Aroc Edna Pietertje	1130.
Nine others from 1000-lb. dams.	

Sons and daughters of these record cows:

Changeling Tidy Abbekerk Wayne	44.43
Glen Alex Queen De Kol	42.43
Tilly Alcartra	40.78
K. S. P. Lily McKinley	37.56
Boweda	37.61
Iowana Mooie	36.69
Mabel Ormsby Pontiac	36.01
Spring Farm Pontiac Maid 2d	35.66
Queen Plebe Ormsby Mercedes	35.10
Anna Lenox De Kol 2d	35.02
Aralia De Kol Pontiac Mead	34.42
Fifty three others from 30-lb. dams	

PLAN NOW TO COME

FOR CATALOG ADDRESS Minnesota Holstein Friesian Association MINNEAPOLIS MINN.


Write for our catalog and farm survey before you decide.

The Reliable's Engine is the Result of Twelve-Years' Development

This low-speed engine, the heart of the Reliable Tractor, has a seven-inch stroke which gives its crankshaft a big leverage and insures a strong power impulse at each stroke. And having the valves in head it gets full charges and gives full-power explosions. Add to this the improvements developed from driving tractors and furnishing power for heavy farm machinery for more than twelve years—and you can understand why the Reliable plows any field and has power to spare.

The Reliable's frame, made of 7"x⅜" structural steel and hot riveted, provides a stout, rugged foundation to stand hard work.

The Reliable's generous-sized axles, larger than common practice dictates, are stronger than you would really expect or ever require.

Its wide, deep-cleated drive wheels, gripping like a team of well-shod bays prevent any chance of slipping and insure full traction on any soil.

Here you have the reasons why farmers everywhere say that the Reliable is all its name implies—and the proper tractor for all-'round farm work—and that it has been a money-making investment for them.

Reliable Tractor & Engine Company
106 Spring Lane Street, Portsmouth, Ohio

RELIABLE TRACTOR
Fills Every Farm Need

Makefield Farms Quality Durocs

Will furnish you with foundation stock, registered and of most approved blood lines. Address, Makefield Farms, 803 Broad Street Bank Bldg., Trenton, N. J. Farms nearby at Yardley, Pa. All stock cholera immuned.

Blue Hogs. Shipments desired the coming summer should be booked at once. Now shipping Spring orders. These hogs are actually Blue in color. They are the largest growthiest and most prolific breeders on earth. Write for information. Mention this paper. THE BLUE HOG BREEDING CO., WILMINGTON, MASS.

REGISTERED DUROC-JERSEY PIGS
$10 each while they last, all from imported Southern stock, none better. Bargains in bred gilts, service boars, brood sows and spring pigs. C. W. Ellis, Jr., Maple Lawn Farm, Cortland, N. Y.

Registered Durocs Best blood lines. Sold out at present. Will book orders for spring pigs. Northumberland County Duroc-Jersey Breeders' Association, J. M. FRY, Corresponding Secretary, Sunbury, Pa.

REG. BERKSHIRE SWINE
Both sexes, all ages. Reasonable prices.
G. NORMAN ACKER, West Chester, Pa. R. 2.

Large Type Reg. Berkshires of all ages for sale. Select a breeder from a large litter. Pay when you see stock. No cash in advance.
DAVID WIANT, HUNTINGTON MILLS, PA.

Some of America's Best Durocs. 40 head bred and open gilts and service boars at Public Sale, December 2, 1920.
SLATY RIDGE FARM, Palmyra, Pa., Box 5.

Reg. Berkshire Pigs, 8 weeks old. Bred sows and gilts. Also 50 grade pigs for feeders, for immediate shipment.
I. R. TANGER, YORK SPRINGS, PA.

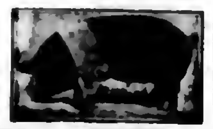
REG. BERKSHIRES Longfellow, Masterpiece, King Louis and Dorchester Artful Lady blood lines. Special offerings, bred gilts, Fall pigs. Priced right. Nearby Stock Farm, J. A. McMahan, Pottsgrove, Pa.

Berkshire Pigs, sired by States Majestic, one of the best boars ever bred by Penna. State College. Also two extra good boars ready for service. A. B. Kirsch, Nicktown, Pa.

REG. BIG TYPE POLAND CHINAS. Special price on Oct. pigs this month; also spring pigs. Giant Buster and Blue Valley Blood. Prices reasonable.
C. E. SECHLER, Markleton, Pa., Somerset Co.

Palmyra Quarry FARMS OFFER Fine Big Type Reg. Berkshire Hogs for sale. Outstanding Pigs, either sex, with stretch, up on toes, smooth, and splendid heads, out of exceptional big sows; Rivals Champion, Lord Premier Successor and Superbus breeding. Also bred Gilts, bred to our outstanding herd boar, Highwood Rival 431st. Pay when you see the stock. Satisfaction guaranteed. Galen G. Grubb, Palmyra, Pa.

Hampshires Eastern Quality Herd, National Swine Show and State Fair winners. Also Guernsey cattle. Free Cir. Locust Lawn Farm, Bird-in-Hand, Box 2, Lanc. Co., Pa.



HAMPSHIRES
All ages. Strong and vigorous stock. When you buy you want the best, don't you? Then write us. Inspection invited. ROSS B. WITMER, LAMPETER, PA. Member Lanc. Hampshire Breeders' Co-operative Association.

EDGEWOOD HAMPSHIRES
Everything sold. Booking orders for gilts bred for fall farrow, and pigs for Pig Club work only.
DEPEW HEAD, MARION, OHIO

VIEWMONT FARM, MAINVILLE, PA. offers choice O. I. C. Oct. pigs, 100 to 120 lbs., from Schoolmaster boar and Callaway Edd sows, (Crandell's Champion boars). Good enough to ship anywhere C. O. D.

Durocs Young pigs, very best of bloodlines. Strictly big type, either sex. Reg. free. Sat. guaranteed. Good enough to ship anywhere. Write your wants and for circulars.
ORANGEDALE FARM, Orangeville, Pa. R. 1.

BELROSE DUROCS— EXPRESS PAID Boars and Bred Sows, bred and open gilts all sizes. Prices right.
BELROSE FARMS, RICHFORD, N. Y.

REG. DUROCS Large size, heavy bone, best blood lines, prices reasonable. Satisfaction guaranteed.
JOHN W. COX & SON, New Wilmington, Pa.

Selected Grade O. I. C. and C. W. Pigs, 6 weeks old. Price $7.00. Satisfaction guaranteed.
OAKS DAIRY FARM, WYALUSING, PA.

TARRYMOOR BERKSHIRES
Quality Growthiness Prolificacy
We guarantee satisfaction.
Robt. E. Atkinson, Wrightstown, Pa. Bell Phone.

Fine Reg. Duroc Pigs of Ohio Chief and Cherry King. Also fine young boars. Prices reasonable.
JAMES F. ROBINSON, Rt. 1, Amelia, Ohio

Chester Whites Boars and Sow Pigs. Bred Sows. Collie dogs.
ARCADIA FARM, BOX D, BALLY, PA.

BIG BLACK BERKSHIRES
Write for prices or come and see the fine bred gilts and young sows ready for breeding in the Fall, that we are offering at bargain prices. The bred gilts are part of our foundation herd. For reference—our satisfied customers.
CRESTMONT FARM, SUNBURY, PA.

CAN A WOMAN DO REAL FARM WORK?

I am a woman of about 125 pounds average weight and here are some of the farm jobs I have done.

To begin with I grew up on a small, western New York, hill farm, and as a small girl always helped out of doors for reasons of health.

I can milk and do all all kinds of chores and feeding, my pet hobby being to feed and grow pigs and calves. I can handle a team anywhere your hired man can, I will mow, rake and tead the hay-load if necessary, and drive team on horse fork.

Dragging and rolling are also jobs I like. I have planted corn and potatoes and cultivated the same with one horse cultivator. With a neighbor woman's help two years ago I hauled two acres of oats and put them up in the barn, when there was no other help to be had. That same fall I hauled in alone, the shocks of corn on a two acre field. These I took apart in order to handle more easily. I always help dig potatoes, gather apples and husk corn. Plowing, I have never done but am sure I could handle a sulky plow. I have run a drill a little but never a binder.

Now, Mr. Man, don't expect your wife to do all these things, for maybe she was never taught how to take advantage of big lifts and would only make a nervous wreck of herself if she undertook it. Also, don't expect a woman to get up early in the morning, do her house work and work all day in the field and come in at night and do another day's work before she can get to bed. Too many hours work would break down an iron woman.—E. R., Alle., Co., N. Y.

THE STABLE FLY

Have you ever tried to sleep on a hot summer night when just one mosquito had crept thru the window screen? Imagine your state of mind if that single mosquito were multiplied by 100 and you had your hands tied!

That sensation is something comparable with what a horse, mule, or cow endures when the stable fly is present in great numbers.

The stable fly greatly resembles the ordinary house fly but for the lance with which he is armed. It is known that he carried disease from infected animals to healthy ones, and there is some ground for belief that the insect aids the spread of spinal meningitis among human beings.

The eggs of the fly are laid in loose, warm straw heaps and piles of stable refuse. A plague of flies always starts from these sources, and the control of the pest is best managed by scattering the straw on fields early in the spring before the beginning of warm weather and plowing it under, or by burning it when the former method can not be applied.

Stable refuse should be scattered at regular intervals of one week or less thruout the season, starting with early spring. In this way the first generation of the pest is destroyed and a plague averted. A recent publication of the department, Farmers' Bulletin 1097, gives in detail the life history of the stable fly, methods for its control, and some facts concerning the amount of damage done by the insect.

LIME FOR POTATO SEED

I cut my seed potatoes, dust them with air-slaked lime, and then turn them a few times so every one becomes well coated. This seems to cause them to form a callous. Then I lay them out in the sun for two or three days before planting. After this treatment they will stand all the wet weather we ever have in a single season and won't rot. I have done this for the last fifteen years and I always have a good crop.—E. L. S., Hunterdon Co., N. J.

A negro was trying to saddle a mule, when a bystander asked, "Does that mule ever kick you?"

"No, suh, but he kicks sometimes whar I'se jes' been."

BLACK FLAG

15c 40c 75c Except West of Rockies

Saves Young Chicks

Lice and mites kill chicks. Black Flag will save them. Blow into feathers of setting hens and down of chicks to kill head and body lice; blow into cracks in coops and nests to kill mites. Use powder gun. Kills insects by inhalation. Bugs don't eat it—they breathe it, and die. Destroys ants, flies, fleas, mosquitoes, bedbugs, roaches, some moths, and lice on animals, birds and plants. Harmless to people and animals. Look for BLACK FLAG trademark and red-and-yellow wrapper. At drug, department, grocery and hardware stores, or direct by mail on receipt of price.

U. S. Gov't (Bulletin 771, Agri. Dept.) shows glass containers keep insect powder freshest. Buy Black Flag in SEALED GLASS BOTTLES instead of "insect powder" in paper bags or boxes.

BLACK FLAG
Baltimore, Md.

EGGS FOR HATCHING
NONE SUCH WHITE LEGHORNS. For 18 years NONE SUCH WHITE LEGHORNS have been trapnested and bred to lay more eggs. FERRIS WHITE strain, mated to Grandsons of Prince Eglatine, a son of the world's famous Lady Eglatine. Fertility GUARANTEED. Hatching eggs and day old chicks.
May Prices
300 egg strain, hatching eggs 15, $3.00 100, $15.00
300 egg strain, day old chicks 25, 8.75 100, 3?.00
The H. M. Spahr Breeding Estate, Dept. C, Woodsboro, Md.

Leader's Leghorn Chicks have the confidence of the folks at home. York Co. Poultry Growers bought our entire output, 2,400 to 3,000 weekly, in Feb. March and April. These men KNOW GOOD LEGHORNS and come to our plant for their chicks. Many of them each succeeding year. Book your order now for May and June delivery of the same quality chicks at $17 per 100.
LEADER'S POULTRY FARM, R2. YORK, PA.

ENGLISH WHITE WYANDOTTE & MAMMOTH PEKIN DUCK EGGS
for hatching, from the very best stock. Wyandotte eggs, 15 for $2.50. Ducks eggs, 11 for $2.50. All carefully packed and delivered. A. R. LOGUE, WOODBURY, BEDFORD CO., PA.

Ducklings Tiffany's Superior Mammoth Pekin, Giant Rouen, Everlay Indian Runner (all varieties) Eggs. ALDHAM POULTRY FARM, R 30, PHOENIXVILLE, PA.

Baby Chicks R. C. Rhode Island Reds and White Leghorns. Improve your flock by buying chicks from these heavy laying strains. Bred for twelve years for heavy egg production. Write for delivered prices.
A. FELL, Route No. 1, Bethesda, Md.

Selby Service Satisfies Ship us your produce, poultry and eggs. Penna. Potatoes a specialty. Returns day goods are sold. Ask for our market letter.
SELBY PRODUCE CO., PHILADELPHIA

Eggs $1 Setting Parcel Post paid. Purebred Barred White and Buff Rocks; White and Brown Leghorns; Reds, White Wyandottes, Buff Minorcas; Black Langshans; Buff Orpingtons. Philip Condon, Box 119, West Chester, O.

PIELL'S BLACK LEGHORNS. Famous Leghorns, good layers, fine birds. Hatching eggs only, $1.50 setting. Information free. Book orders now.
RUSSEL F. PIELL, PITTSTOWN, N. J.

CHAMPION LAYERS S. C. White Leghorn Eggs $1.50 per setting. Winners of all prizes at the Jefferson Co. Fair. EDWIN BOVAIRD, Brockwayville, Pa. R. 1.

20,000 Big Hatching Chicks For 1920, 15 cents up. Barrons, S. C. Leghorns, Buff Leghorns, Barred Rocks. 28 years' experience.
CHESTNUT HILL POULTRY FARM, Aspers, Pa.

Barred Rock Eggs, from Chicago and Indianapolis winners. Great layers. $1 per 15, $10 per 100 and up. Buff Duck Eggs. 28th yr. Circ. free. G. E. Hoover, Matthews, Ind. R-5

HATCHING EGGS Thorobred S. C. R. I. Reds. $1.50 for 15, $8 per 100. Bourbon R. Turkey eggs all sold. White Pekin Duck eggs, $1.65 for 11. Prepaid. MRS. L. J. KILLIAN, Lebanon, Pa. R. 8

Hatching Eggs of Pure-Bred Poultry
Prices reasonable. Catalog free.
H. H. FREED, TELFORD, PA. BOX C

75,000 CHICKS for 1920. Leghorns, Barred P. Rocks and mixed chicks. Write for booklet for June and July delivery. Safe delivery guaranteed.
THE CYCLONE HATCHERY, Millerstown, Pa.

Baby Chicks. Eleven leading varieties, bred from show-stock, to produce eggs at utility prices. Send for illus. catalog and prices.
Ohio Poultry Yard & Hatcheries, Dept. B, Marion, O.

Single Comb White Leghorns. Big Vigorous Birds. Good layers. Eggs and Chicks. Write.
PAUL R. EMERICK, CLINTONDALE, PA.

White Rock Chicks from good stock, 12c, 100 postpaid. Also 1 and White Indian Runner ducklings 30 cents each.
MRS. I. F. GRIFFITH, R 2, MOHNTON, PA.

S. C. BUFF ORPINGTON EGGS for hatching. $2.00 for 15, $10.00 per 100.
ELMER Z. STOLTZFUS, Ronks, Pa., R 1.

Nice Lot Barred Plymouth Rock Cockerels, also 100 settings from special mated pens. Write for prices. EUGENE A. GROVE, Lime Kiln, Frederick Co., Md.

RINGLET— BARRED ROCK COCKEREL PULLET bred. Hatching Eggs.
C. T. DOWNING, WEST CHESTER, PA.

March 30, 1920
Kindly change copy for my 7 line advertisement now running. * * * * I have had wonderful results this year from The Pennsylvania Farmer, in fact, better results than from any other medium whatsoever, and I used a number of them.
LEONARD F. STRICKLER, Sheridan, Pa.

Facts in BLACK & WHITE

Holstein Cows First as Money Makers

The day is passing when milk can be produced at a profit by a herd of mongrel cows. Look the fact in the face and study the methods of progressive dairymen.

Wherever the interest in dairying is most active and most intelligent, there the pure-bred Holstein stands first. And every month adds to her prestige as a money maker.

If you mean business, why not get your start before the demand increases still more?

Send for Free Illustrated Booklets.

THE HOLSTEIN-FRIESIAN ASSOCIATION
218 Hudson Street
Brattleboro, Vermont

The Cumberland County Holstein Friesian Breeders' Association
Will hold their 3rd Annual Sale
TUESDAY, MAY 25, 1920
Carlisle Fair Grounds, Carlisle, Pa.
75 Head of fine Registered Holstein Friesian cattle will be sold consigned from the leading herds of the county. Sale rain or shine, under tent.
Write R. L. SHENK, Sec., Newville, Pa., for your catalog.

POLLED HOLSTEINS
registered in the Herd Books of the Holstein Friesian Association of America. Herd sire out of world's record senior four-year-old,
KEYSTONE BEAUTY PLUM JOHANNA No. 161646
At 4-10-20, 365 days—25787.5 milk: (4.02%) 1294.7 butter
At 3-3-23, 365 days—22496.8 milk: (3.94%) 1106.9 butter
2 years under full age—48284.1 milk; 2403.6 butter. The youngest cow in the world to have two consecutive records averaging over 24,000 lbs. of 4% milk in a year.
Bull calves $100.00 and up. GEORGE E. STEVENSON & SONS, Clarks Summit, Pa.

We will give the Use of a Finely Bred
Registered Holstein Bull Calf
for 3 years to any responsible farmer. Write for our plan. Mugget Hill Farm, Charlton, Mass.

Reg. Jerseys Bull and heifer calves sired by Interested Sayda's King, whose dam, Fontaine Sayda's Queen produced 15,200 lbs. of milk and 938 lbs. of butter in one year. Priced from $50 up. CHAS A. LEONARD, TROY, PA.

MILKING SHORTHORN BULL CALVES of the best breeding. Also a few females for sale.
C. M. KENNEDY & SONS, ULSTER, PA.

SUNNYBROOK GUERNSEYS
40 head, free of tuberculosis, bull calves for sale.
EDWIN S. MAULE, COATESVILLE, PA.

Brown Swiss Pure Bred Bulls for sale. Fine as silk. Come and see them.
G. EUGENE BOWN, FORKSVILLE, PA.

Registered Holstein and Guernsey bulls from calves to serviceable age. 250 animals in the herd.
BONNYMEADS FARMS, R. D. 1, Harrisburg, Pa.

Jerseys For Sale. Herd bulls, Champion Torona's Nepos and Sophie 19th Tormentor 39th. Hood breeding. GEO. P. BEVAN, Towanda, Pa. R. 3.

Swine

Reg. O. I. C.'s Booking orders for Spring pigs. Silver strain breeding.
BRUBAKER BROS., Star R, Cocolamus, Pa.

CHESTER WHITES and O. I. C. Big Type prize winners. Pigs $15.00 and up, prepaid.
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Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Partial Paralysis.—I have a ewe that cannot get up, she has been down for the last four days. So far as I can tell she is not sick, her appetite is good. Is this a contagious disease? R. S. K., Lititz, Pa.—Give her 2 or 3 ounces of castor oil one dose only. Also give ten drops fluid extract of nux vomica at dose four times a day. Hand rub legs and feed her some roots or grass.

Garget.—This is the second year that one of my cows have been troubled with caked bag and all the home remedies we have applied fail to do much good. Both hind quarters are caked and very little milk comes from either. Will it pay me to breed her again? A. N. F., Sidman, Pa.—All things considered you had better dry and fatten her, for she will not recover; besides she will prove unprofitable for dairy purposes. If you decide to keep her, she should be tuberculin tested, as her udder may be affected with tuberculosis.

Sore Shoulders.—Since we commenced our spring work two of our best work horses are troubled with sore shoulders. We are working them six days a week and need them badly. What shall we apply? H. J. K., Meadville, Pa.—Dissolve two drams of methylene blue in one pint of water and apply to sores three times a day. Of course you must see that the collar fits the neck and shoulder, for if it does not, the shoulders will remain sore.

Splint Lameness.—I have a horse that has a bad splint on fore leg which is causing lameness. What do you recommend? A. W. Millington, N. J.—Striking shin with foot is a common cause of splint lameness, if this is what your horse is doing a change in shoeing or shoers might have good effect. Wearing a shin boot is another remedy. Paint bunch with tincture of iodine every day or two.

Sore Shoulders.—Have a pair of work horses, both of them are troubled with sore shoulders home remedies fail to heal them. A. D. G., West Reading, Pa.—Dissolve ¼ lb. acetate of lead, 3 ounces sulphate of zinc and 3 ounces of tannic acid in one gallon of water and apply to sores 3 or 4 times a day. Perhaps the collars do not fit properly, or the hames may not be adjusted right.

Abscess.—One of our horses slipped and fell down, ever since there is a soft bunch on hip, caused at time of fall. H. K., Pinkerton, Pa.—Doubtless the bunch contains either serum or pus and if you will open sack freely to allow of proper drainage it will soon get well. The inner wall of abscess should be swabed out with tincture of iodine, occasionally. Unless you make large opening the sack will fill up again.

Loss of Appetite.—Lice.—I have a heifer 15 months old that has been fed on grain and fodder thru the winter and for the last two months she has not had much appetite. She has been turned on four different kinds of grass, rye, scarlet clover, mammoth cloth and red top, but she refuses to eat much of any of them. She remains gaunt and will graze but very little. She has very little thirst. I give her salt almost daily besides she has medicated salt before her most of the time. She appears to be healthy. Will you give good remedy for killing lice? R. T. B., Teddletree, Md.—Give her a dessertspoonful of Fowler's Solution at a dose in feed or in drinking water 2 or 3 times a day, or give the medicine in a pint of cold water as a drench. Apply one part coal-tar disinfectant and twenty parts water to cattle that are troubled with lice twice a week, until the lice are all killed

A Farmer-Contractor's Experience in Dynamiting Ditches

Mr J. A. Burt, a farmer and levee contractor of Gunnison, Miss., wrote us for information about blasting ditches. We advised him to order a small amount of dynamite for a trial demonstration. A Hercules Agricultural Service Man then showed him and his help that earth could be removed at a cost of 35c a cubic yard—labor and explosives cost included. The test convinced him of the economy of using

HERCULES DYNAMITE

Later Mr. Burt wrote us, "I have used Hercules Dynamite in blasting five miles of small farm ditches. These ditches were dug in low, swampy places where we could use neither teams nor shovels. With seven men I could dig a mile of ditch three feet deep and seven feet wide in four days. I find this the most satisfactory and quickest way of ditching, and the cost is very low for such work."

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Holstein-Friesian BULL CALVES sired by King DeKol Segis Alcartra, and from good record dams. Priced very reasonable.
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Ayrshire Bull and heifer calves for sale; or will exchange for good pigs.
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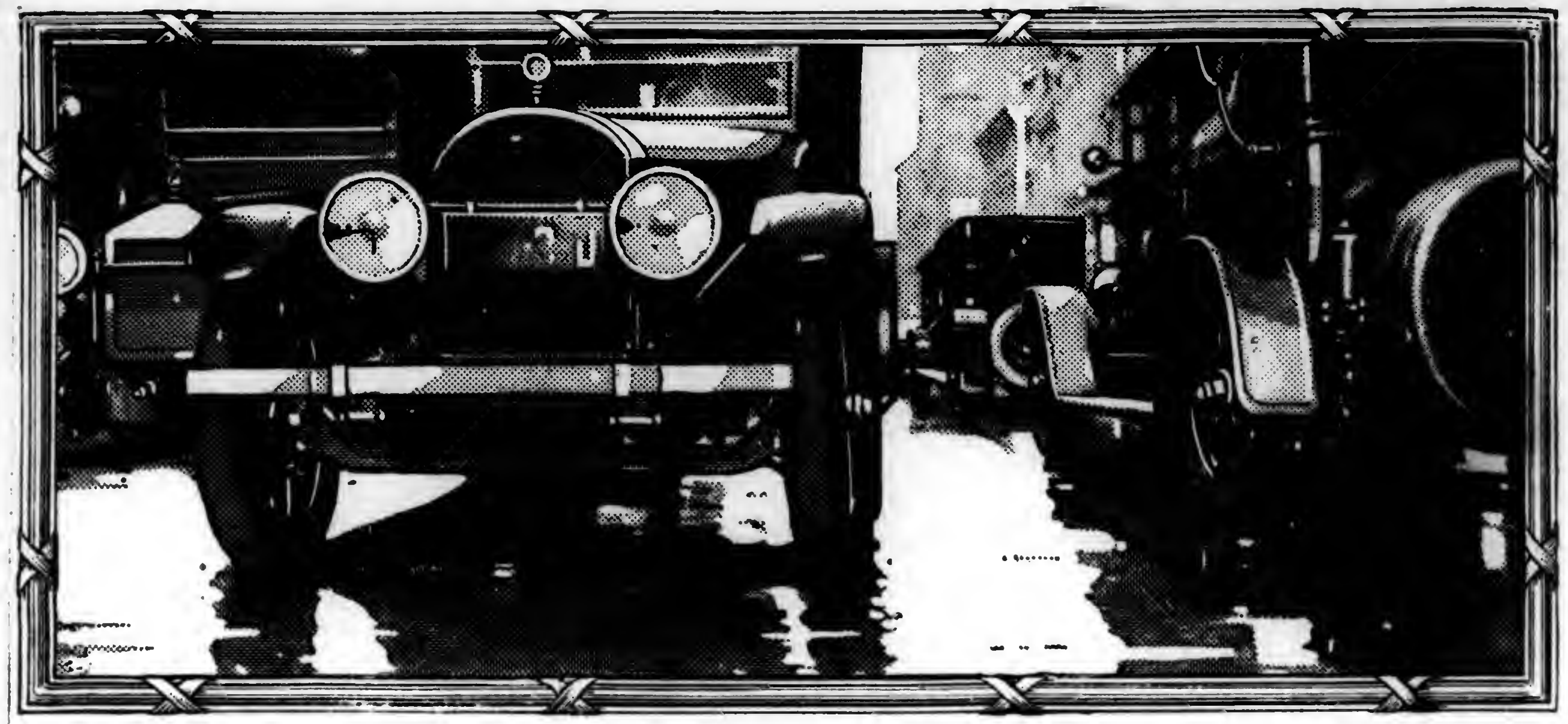
D. K. SLOAN, Secretary, BRADFORD COUNTY LIVESTOCK BREEDERS' ASS'N. Office with County Farm Bureau, Towanda, Pa.

You never get more out of your Tire than the Maker put in



STAND on a street corner some day and watch the motor cars go by. Every now and then you will see a motorist with two or three tires strapped on the back of his car, each tire of a different make.

A man afraid of his tires.

* * *

No matter how many precautions a man may take he will never get out of a tire *more* than the maker put into it.

If a tire is built to go a *limited number of miles* there is no reason why it should be expected to go any farther.

When it breaks down before it has gone the limit, there is no reason why an allowance should not be made to the buyer.

The car in the foreground has a wheel out of line.

Few motorists realize that a displacement of only one degree has the same effect on a tire as if it was dragged 92½ feet in every mile.

New tires have been known to be completely stripped of their treads in 100 miles of running under such conditions.

What intelligent buyers are looking for is *better tires*—not limited-mileage tires or conciliatory allowances.

And they are beginning to look behind tires to the *principles* on which they are built and sold.

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Seek out the new kind of tire dealer—the man who believes in quality and square dealing, who is putting the tire business on as sound a basis as any other retail business in his town.

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PENNSYLVANIA FARMER

AGRICULTURE THE KEYSTONE OF NATIONAL PROSPERITY

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Supplies and Prospects in Feed Market

A Review of the Situation, Present Prices, and Tendencies

By SANDERS SOSLAND

It's not a time for bullishness in feedstuffs markets. Prices may go still higher, but there is a greater probability that the trend of values will be distinctly downward as the season advances. Consumption of commercial feeds is on a smaller scale, as usual for this season of the year, and, as pastures over the country ripen, demand will probably soon reach its lightest volume. The time for the opening of the movement of new crop feedstuffs is not far distant, and, instead of further advances in prices which some consuming interests anticipate, there will be a tendency to bring about a readjustment of values to a new crop basis. A strained financial situation also is operating against bullish enthusiasm.

But, in analyzing the probable fluctuations in prices for feedstuffs as a whole, consideration must be given the acute shortage of cars and motive power and the congestion of traffic. Lack of transportation facilities has been doubtless the strongest bullish influence with which operators in feed markets have been forced to contend. Inability of carriers to distribute the numerous commodities used in flattening operations so the products may be available in consumptive channels has created an artificial condition in markets. For instance, a heavy crop of corn was produced on one side of the river; on the other side feeders are short of grain for their requirements and are eager for offerings. But the growers of corn where the surplus is available cannot move their crop across the river except in very small quantities. Irrespective of the crop on the surplus side, scattered feeders whose supplies are short are bidding and competing keenly for the dribbling movement, thereby forcing prices considerably above a natural level. So is it true on current markets, the terminals apparently reflecting the side of the river where the stocks are light.

Much is heard of complaints among feeders of cattle and hogs concerning the losses experienced in flattening operations. However, the losses, or so-called paper losses, represent the difference between returns from the sale of corn on the terminal market and that realized in the feeding operations. The farmer bases the value of his corn on the terminal price, but he overlooks the fact that he probably could not obtain cars to move his grain to market, and, were it possible for him to load his surplus for sale on markets, along with thousands of other holders, the terminal price would not be on its present abnormal basis. The actual value of the corn should be based on the returns from the sale of hogs and cattle, the consumers of the cereal, not the artificial price level on the terminal markets. In this connection, it is interesting to note that country auctions of corn usually reflect the price prevailing at the nearest market, tho the market value of the cattle or hogs to whom the grain was fed, which often is at a sharp discount, was not even considered.

The abnormal transportation situation accounts in a large measure for the advance of more than 50 cents a bushel in corn the past ninety days. The coarse grain is approaching the coveted $2 mark in Middle West terminals, Chicago quoting a top of $1.96 a bushel at this writing, $1.88 in St. Louis and $1.85 in Kansas City. Prices are approaching the highest level in the history of the trade, recorded in August a year ago, just preceding the severe break at that time. The speculative market already is at the highest level ever recorded. The extensive operators, realizing that the visible stocks of corn are not sufficient for requirements and that carriers are not able to supply enough cars to allow any material increase in the terminal holdings, are taking advantage of the position of the "short" sellers and are forcing values up. A heavy movement of corn, which, however, is not probable until spring planting work is out of the way, would alter sharply the position of prices. Comparative weakness of hogs and cattle are not influencing to any extent the action of prices, but will ultimately wield a very bearish effect.

Theatre Cup Queen, a Jersey with 13.972-lb. Milk and 935-lb. Butter Record.

While oats reflect even greater strength than corn, car shortage is not the outstanding factor in the bullish undertone. A short crop of oats, with a light average weight, was produced a year ago. Farm consumption has been abnormally heavy, and scarcity of feed grains in European countries has brought an enormous consumptive demand from the Old World. Activity of farmers in the field over the South and in the more Northern sections of the country is maintaining domestic demand for oats at a high point, and, with only an insignificant movement to market and abnormally small stocks at the terminals, prices have been soaring rapidly. Middle West markets are paying around $1.15 a bushel for the minor cereal, the highest level of prices ever witnessed in trade annals. It is interesting to note that at this time a year ago oats were selling around 70 cents a bushel, tho corn was selling at that time on practically the same basis as today. Close observers of the grain community were then complaining loudly that oats were selling at a sharp discount under corn. But the farm stocks were heavy a year ago and terminals were burdened with an over-supply. Though the Southern states usually begin offering corn about this time, practically none is available thus far and the movement is not expected to start until late in June. The crop as a whole is backward, and new crop oats will not be available on a large scale until late in July or August. This, of course, is a bullish factor.

To anxious inquiries as to whether bran and shorts will ever come down, I can answer definitely that it will. When? As to the time for a break, there is more or less doubt and division of sentiment among the trade, but the time for the downturn will be when operations of wheat flour mills increase sufficiently to fill the "short" interest in the market. And our guess is that prices will begin to ease before the close of the month and continue on a downward scale until August and possibly September. However, there is a possibility that demand for flour will not increase sufficiently the remainder of the old crop year to allow free activity of mills for any lengthy period. Stocks of flour in consuming markets are comparatively large, and bakers and other consumers in the smaller centers are fairly well supplied. But a spurt in demand before the close of the old crop year, due to a desire among bakers to accumulate a reserve of old crop flour and a broadening demand incident to spring harvest work, is usually witnessed in May and June. Were it possible for mills to obtain cars and ship without interference of embargoes resulting from the strike of switchmen, their operations would be on a much larger scale. Increased activity is dependent to a great extent on transportation conditions.

In connection with the current extraordinary market for bran it is interesting to note that

(Continued on Page 7)

"A Selden Farm Truck Would Have Saved Me $240"

Said a New York State farmer after he had walked 20 hogs to market.

The market was ten miles away and five fat hogs dropped dead before they reached there. The surviving ones lost from five to eight pounds apiece on the trip.

Hogs were bringing $22 a hundred that day and the farmer's loss totalled a little over 1075 pounds of good, saleable pork worth $240.

A Selden Farm Truck would have saved this farmer $240 in this one instance alone. Similar problems present themselves daily on every farm; and savings of $240 and more are effected as often where Selden FARM Trucks are in operation.

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Our National Struggle For Food

A Discussion of Principles Which Cannot be Overlooked

By L. Wayne Arny

A sane sort of a man who has been farming for a great many years and has made a success has just written me as follows: "My last boy of five has just left to go to work in the village at about $25 a week. Can't blame the boys much, but that is more than I can pay on the farm and get by. Those "cussed" village chaps that are not satisfied with $4 to $6 a day, but want $1 an hour and short days are driving us farmers all back to the wall, and now they want to stick on daylight saving as they call it. I hope those fellows will see the time when they stand in the bread line and have to pay 40 cents a loaf for their bread and $6 a bushel for potatoes, and it is fast coming to that. I have not quite decided whether to sell out the farm, or just stay and raise enough for myself and family."

The prediction comes from New England that 1000 farmers will go out of the business this year. All thru the agricultural press are complaints and letters from discouraged farmers who have reached the end of their patience and are seeking relief by various means. It is a matter that is attracting the attention of thinking people for the prospects of a food shortage are not pleasant. Senator Arthur Capper in a recent speech before the Senate said: "Unless substantial rewards are given for farm work a food shortage is inevitable—and it will not be long in coming." In the same vein a leading editorial in a metropolitan newspaper, states that a food shortage is due for next winter and that it will in all probability be as severe as that experienced during the war.

The tendency is, of course, toward pessimism, for there is no doubt as to the difficulty that most farmers are experiencing in their effort to make a profit from their business, but there should be no place for the abject discouragement that is becoming evident. Resolved into its elemental parts, the difficulty comes from the high prices of raw materials and the difficulty in securing help to grow crops. The latter is, perhaps the more serious and is the one that is deciding so many farmers to go out of business. Its seriousness may be shown by glancing thru the columns of a leading farm paper that carries a good deal of advertising of the help wanted kind. There are whole columns of pleas for help, but there are only 16 advertisements that offer farm help. Of these practically all are for positions as estate managers, superintendents, and "bosses" of various sorts. There is not one that calls for work as an old fashioned farm hand, anxious and willing to work hard for a day's pay.

Those who call for help offer on the average, $50 a month and board and room. This corresponds to about $23 a week in the city, a wage that any competent clerk can earn for eight or less hours a day, in comfortable working environment. Why then should a man choose to become a farm hand? What possible thing is there about farm work that will overcome the competition of higher wages elsewhere?

The situation is purely an economic one that will readjust itself. The readjustment must come speedily for the country cannot continue on a policy which either antagonizes or discourages its farmers. The solution unfortunately entails a good deal of hardship that must be born stoically; every crisis does. But the adjustment will be all the more certain.

When sufficient numbers of farmers quit the business there will be just that much less to feed the people of the country and it will command higher prices. When the price is high enough to enable the farmers to compete with the industries for labor it will be possible for farmers to work profitably again. There is one remote chance of bringing about the readjustment in another way however, that, while being remote, is yet a possibility. Europe is fast coming to a point of production again. In spite of economic disturbances, strikes and financial crisis, her mills are running and her people are desperately anxious for work. This, combined with the production of this country, may be sufficient to make impossible the continuance of absurdly high wages, in which case the competition between industrialism and agriculture for labor will be less keen and the farmer will profit.

In whatever way the readjustment comes it should be more clearly understood that it will be the result of natural economic laws working as they have always worked rather than by any arbitrary legislation or federal mandates. In times such as these the tendency is toward radicalism. Even now all sorts of absurd remedies for present evils are put forward, such, for instance, as boycotting concerns doing an honest business; and everyone is being called a profiteer. There is much discussion as to the advisability of getting along without the middleman. He has been the butt of farm criticism for a long time; just why it is difficult to see unless it be that certain individual members of that business have been found guilty of dishonest dealings. But as a link between the farmer and the consumer, the average grower could no more do business profitably without the middleman than he could live without the village storekeeper, who is really nothing more than a middleman himself. All middlemen are entitled to profit for their service, just as the farmer is for his service and the industrial manufacturer for his. Almost everyone is paying exorbitantly high prices for raw materials today; the farmer is no exception, and in many lines of business there is almost as much difficulty in making a profit as there is in farming. Exchange rates are low, loans are difficult to obtain, labor is scarce, independent, and inefficient, so that business men have difficulties and find their tasks troublesome as farmers do.

Let there be patience then, rather than discouragement, for the better readjustment of things is already working out, much more surely and effectively than arbitrary schemes could do it. And while the next few months will probably mean hardship for those who grow crops it is far better to endure that hardship than to yield to the temptation of giving up a life work for one which has nothing more than high wages to commend it. It is a change that would be regretted in years to come.

Scene in the Snow Shoe, Pa., District where State College has Fertilizer Experiments.

AUTO SPRINGS AND COMFORT.

Often it happens that half the comfort of driving an auto is lost thru lack of attention to the little essentials. The springs of the car are perhaps the vital parts requiring attention if smooth riding is desired. The tires take care of the small roughness of the road automatically, but it is the severe shock which should be absorbed by the springs.

There are several types of springs in use, named from their shape. The full elliptic has the general outline of an ellipse. The three-quarter elliptic and the semi-elliptic explain themselves. The platform type is an arrangement of three semi-elliptics supporting the rear end. The cantilever is a form of curved spring fastened to the rear axle and the frame with the curved side down. The push of the rear wheels is transmitted in this and some of the other types thru the springs. All of these are of the flat leaf type, a number of leaves being fastened together to give the proper strength.

These leaves work back and forth over each other as the frame moves up and down. There is a great deal of pressure between the leaves, particularly at the ends, and so they must be lubricated. If this is not attended to the car will not ride so easily and the springs will squeak.

The most thoro method of lubricating is to remove the spring completely and take it apart. Jack up the frame to take the weight off the spring. remove the bolts holding it in place, drive the pins out of the shackles at each end and lay the spring on the bench. Remove the bolts holding the spring leaves together.

To prevent the leaves from flying apart hold them by means of a C clamp or put the spring in a vise. After the bolt is removed release the leaves gradually. If they are slightly rusty they may be touched up with emery cloth, but if they are badly rusted the rust must be removed with a file. Use graphite grease as a lubricant. Oil will run off and squeeze out whereas the graphite grease fills up the minute pits in the steel and feeds it out as needed. Graphite tends to smooth over rough places by filling the pits with a solid lubricant. Cover both sides of each leaf with grease. Then run a rod thru the holes in the leaves and draw them together with a C clamp or vise. If the holes are not lined up by means of a piece of metal passing thru them it will be impossible to replace the bolt. Secure the bolt firmly and replace the spring on the car. This method of lubrication has the advantage of stopping any sqeaks which may tend to develop at the center where the bolt holds the spring together.

A quicker method but one that is not so thoro is to pry the leaves apart. After cleaning with a stiff brush you should jack up the frame of the car so as to relieve the pressure on the springs and then pry them apart by means of a screw-driver or cold-chisel. Graphite grease may then be inserted with a knife. Oil should be injected into the parts not reached by grease. There is a tool on the market which may be used to spread the leaves of the springs without jacking up the frame. It serves its purpose well.

A still quicker method is to use kerosene to carry oil in between the leaves. Pour kerosene on the top leaf, guiding it down the sides with the fingers. It runs in between the leaves, cutting the rust which would repel the lubricant Then pour oil on the sides of the springs the same

(Continued on Page 6.)

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PHILADELPHIA, PA., MAY 22, 1920

VOLUME 47 — NUMBER 21

Our job is to serve our readers. Whenever and wherever we can help you, write us.—The Editors

Our New Story

WE BEGIN this week the publication of our new serial story, "Whispering Smith." Readers of all ages will find this a story full of interest from beginning to end and no one will want to miss a single installment. The scene of the story is laid in the West where life was full of thrills a generation ago. There are few people, however, tame their own lives may be, but what find themselves stirred by tales of adventure, possibly because the veneer of civilization but thinly veils the elemental nature of mankind. The author, Frank H. Spearman, is thoroly acquainted with frontier life and well knows the experiences of those rugged, high-charactered men and women who blazed the trail for weaker folk. He also knows the depravity to which other men sank in their desire to prey upon these pioneers of the untamed country. It was the continual clash of good and evil, right and wrong, and the final success of Truth and Justice that makes the story of "Whispering Smith" interesting and satisfying.

Farm Labor and Wages

AS A MATTER of expediency and self-preservation the present urging of city men to turn in and help on the farm may be excused. But the necessity for such action is not flattering, nor is it bearable if it must be continued. Altho there is a general shortage of productive labor in all lines, the shortage on the farms is most vital because the products of the farm are of primal necessity. In spite of this it is the only business which cannot afford to pay the wages commanded even in non-essential industries. Agriculture should not be compelled to depend upon appeals to charity and philanthropy in order to get labor to produce sufficient food. What is needed in this country is a national policy that will foster the development of a stable, profitable agriculture. We have pursued such a policy towards the "infant industries," and these industries are not only able to pay the increased costs of production but have also produced thousands of millionaires. Farming cannot nor should not produce millionaires, but the returns should be sufficient to meet the competition of other industries in the labor market.

A New Farmers' Bill

OUR WASHINGTON LETTER this week tells of the reporting out in Congress of a new bill intended to give to farmers the right of collective bargaining. It is known as the Volstead bill and is a substitute for the Capper-Hersmen bill which has aroused so much discussion. The new bill may or may not be an improvement over the old one, but the fact that the first one was so strenuously opposed by "the interests," and faced the possibility of defeat, shows how difficult it is to get legislation giving farmers the privileges which other business enjoys. Until some such legislation is passed it is impossible for farmers to develop the most needed kind of helpful organizations. As an example of the kind of arguments used against the passage of laws giving these rights we append the following editorial from the Price Current-Grain Reporter, a publication devoted to the interests of the grain, hay and feed dealers:

> The National Board of Farm Organizations at Washington is a most persistent agitator of farmers' unrest. The National Stockman and Farmer has said it does not represent real farmers at all only the nuts of the industry; but it is ever-lastingly at its job of creating discontent just the same. Only the other day it sent out notice that evidence of serious unrest at the failure of the Capper-Hersman bill was manifested, etc.
>
> B. F. Harris of Illinois, in a letter to Hoard's, has said: "The most dangerous man in America today is the class-minded man." The farmers have the leal right to market all their goods in common as co-operative selling groups. But the class-minded among them are not satisfied; they now demand the restoration of the clear right (when did they ever have that right?) of combining in the form of monopoly groups as sellers of their products. For, in plain words, that is all "collective bargaining" is as now defined—class leislation, against which all civilized legislators with humane and gentlemanly instincts strong enough to override the degradation of the demagog have been fighting for five hundred years. Is the farmer, ready to grant the same right to other classes? He is not, of course. Why then, does he demand it for himself and lean on cheap demagogs like Capper to "put it over" for him? As Mr. Harris has well said: "The class-minded man is narrow, selfish, a profiteer. Lock him up."

Clear-Cut Platforms Wanted

THE VOTERS of the country will await with interest the platforms of the respective political parties. Not in a long time has convention time approached so closely with so little indication as to what will be adopted as the principles upon which the candidates will go before the voters. This is the situation because the people have never had before them for decision so many new and differing problems. The party leaders appear to be as far at sea as the average man, and none has dared to state what shall be the issues. Is it because they have no definite ideas, or is it the intention to adopt platforms made up of generalities and high-sounding phrases? The people will not be satisfied with an attempt, however nicely phrased, to avoid straight-out declarations upon the important matters before the country for solution. The war changed so many established laws, practices and customs and created so many new conditions which the people expect to see discontinued or made permanent that the coming election will be a hotly contested event. The people will demand to know with certainty just where each man stands in relation to these matters, and will demand platforms which say plainly what they mean and mean what they say.

The Late Season

ADDED to the handicaps under which farmers are laboring—high prices and shortage of labor—is that of unseasonable weather. This will tend to bunch the spring work into a short time which, with the insufficient help, will tend to further restrict the operations. However, those who will be considered "lucky" next fall will be those who have gone ahead and made the best possible use of the opportunity. It is not wise to become discouraged this early in the game. They who have the greatest faith while using their best judgment usually come out ahead. One thing is sure: The demand will be great with good prices more than likely. What is not so sure, but for which we may hope, is a favorable season and an increased supply of help later in the season. Above all things don't neglect plenty of fertility, and take no chances by planting uncertain seed.

Our Washington Letter

The outstanding event of tne week in Congress so far as the farmers are especially concerned is the reporting out onto the floor of the House by the Judiciary committee of the Volstead bill, designed to authorize producers of agricultural products to form associations for the purpose of collectively preparing for market and marketing their products.

The Volstead bill is a substitute for the Capper-Hersman bill. In recommending the measure for the committee Chairman A. J. Volstead, of Minnesota, explained that limitations in defining the kind of associations to which the legislation applies, are aimed to exclude from the benefits of the act all but actual farmers and all associations not operated for the mutual help of their members as such producers. Dividends on stock or membership capital are limited to eight per cent to compel payment to the members of as large a part of the proceeds derived from the sale of their products as possible, instead of paying it as a dividend upon the money used as capital. Eight per cent was fixed for the reason that in many places money cannot be borrowed at a less rate, and that a lower rate would prevent some of the associations from obtaining the necessary funds to carry on their business.

"The aim has been," says Mr. Volstead, "to make the provisions of the bill sufficiently liberal so that all co-operative farm associations operated in good faith for the benefit of their members might avail themselves of the provisions of this bill. The bill does not, however, compel any association to change its present organization nor does it create any new organizations. Associations will continue to be formed under state laws as heretofore. In states where it is illegal to operate an association such as the ones permitted under this bill, it will, because of the nature of such associations, be practically impossible to operate under this legislation, as the bill only grants the right to operate in interstate and foreign commerce.

"The bill gives the Secretary of Agriculture power to prevent these associations from exploiting the public. In the event that any association should refuse to comply with the order of the secretary, a suit may be brought in the appropriate district court to enforce his order. The farmers are not asking a chance to oppress the public, but insist that they should be given a fair opportunity to meet business conditions as they exist—a condition that is very unfair under the present law. Whenever a farmer seeks to sell his products he meets in the market place the representatives of vast aggregations of organized capital that largely determine the price of his products. Personally he has little of anything to say about the price. If he seeks to associate himself with his neighbors for the purpose of collectively negotiating for a fair price he is threatened with prosecution. Many of the corporations with which he is compelled to deal are each composed of from thirty to forty thousand members. These members collectively do business as one person. The officers of the corporation act as agents of these members. This bill, if it becomes a law, will allow farmers to form like associations, the officers of which will act as agents for their members.

"While this bill confers on farmers certain privileges, it can not properly be said to be class legislation. Business corporations have under existing law all the powers and privileges sought to be conferred on farm organizations by this bill. Instead of granting a class privilege, it aims to equalize existing privileges by changing the law applicable to the ordinary business corporations so the farmers can take advantage of it. Instead of granting to farmers a special privilege, it aims to take from the business corporations a special privilege by conferring a like privilege on farm organizations. New York, Pennsylvania, Illinois, Wisconsin, Minnesota and a number of other states have granted the right to form associations such as those contemplated in this bill. But these states cannot confer any right upon their organizations to engage in interstate or foreign commerce. This bill is designed to grant that right. To maintain his self-respect and the dignity of his occupation the farmer must be given an opportunity to deal in selling his products on an equal footing with those who purchase it. He should be given an opportunity to help solve in a rational and fair way the problems involved in the high cost of living."

The farm organizations have not endorsed the Volstead bill, neither are they opposing it. The clause which gives the Secretary of Agriculture power to bring action in case complaint is made and proven that a farm organization "restrains trade" or "lessens competition to such an extent that the price is unduly enhanced by reason thereof," does not meet the approval of some farm organization leaders who hold the opinion that it is impossible for a farm organization to be "in restraint of trade." This bill, however, is highly regarded by the farm organizations Washington representatives. "If it becomes a law," says Gray Silver, of the American Federation of Farm Bureaus, "the co-operating farmers will no longer be in danger of a jail sentence, as alleged violations under the Volstead act would be made civil actions."

At the Farm Bureau Federation headquarters I learn that the first national referendum of the Farm Bureau members was a decided success. It was in regard to the Nolan bill, H. R. 12397, which provides that an excise tax of one per cent shall be levied on all farm holdings in excess of $10,000 valuation. A group of manufacturers with headquarters in Chicago, it is alleged, are back of this movement to put the Federal taxes on the farms, and they are urging their co-workers to contribute to a fund of $300,000 or $500,000 with the claim that this amount will be sufficient to secure the enactment of the bill. Incomplete reports show that of two thousand meetings held, the sentiment of only three was in favor of the Nolan bill.

* * *

The government farm loan situation is clearing, with fair prospects that the banks will soon be able to resume the loaning of money to farmers, notwithstanding the delay of the Supreme Court in opening its rehearing of the suit to test the constitutionality of the Farm Loan act. Congressman Platt, chairman of the House Banking and Currency Committee, declares that the Federal Land Bank system is sound, and his committee is anxious to tide the banks over the months they will have to wait for a decision from the United States Supreme Court as to the legality of their non-taxable bonds. Mr. Platt gives this information in regard to the present condition of the land banks.

* * *

The poor crop outlook is a source of much worriment to Washington officials. Nearly all the government departments that are in any way affected by the food supply, have been looking out over the field of farming operations, and all give the same pessimistic reports of a reduced acreage and unfavorable crop prospects. The Federal Reserve Board in a review of reports from its field agents, concludes that the farmer's profits have not been high, considering costs of farm operations, and that the city dwellers have cause for deep concern over the reports from the Western grain belt, telling of thousands of acres left untilled because of the scarcity of farm labor. They look for high prices for food because farmers' obligations at banks are larger than a year ago; a lack of farm hands, checking operations in all sections; unsatisfactory transportation situation, delaying movements of farm crops; high cost of seed and the curtailment of spring wheat acreage on account of the late season for planting.

* * *

Secretary of War Baker has called a meeting of the Council of National Defense to consider the recommendation that work in non-essential industries, including road building, be curtailed, and the labor thus employed be diverted to the farms during the harvest season.

* * *

Conferences are being held between the representatives of the National Canners' Association, the sugar refiners and Assistant Attorney General Howard Figg. The canners insist that they be recognized as an essential industry and be given preference in securing a sugar supply. It is asserted that thousands of tons of fruit will waste, causing serious losses to the growers, unless steps are taken to divert a sufficient supply of sugar to meet the requirements of the canning and preserving industries. And the housewives are persistent in their belief that their canning operations are an equally essential industry and that they should be shown the same preference in the division of the sugar supply. The only suggestion so far is the putting into effect the strict rationing of non-essential industries that use large amounts of sugar.—Elmer E. Reynolds.

HARRISBURG LETTER.

Farmers Using Engines.-Figures compiled by the statistical bureau of the State Department of Agriculture from first hand sources show that more than a fourth of the farmers of Pennsylvania use gasoline engines on their farms and that the use of this form of power for farm work has developed amazingly in the last few years. The department's facts and figures men spent some time working out the number of automobiles and trucks owned on the farm and the first of the year addressed inquiries to crop reports and people in various districts for data regarding use of the gas engines. The results were so surprising that the department sent out figures to check up and the same information came in. Taking 215,000 as the number of farmers in the State these figures show 27 per cent of the farmers are using engines. In Chester, Berks, Northampton and Montgomery counties 60 per cent of the farmers have gasoline engines and in Lancaster 55 per cent. Counties like Pike, Fulton and Warren reported many engines on the farms. The Department gathered complete data on motor vehicles on the farm last winter, showing 104,850 automobiles, 10,250 trucks and 4,315 tractors owned on the farms of the State and it is believed these figures have been greatly exceeded in the last few months.

Will Survey Farms.—The State Department of Agriculture force has been ordered by Secretary Fred Rasmussen to get the facts about abandoned or tenantless farms and this week men start out with cameras and note books to find out the real situation in some of the counties of the State which have been noted for years because of their farming. It is said in reports coming here that there are fine, well equipped farms in the Cumberland and Lebanon valleys, in Berks and Lancaster counties which want tenants. Some of these farms have been famous for their production and in the present situation their idleness brings its own commentary. The State authorities propose to make some object lessons. Several years ago a book was published showing the farms abandoned, for sale or tenantless. There were a couple of hundred out of over 215,000. The latest figure goes well up into the hundreds and the state of the farms and the reason for their idleness will be a subject of inquiry. Farm bureau agents in all counties will be asked to cooperate in getting names and locations of all farms not occupied for this latest state effort.

Railroads Move Seeds.—Judging from letters and reports coming here everyone of the trunk lines and a number of the smaller railroads this last week broke the embargo and jam on cars containing implements, fertilizer and seeds for the benefit of farming regions. Several of the larger railroads sent word here of what they were doing and the reports on receipts showed they were helping.

Wheat Gives Up.—The best reports obtainable here show that between four and five per cent of the wheat land was plowed down or abandoned because of conditions this spring. In some counties where the wheat was damaged by the alternate freezing and thawing the loss will be severely felt.

The Fruit Prospects.—Prof. J. G. Sanders, head of the bureau of Plant industry, has renewed his comments on the fruit crop. He thinks it looks well now in spite of the weather of the last week or so. Some reports here that the peach crop is running close to 90 per cent of the normal.

More Police on Duty.—Thirty-five more members of the State Police force have been put into training as motor cycle policemen for the breaking up of speeding on main highways and for protection of rural communities. A system of signals is to be worked out with local authorities whereby when a robbery or other crime has been committed officers will get the sign to stop and receive information. With their speedy machines the State authorities believe the force can be of vast service in the country.

Conference on Canning.—Men from the Agricultural departments of nearly a dozen middle states and representatives of the canning industry are to meet in this city next week to discuss the situation which has arisen in the canning industry because of the shortage of farm labor. The canners say they are confronted with unusual demands for all the stuff they can put up, but that in spite of the fact they have bought up or optioned crops before they are in the ground they are dubious over the prospects and State cooperation is to be extended. The tomato canning industry is said to face a rather serious situation. Large sums of money have been put into this line lately and many farmers who have been supplying the vegetable have sent word of inability to plant or care for as much as in 1919.

Not for the Boycott.—Secretary Rasmuseen says he is not in favor of the boycott as a means to drive down the price of potatoes and that if people quit buying luxuries and give their attention to foodstuffs and production they would be better off. He says that the use of gasoline for purely pleasure riding is forcing up the price right when it is being used more and more on the farm.

The Constitution Ready.—To all intents and purposes the State Constitution is revised and ready to go to the printers preparatory to submission to the legislature. There may be some changes made to the tentative draft in the fall, but not many. The revised draft contains the same propositions regarding the budget and the making of charity appropriations according to classes as the first draft. Water power regulation is now in the constitution and water may be leased by the state for not over fifty years and then only when the state is paid for it. A home rule proposition that would give the legislature authority to allow cities to make their own charters subject to general state laws. Discrimination or interference with interchange of telephone messages is forbidden. These and many other things will be sent to the legislature. It is believed a constitutional convention will be called, the report of the commission being given to it as a basis.

Will Be Prolonged.—It looks as tho the litigation over the Bell telephone rates would be prolonged. The Bell company put up a formidable case and the complainants secured time to prepare experts to meet it. The objections to limitation of free service area came in for much attention at the hearings, with prospects that this phrase will be much discussed lated on.—Hamilton, Harrisburg, May 17.

NEW YORK LETTER

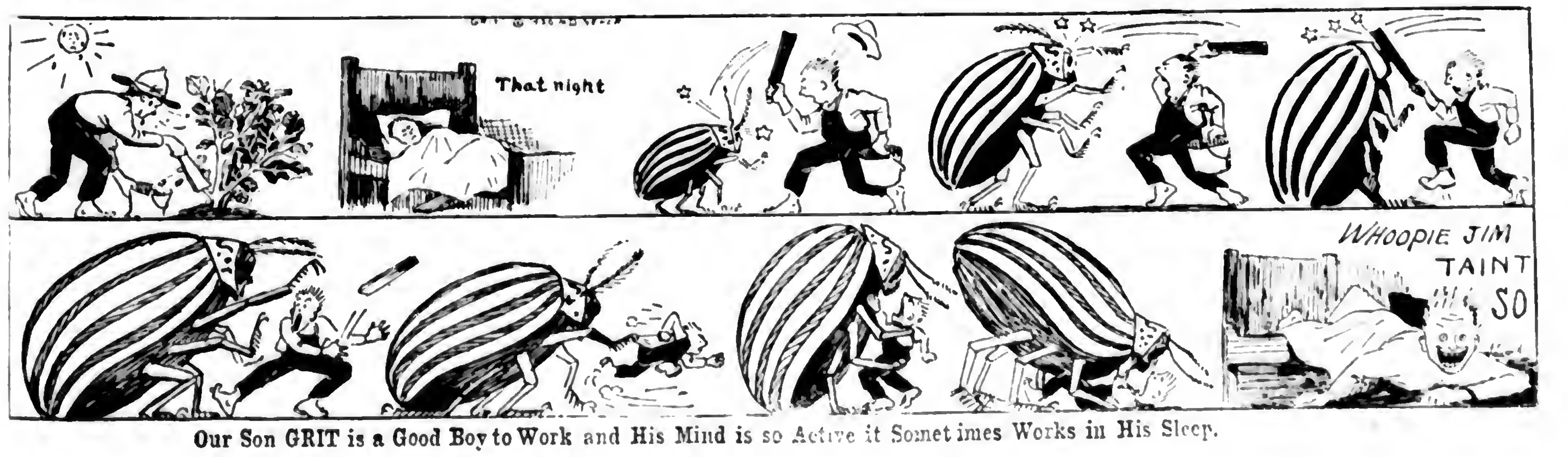
Where Labor Shortage Hits.—Market gardeners of the State are hard hit by the labor shortage as so much of their work must be done by hand. Many truck farms are being sown to oats and other crops—meaning further food shortage in vegetables. On a big Phoenix general farm two men are doing the work where formerly five were employed. Trucks, tractors, milking machines are used on many such farms to help production but even with machinery, production is barely maintained, while a much bigger number of farmers haven't the capital to buy machinery, due to unprofitable farm conditions. This is holding down production to an extent that is alarming the bankers, and students of economics.

June Milk Price.—Dairymen's League officials are trying hard to prevent a June drop in the price of milk, as farmers have lost money on the past month's prices and will in June if a drop occurs. Exports of milk by-products to Cuba and South America are slightly on the increase but most storehouses of manufacturers are piling high with surplus products. Increased consumption and farmer handling of distribution seem the only solution of the situation, as Europe cannot afford to buy now.

More Trees.—Twenty college men will set out 35,000 trees near Locona this week, as a part of a campaign to help in planting idle acres to trees, pines being the ones used here.

Preferential Movements Helped.—Shipments of farm seeds, fertilizers and machinery have been looked after since the railroads issued orders to that effect, in most yards, tho on some roads fertilizer deliveries are still slow.

Rural Schools.—The Dairymen's League and other farm organizations are beginning an investigation of rural school conditions and will make report and recommendations within the year. The Cornell College Alumni Education Committee has a newly appointed leader to urge the formation of parent-teacher's clubs in rural districts similar to those of cities, for the purpose of bettering rural school conditions. This is a part of a widespread recognition of the great need of getting public sentiment aroused in the interest of the country schools, to the end that the public will be ready to bear the increased taxation incident to improved rural school conditions.



Our Son GRIT is a Good Boy to Work and His Mind is so Active it Sometimes Works in His Sleep.

Spark Plugs and Seeding

WHEN you are seeding and one of your spark plugs pops out or "misses," that "miss" is as good as a mile lost. You can overcome the annoyance and delay of misfiring by using sure-fire Bethlehem Spark Plugs.

The mica in the Bethlehem de Luxe Tractor Plug cannot peel off and cause the plug to foul. The mica is wrapped around the center-spindle, *then reinforced* with little mica washers, compressed into a solid mass. They "stand the racket."

The great International Harvester Company, after exhaustive tests, has adopted Bethlehem Spark Plugs as standard equipment. The Studebaker Corporation has done the same thing on automobiles. Let their judgment be your guide.

Bethlehem Automobile and Truck Plugs are just as dependable as the Tractor plugs. To save you time and money in buying spark plugs, we have prepared a little booklet, "Hit or Miss?", which we will mail you free upon request.

BETHLEHEM SPARK PLUG CORPORATION
E. H. Schwab, *President*
Bethlehem, Pa.

Bethlehem SPARK PLUGS

"They Pull You Through"

Look at your wheat before harvest.

Has it long, full heads of sound grain?	Is there any Rust or Smut in your wheat?
Is the straw stiff enough to stand?	For five years wheat fertilizers have contained no Potash.
Will it yield as much as you hoped?	Enough German Potash has now come forward, so that those who wish can buy wheat fertilizers with *4 to 6 per cent of*
Is the clover or grass stand in it good?	
If not, think over the matter of using a fertilizer that will help you.	

REAL POTASH

Go at once to your dealer and tell him what you want and insist that he get it for you when the fertilizer salesman makes his first call.

Potash Pays

SOIL AND CROP SERVICE POTASH SYNDICATE, H. A. HUSTON, Manager
42 Broadway New York

Junior America Grain Threshers For the Farmer

Pneumatic Straw Cutter Attachments

SPECIAL PRICES THIS MONTH

DOYLESTOWN AGRICULTURAL CO.
ESTABLISHED 1851 DOYLESTOWN, PA.

REVISION OF COUNTY FAIR PREMIUM LISTS.

There is great need of a general overhauling and revision of the premium lists of county fairs. There is a multiplicity of premiums on lines of work that should not have such encouragement in these days of changed conditions. Exhibits of a nature to develop artistic and practical work along lines of a definite economic value have not been encouraged as they should. This is especially true in the domestic classes.

The writer was recently privileged to assist a state committee of men and women from the Farm Bureau and Home Bureaus, assisted by state extension leaders, in making recommendations to fair associations for improvements in the premium lists of the fairs of the state. Careful examination of the fair books of the leading county fairs showed an absurd and ridiculous preponderance of classes in useless "fancy work," and a neglect of practical things.

All the exhibits need revision but the joint committee agreed that the most glaring faults are to be found now in the womens' departments.

One of the leading fair's catalogue of premiums showed prizes for 56 kinds of sofa pillow covers, over 35 kinds of centerpieces were listed, and other lines of hand embroidery were about as voluminous. At the same time practical interests were neglected.

As many people still admire and are fond of this sort of endeavor the committee decided to go slowly, and to suggest improvements that would set the people to thinking, and that would bring out practical suggestions from them.

The fair associations were urged to enlist the efforts of local women's oranizations in appointing committees to suggest revision to pass on the merits of all entrees to determine whether they shall be shown or not, and to recommend competent judges.

It was recommended that exhibits of practical home-made labor-saving devices be encouraged, also of home made and remodelled clothing for adults and children, of home made millinery for both women and children, and a very special premium was suggested to be offered for a baby's layette. All clothing was to be judged for its suitability, simplicity and for the harmony of its lines, color, and decoration.

It was suggested that liberal prizes be offered for collections of small home made helps in housework, and that single classes include home made wheel trays, fireless cookers, iceless refrigerators, and dress forms. While quite a large number of home made and remodelled garments were suggested.

In the men's departments more definite revision was suggested in poultry and in fruit. A complete new list of poultry premiums was presented by Prof. James E. Rice, head of the poultry department of the State College, and endorsed by the committee. The Pomology Department assisted in a complete revision of the fruit premiums. Briefly the latter advised dividing the state into eight fruit sections, each having a list of fruit particularly adapted to the section. Other varieties not grown there were to be cut out and the money used to encourage better work in the important varieties. Box packs and pyramids were encouraged.

In livestock departments breeds not grown in some of the counties were to be cut out of the lists, and special premiums offered to stimulate interest in those breeds most used in the section.

Boys' and girls' exhibits are to receive special attention from experts in this work.

Most of the revision this year will be tentative. Uniformity of fair lists all over the state is greatly to be desired. It is hoped that the people will take hold of revision in earnest correcting all errors and introducing new and live interests.

The New York committee will continue its work next year, watching the fairs this year and choosing from each the features most valuable and popular, standardizing where possible. The state fair needs similar service. Some suggestions have already been made and gladly accepted by the commission. The people are urged to take this up and make our fairs practical object lessons to the people.

The writer would be glad to see suggestions from readers of Pennsylvania Farmer, and discussions of present weak points and their remedies.—M. G. F., Tompkins Co., N. Y.

ORCHARDS SUPPLANT FRENCH WHEAT FIELDS

The land around Peronne, France, that once yielded great quantities of wheat, will not be planted only to orchards. For a radius of twenty miles around Peronné not a spear of wheat has been grown for more than four years. This sector of the front saw some of the fiercest fighting of the war. The land is pitted with millions of shell holes and is crossed and recrossed in a bewildering maze of hundreds of miles of crooked trench lines.

Farming was impossible during the past year. The disinterring of the dead and the clearing away of thousands of tons of debris have occupied all the time of the government reconstruction agents and the returned peasants. The latter, unable to make the scantiest living from their once fertile fields, have been fed and clothed largely by the American Red Cross.

Government agricultural experts who have examined the land have pronounced it unfit for wheat growing.

NEW YORK CANNING CONTRACTS

Contracts with pea growers range from $76.25 to $81.75 a ton for shelled peas, in five different grades. Sweet corn will be husked at $28.50. Several counties have signed tomato contracts at $22.50, while others will not grow the crop for less than $25. Southern growers are getting $30 and up, and say the crop will this year cost close to $30 to grow. The price received last year by growers averaged 3 cents per can, which retailed at 25 to 35 cents per can. At $25 the price would be but 3½ cents per can.—M. G. F.

AUTO SPRINGS AND COMFORT

(Continued from Page 3.)

way, guiding it down with the fingers. The kerosene thins it and it is drawn in between the leaves of the spring as they move.

To hasten this, shake the car either by standing on the running board or on the spring hangers at the ends. This is a good method of lubrication, but it must be repeated more frequently than the others.—Alvah H. Pulver, Wayne Co., N. Y.

CONDITIONS AND PROSPECTS IN THE FEED MARKET.

(Continued from Page 1.)

considerable offal being consumed by dairymen of Pennsylvania and surrounding states along the Atlantic Coast was shipped across the entire country from the Pacific Northwest. The shipments of bran from mills of Oregon, Washington and California require a freight rate of as much as $20 a ton, which figure represents a normal net price for the feed. But under current record price levels, the shipments are being made at a profit to the Far West millers. The sales are being made around $63 a ton delivered in the New England states. Never before in history have such shipments been made. Bran at Minneapolis and Kansas City, the two leading Western milling centers, is bringing around $54 to $55 a ton, sacked, and in St. Louis and Chicago $56 to $57. Deferred deliveries are discounted about $7 a ton.

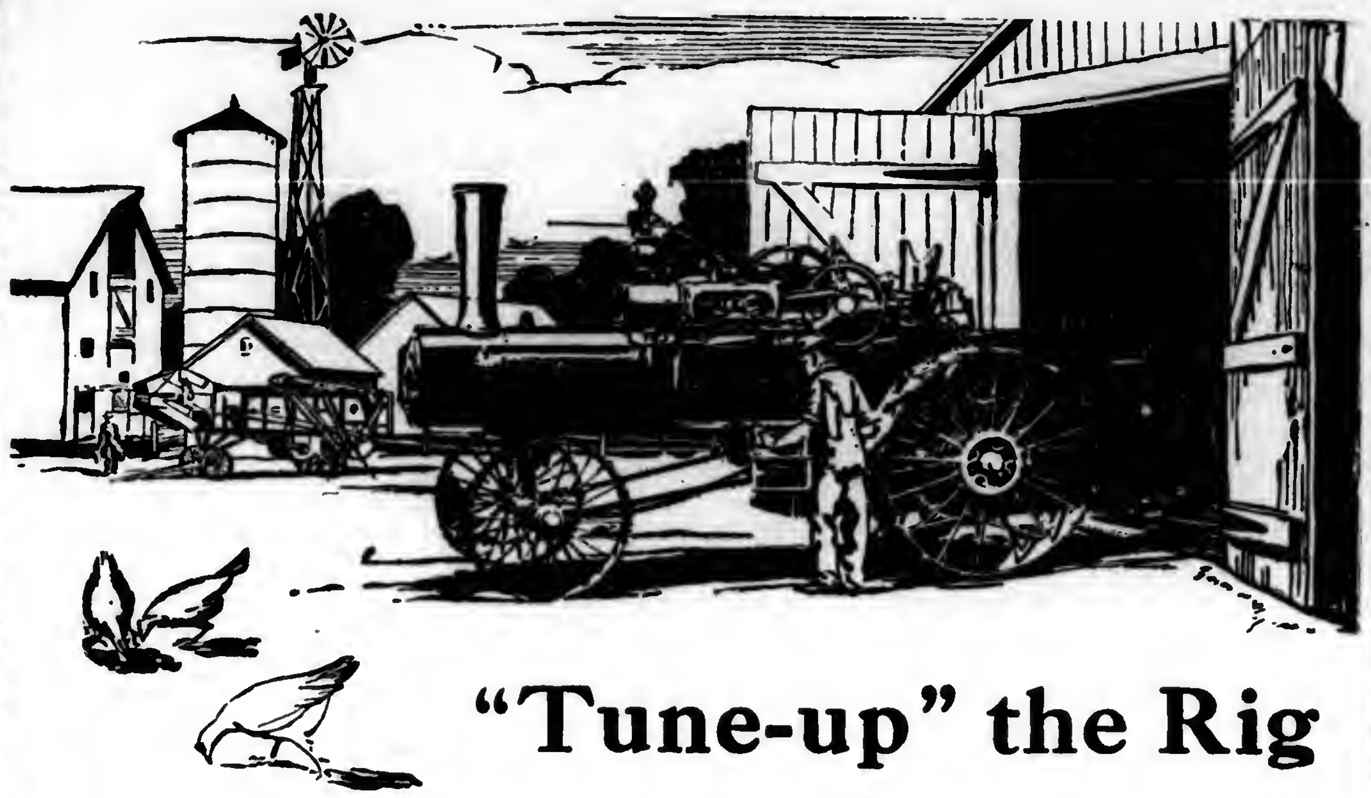
Shorts will doubtless hold up longer than bran, the period for heaviest feeding just approaching. Hog producers who farrowed spring pigs are using large quantities of shorts, and even a sharp increase in production would not depress prices rapidly. But, in a broad sense, shorts will follow a downward scale with bran as soon as offerings become available in large volume. Gray shorts are bringing $60 to $62 a ton in Kansas City and Minneapolis, $62 in St. Louis and $61 in Chicago, with distant Eastern markets quoting around $65 to $70.

Buy cottonseed cake and meal sparingly. The high protein concentrate is in very light demand, and prices are easing off, supplies being available at $57.50 to $59 a ton, for 43 per cent protein grade, in the crushing states of the Southwest, with the Southeast on a similar basis. Delivered prices in the East are around $70 to $72.50. Stocks of cake and meal in crushers' hands are fairly liberal, far greater than a year ago. This, together with the fact that cattlemen are using the concentrates on a very small scale with little prospect of an increase in consumption for the immediate future, indicates a downward trend of values. A $50 market at crushing points is generally anticipated.

Linseed feeds are in a slightly stronger position, owing to the scarcity of domestic flaxseed. Cake and meal, however, have declined from above $80 a ton to around $64, in Minneapolis, the principal crushing point. At the low point, however, some speculative demand developed, forcing prices to around $68 to $70 a ton. Flaxseed imports from Argentine are increasing, and advances in prices of the concentrate are improbable. There is little export business in either linseed or cottonseed cake and meal.

The strike of switchmen, which seriously interrupted the movement of hay from the West, is delaying a readjustment of prices from an old to a new crop basis. Orders have accumulated during the period of the strike, and, with cars scarce in the producing sections and the movement to market consequently light, artificial strength prevails in the trade. Alfalfa hay is eagerly sought by planters of the South, Southeast and feeding interests of the East, buyers paying around $36 a ton, basis Kansas City, the leading forage center. New alfalfa will begin moving the latter part of the month, and a heavy movement is anticipated during June. Until the new hay begins moving freely, a sharp readjustment is improbable at the present time. Tame hay is correspondingly strong, and the sharp premium commanded by timothy is turning much demand to prairie. Even feeders of the East, who normally use only timothy, are buyers of prairie, owing to the sharp discount, amounting to as much as $15 a ton, prevailing on the wild hay.

Shade trees are sometimes injured or killed by carelessness in the emptying of the brine from the ice cream freezer. Even large trees may be killed in this way especially during the growing season



"Tune-up" the Rig

ONLY a few weeks remain before threshing season will be here with a rush. Be sure you are ready. Get your Case "Steamer" out and go over it.

See that the boiler is thoroughly clean inside. Polish piston rod and valve stem. Look for lost motion at both ends of connecting rod, and adjust the brasses if necessary. Re-pack the pump and possibly the governor stem. Clean oil holes and grease cups so that lubricant will pass freely to all bearings. Be sure that leads to water-column are clear. We suggest that you have on hand a supply of water glasses, with proper gaskets. The safety valve is probably all right, but be sure it "pops" when it should. Scrape out exhaust nozzle, giving the steam a clear passage, directly up the stack. Replace worn clutch shoes; also repaint boiler and stack.

Overhaul the separator belting and re-lace or re-place where needed. Wash out every bearing with kerosene and see that oil holes are open. Replace worn teeth in cylinder and concave, and look for harmful endplay in cylinder. 1 64 inch is right. Examine every box and bearing and take up or re-babbitt where needed. Tighten loose nuts and replace lost bolts.

Be sure you have the supplies and tools you will need. It is well to have some spare parts on hand to guard against possible delays. Check up your stock of parts with the list suggested in your "Case Thresher Manual", and order what you lack. If you have no copy of our "Thresher Manual", you should have one, and we will send one on request.

Remember that time is money to the thresherman, and right now is the time to save time.

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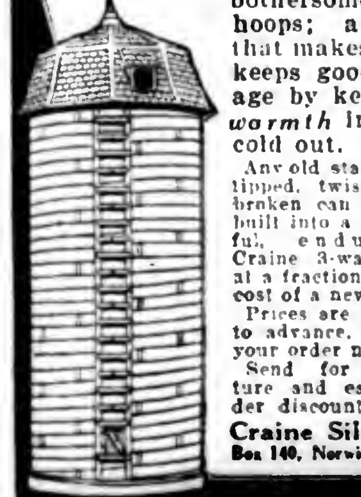

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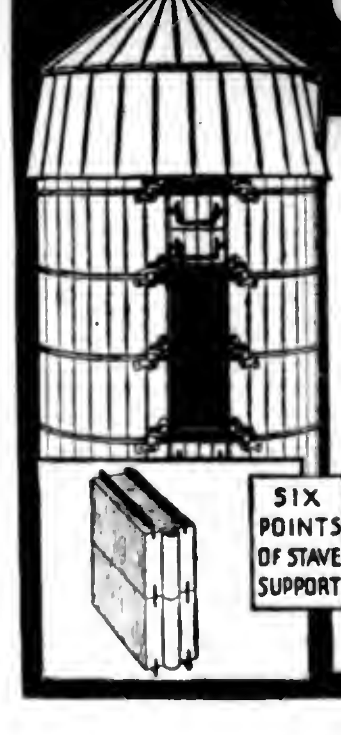
GLOBE
SILOS



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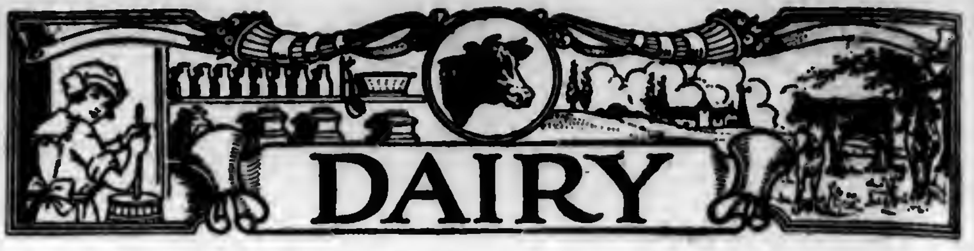

DAIRY

NOTES FROM THE NEW YORK FIELD

We are still encountering somewhat diverse statements about the price of dairy cows. In my judgment there can be no doubt that prices have actually fallen off, yet every little while there is a sale made that upsets all calculations. It is the cows fresh or to freshen in May or early June that are really in demand. Pure bred cows are a better sale than grades, and of course large cows outsell smaller ones in almost every case. It looks like a good time for a dairy farmer to extend his pure breeding. I saw one young farmer recently who said that he is somewhat in debt and cannot make any money on milk now, but if the year thru he can make the milk pay expenses and his interest he believes that there will be some pure bred cattle to sell after a time that will clear up the debts. I guess he is figuring well.

The May price for milk is at an average here of about $2.75 a hundred pounds and considered a good sale by dairymen. Not that it makes anymoney for dairymen except after the cows go out to grass but it means less loss than was thought might be encountered. June price for milk is now a matter of entire speculation with us on the farms. That there should be some falling off from this month is to be expected. A crisis is not now looked for on the first of June. Butter is keeping up well, altho there has been quite a drop lately. Butter sells for enough to make a payment above League prices and cheese is doing pretty well also. In two cases that I know where the buyers refused to take the milk the farmers went at it and commenced butter and cheese making with very satisfactory results. It is a question whether these farmers should again put themselves where dealers can make conditions uncomfortable for them.

The season is decidedly late. Only a few fields of oats are sown by the middle of May. Grass is doing fairly but there has been little increase in production of milk. A "flush" is to be looked for later than usual this season. That sometimes comes in May at its highest but it now seems delayed until June at least. We look for considerable increase then. By July we expect to have a much better market for milk and when August arrives we should be making some money on milk. True, many will be feeding grain to some extent and most dairymen will be feeding green feeds or silage, and these cost much more for a ration than pasture. After all the doubts and fears we are rather expecting to make a little money in part of 1920.

Locally owned plants are coming to be quite the fashion in the dairy section. These are not the sort that was commonly spoken of as cooperative creameries a few years ago. There are not many of these left in my section of the country now. Some of them went down by their own weight and some were eliminated by the shrewdness of the big dealers. At any rate, the most of them went. The present crop we think is better organized, partly because we have better laws for it and perhaps partly by reason of experience. The League co-operative department is believed to be doing some good work in keeping these well organized and safe. If we keep honest and level headed men in charge of it and if it retains the loyal support of the membership, there can be no doubt of its long life and usefulness.

Slowly it seems to me the public is coming to know the farmer nearer as he is. This may not apply to New York City as to milk production, altho there are many in that benighted and misled city that can come near seeing that milk production is not a paying proposition. In our country villages there are a few who commence to see that it is business and not agriculture that needs readjustment. For many years it has been customary for villagers and city people to advise farmers to adopt business methods and make themselves efficient. During the fifty years that this sentiment has been developing these same people have been fed gratuitously to quite an extent by the same farming people that they have condemned as incompetent. Now, some are beginning to see that farm produce must bring more to the farmer or there will be less of it.—H. H. L.

CHEESE FACTORY MANAGEMENT

To make good cheese we must have good milk. Some makers can produce a better article from poor milk than others, but as a rule the finished products are of no better quality than the raw materials from which they are made.

After about fifteen years experience at handling milk, in cheese factories, creameries, and shipping stations, I am fully convinced that there are a lot of farm milk producers who believe if they can deliver the milk to the cheese factory before it begins to thicken that is all that is necessary, and the cheese maker should be able to make the best of cheese from this milk. If the dairyman is not careful about keeping the dirt out of the milk, and does not cool it quickly after it comes from the cow, more care and pains are needed to be taken by the cheese maker in working up this milk, and in the end, the quality in all probability will not be what it would have been had the milk been properly handled in the first place.

I have known of several instances where there was quite a competition between factories, and of the cheese maker taking in milk that was considerably off, for fear the patron would go to another factory if he rejected his milk. Under these conditions cheese makers do different from what their good judgment tells them is best and, hence, sacrifice quality for quantity, and at the same time risk their own reputation. The cheese maker who accepts bad milk is not doing right by the other patrons who are delivering good, clean milk, for this one bad mess is likely to contaminate all the others. Milk that is of poor quality not only affects the flavor of the cheese, but many times the body and texture of the cheese. The yield of cheese is not only affected by cleanliness of the milk, but also by its fat and solid contents.

Many of the cheese factories in this part of the country were built years ago, and not suitable for today's use. Many of them are located in valleys or on low wet places. The water supply was the first and about the only thing taken into consideration at that time, no attention was paid to the outlet for wash waters, slops, etc.

These were the exact conditions in my home town where a factory was built more than 40 years ago, and it is there today and in operation. Located on one of the finest spring and trout brooks in New York State, on a low swampy piece of ground, handy for the farmers, wonderful water privileges, but no sewer outlet. The result has been that the proprietors of the factory have been in trouble more than once, because of sewage poluting the stream, and besides this inconvenience, these conditions have a tendency to cause a bad odor about the premises, draw flies and make it generally disagreeable.

The floors in this building were originally like all others which were built at that time, of wood, but these were replaced some twenty years ago with cement. The floor is the most important part of the building.

The equipment in many cheese factories, as well as in creameries is not what it should be. The tools and fixtures are in such shape that it is about impossible to turn out a clean, neat, square and attractive cheese. And in most cheese factories the whey vat does not receive the attention it should. No whey tank is properly taken care of unless it is thoroly cleaned out and scalded every day.

It is a common practice here for the patrons to take the whey home in the same can in which they delivered the milk. The temptation, and sometimes the practice is to leave the cans full of whey by a hog pen and at night feed the remainder of the whey, and then simply rinse out the cans with cold water and put in the fresh milk. If these cans are not promptly emptied and scalded, there is likely to be trouble from this source.—Subscriber, N. Y.

THE FARM HOME

The dwelling is the headquarters of the farm business. Chores are done before breakfast and often after supper, the stock need close attention, certain farm seeds are kept in the house, the hired man may sleep there, and the women folks often take care of the poultry; thus it is almost essential that the house be reasonably close to the other buildings.

The value of the house constitutes an important part of the real estate value of the farm. On the higher-priced cornbelt farms and the low-priced cottonbelt farms the value of the dwelling represents from 5 to 15 per cent of the real estate value of the farm, while in the eastern part of the United States this percentage is more commonly 20 per cent or over.

The beautifying of the yard by shrubbery, flower beds, and a good lawn involves the occasional use of manure, the introduction of fertile soil, the use of a team and of small farm tools, all of which are available on the average farm.

Don't let the farm records get behind during the busy season; a few minutes a day will save a lot of time later on.

A silo ought to last as long as the barn it is attached to.

—A new theory to some, but not too advanced to fit the Green Mountain standard of construction.

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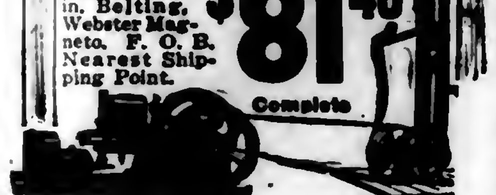

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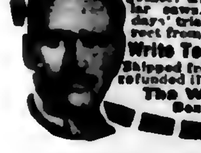

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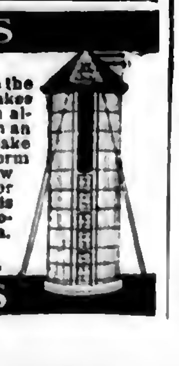

Every Economy Silo is equipped with the Storm Proof anchoring system that makes it absolutely permanent. Ensilage is always fresh and sweet—it can't spoil in an Economy Silo. Perfect fitting doors make the silo perfectly air-tight. Hoops form easy ladder. Built of long leaf Yellow Pine or Oregon Fir. Headquarters for all sizes of water tanks. Our motto is quality through and through. Factories at Frederick, Md., and Roanoke, Va. Write for catalog.

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The machine was brought in on a local De Laval Service Day to be looked over by the service man.

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"The Standard of the Better Dairies"

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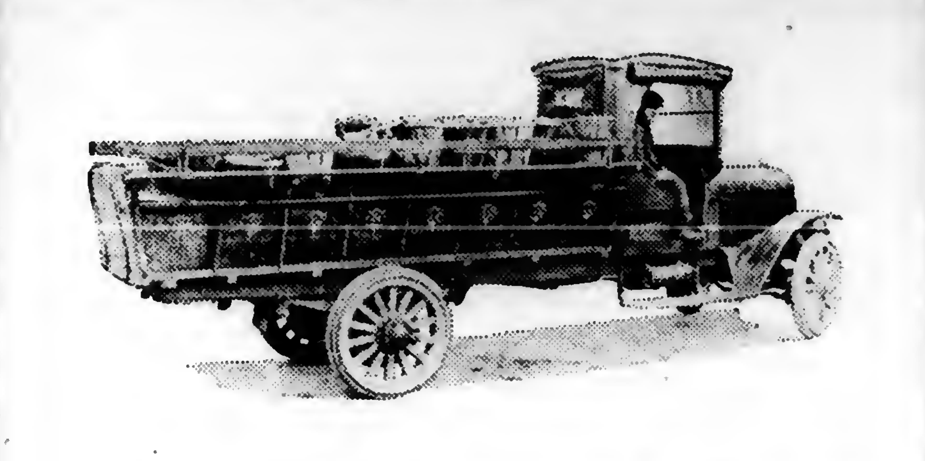

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HORTICULTURE

ALFALFA FOR YOUNG ORCHARD

By J. P. Stewart.

There seems to be a little uncertainty about some phases of the use of alfalfa in orchards, as indicated by the following inquiry.

"I have been extremely interested in your orchard notes in the Pennsylvania Farmer, and have about decided to sow my young orchard in alfalfa and utilize the alfalfa as a mulch. I have a very fine 14-acre orchard planted with Delicious, Stayman Winesap, McIntosh, etc., and I want to give it the very best treatment. It was set out in the fall of 1919.

"Would you suggest my carrying out the alfalfa idea by starting out this year, or would you practice the clean cultivation until August 1st and then sow a cover-crop? If so, what would you suggest for the cover-crop? The soil lacks humus.

"The point I want to get at is whether you would suggest starting alfalfa this year, or wait until the trees are five or six years old. I shall raise no intercrops. It seems to me that by following the mulch idea, the roots will grow too near the surface. That is the reason I am not clear whether to risk using the mulch during the first five years or until after the main roots are somewhat established.

"I believe that when mulching is once started, it is important to continue it always, on account of the rootlets being so near the surface. I shall highly appreciate your suggestions in this connection."—E. K. S., Philadelphia.

In reply to this inquiry I would say that I would not hesitate to start the alfalfa treatment in any apple orchard under average conditions at any time after the planting is completed. This was done in the ten-year test started by the writer in comparison with about a dozen annual cover-crops, and in which the alfalfa trees were distinctly in the lead at the close. We also had to plow up this plot about the eighth year and cultivate it vigorously during the early part of that season in order to kill out a thick and persistent stand of blue grass that had worked itself in among the alfalfa. This plowing and subsequent cultivation apparently had no ill-effect on the trees.

The mulch treatment, moreover, will probably have very little influence on the position of the main tree roots, as this is determined largely by the moisture supply, and probably to some extent by gravity. The mulch treatment naturally permits a much greater development of fibrous roots in the first six or eight inches of soil than the average tillage treatment, but this does not prove that there is much difference in the root development in the lower levels. In fact, the studies and observations that I made several years ago on this point showed that there was practically no difference in root development in the lower levels under the various cultural methods, and the mulched trees simply had the advantage of a greater abundance of roots near the surface.

In the present case, a very good plan would be to follow clean cultivation until about August 1st in any desired year, and then sow the orchard to a mixture of alfalfa and alsike, using about half the normal quantities of each when seeded alone. This will help to insure a good cover for the winter, and both plants are rather persistent, wherever the conditions are reasonably favorable. If the stand is not entirely satisfactory at first, the whole business can be turned under at any time, and the soil then be cultivated as desired and put in shape for repeating the seeding at about the same date as before. One or two repetitions of this kind should be sufficient to get a first-class stand under any ordinary conditions.

Cutting Out the Trouble in Spraying

One of the best managed large orchards in the State has adopted and perfected a couple of ideas that the writer advocated very widely several years ago, but at least one of which has apparently dropped out of any considerable notice within recent years. These ideas involve the installation of a simple but efficient plant for making one's own supply of lime-sulphur, preferably by means of live steam, and the development of a central compressing plant in connection therewith to permit the use of compressed air as the means of applying the spray. From the way the system has worked in this particular orchard for the last six years we are more than ever convinced that this is the best scheme yet devised for practically all orchards in which more than one power sprayer is needed to do the work.

The expense is not only greatly reduced in this way, but the trouble and delays that are practically certain accompaniments of the average gasoline engine, may be entirely eliminated. In this particular orchard, they have an elevated storage tank for the lime-sulphur in which they can make up their requirements in a couple of days, at less than half the expense of the commercial material. The same steam engine that is used for this purpose is also used for compressing the air in a reservoir from which the air-tanks are par-used for compressing the air in a reservoir from which the air-tanks are partially filled at the same time that the liquid is put into the other tank of the spray carts. The remainder of the air is pumped in at the time of filling so as to bring the pressure up to the required point, which incidentally is 210 pounds in this particular orchard. The vagaries of the gasoline engine are thus eliminated entirely from the spraying operations of this orchard, and the outfit has shown no signs of deterioriation as yet, after six years of use. The owner considers his plant practically permanent.

The usual objection that has been brought against this type of spray outfit is its lack of sufficient agitation in the spray tank. This apparent difficulty has not affected the quality of fruit produced in this case at least, as the fruit from this orchard regularly brings the highest prices on its market. It is possible that the general roughness or stoniness of the soil over which these tanks are operated may have something to do with the correction of the supposed defects of insufficient

agitation. This defect can of course be overcome in this type of spray outfit in other ways, but it is worthy of note that under at least some conditions no regular provision for agitation is needed.

One difficulty that they have had in the past is the tendency of the inside of the liquid-containing tank to corrode and form flakes during considerable periods of idleness, and these often caused much trouble at the start of the next spraying by clogging the nozzles. This difficulty has been entirely overcome in a very simple way. At present when they are thru spraying for some time, they fill up the tank with water, then let a couple of gallons out and replace them with an equal quantity of waste oil from their tractor. This oil naturally floats to the top of the tank, and settles with the water, which is gradually drained out, thus leaving a complete coating of oil over the inside of the tank. As a result of this improvement in handling, the former clogging difficulties usually encountered at the beginning of the spraying, when time is most precious, have now been entirely eliminated. Eternal ingenuity is thus again shown to be the price of smoothness of operation during the supremely important spraying season.

CONTROL MEASURES GIVEN FOR BACTERIAL WILT

Infection with the bacterial wilt of cucurbits does not occur thru soil or seed. The striped cucumber beetle and the 12-spotted cucumber beetle are both summer carriers, and probably the only means of summer transmission of the disease in the localities that have been studied. Introduction of virulent bacteria into the interior plant tissues is necessary for infection. Of the common domestic cucurbits the disease affects cucumbers, cantaloupes, summer and winter squashes, and pumpkins, but not watermelons.

Control Measures

Spraying with strong Bordeaux mixture and lead arsenate paste (4-5-50 plus 2) is recommended where the disease is likely to be severe. Treatments should begin as soon as the cucumber plants develop their first true leaves and should continue at intervals of about a week until the cucumber beetles practically disappear from the field. In localities where downy mildew is also prevalent the treatments should be continued later as a partial insurance against this disease. The beetles prefer unsprayed plants as food, and undoubtedly the efficiency of wilt control would be enhanced if a slightly earlier trap crop, such as squash, were planted along the edges of the cucumber field. The beetles could be easily poisoned there with a strong insecticide.

Pulling of wilted vines during the first part of the season, or as long as it can be done without mechanically injuring the healthy plants, will greatly assist in controlling bacterial wilt if consistently done in all neighboring fields. The diseased vines should be buried or otherwise removed from access to the beetles.

CAULIFLOWER NEEDS AN UNINTERRUPTED GROWTH.

Soil requirements and perfect climatic conditions are essential in growing a good cauliflower crop, but even when these are ideal a check in the growth from any other cause will be serious, say growers who have been successful with this difficult crop.

Dry weather, a lack of organic matter in the soil, a lack of cultivation or a lack of plant food, particularly just before or at such an extent that the crop will throw up seed stalks causing "riced" heads, which have no value.

Protect Head With Leaves.

When the cauliflower head is about the size of a dollar, the leaves should be tied or twisted over the head to protect it from sun and weather. This method should produce a perfectly white product. The leaves should be so tied that snow or rain that enters may find a ready exit at the bottom; an accumulation of moisture on the head or curd will cause dark spots and eventually ruin the product.

There are usually three cuttings of the crop. If the earliest heads are tied with string, the second with raffia and the last have the leaves broken over, the grower will be aided at cutting time and will not have to examine all the plants.

CANNING CROP PRICES

Mr. M. L. Hakes, president of the Orleans County Canning Crops Association, Inc., sent out the following letter to all the members on March 30th:

"The Orleans County Canning Crops Co-operative Association, Inc., have contracted with the Hudson Canning Co., The New York Canners of Albion and Medina, and the Thos. J. Sweet Co., for tomatoes at $22.50 and peas at $80.00 per ton, growers to have their pro rate amount of silage at $2.00 per ton for the good and $1.00 for the spoiled silage, tomato plants $7.00 per thousand and pea seed at $4.00 per bu. Corn at Albion $25.00 per ton husked basis, corn ensilage free.

As near as can be figured the increases obtained by the Association for the growers of Orleans County will mean an increased income of about $50,000.

CODLING WORM SPRAY INSURES CLEAN FRUIT

Wormy apples may be prevented by spraying with arsenical poison before the newly-hatched codling worms begin to do their damage.

This spray is applied liberally just after the apple blossoms fall and consists of 1½ gallons lime-sulphur and 2 pounds of arsenate of lead paste or 1 pound of powder added to each 50 gallons of water.

Arsenate of lead poisons codling worm, curculio and canker worms, while the lime-sulphur tends to control apple scab, sooty fungus and apple rot.

This spray is one of the most important in order to produce clean fruit. Freedom from worms in apples depends largely upon the correct use of poison sprays just after the blossoms fall.

PRUNING CURRANT BUSHES

In the Hudson valley, currant growers seldom leave more than six canes per bush, following a very careful pruning system to keep the currant bushes open and the growth active. All of the wood over three years old is taken out, and only enough of last season's growth retained to keep up a yearly supply of the younger wood.

Wasteful helpings boost the high cost of living.

Give the world the once over

LISTEN, fellows, to some straight talk. Many a man when he gets to be 40, *misses something.* He may have lots of money, and a fine family but—

He never "got out and saw things". After he gets settled down, *it's too late.*

Every man wants to see the world. No man likes to stand still all his life. The best time to TRAVEL is when you're young and lively—right NOW!

Right NOW your Uncle Sam is calling, "Shove off!" He wants men for his Navy. He's inviting *you!* It's the biggest chance you'll ever get to give the world the once over!

The Navy goes all over the world—sails the Seven Seas—squints at the six continents—*that's its business.* You stand to see more odd sights, wonderful scenery and strange people than you ever dreamed of.

You'll work hard while you work. You'll play hard while you play. You'll earn and learn. You'll get, in addition to "shore-leave", a 30-day straight vacation—which is more than the average bank president can count on.

You can join for two years. When you get through you'll be physically and mentally "tuned up" for the rest of your life. You'll be ready through and through for SUCCESS.

There's a Recruiting Station right near you. If you don't know where it is, your Postmaster will be glad to tell you.

Shove off! -Join the U. S. Navy

TOMATO AND CABBAGE PLANTS
Early Jersey, Charleston Wakefield and Flat Dutch Cabbage and Stone, Earliana and Livingston Globe Tomato. 100 for 50 cents; 500 for $1.75; 1000 for $3.25 postpaid. By express collect, 1000 for $1.75; 5000 for $7.50. Satisfaction guaranteed.
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HARRY D. SQUIRES. GOOD GROUND, N. Y.

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W. J. MYERS. R. 2. MASSILLON, OHIO

DIRTY CELERY DOESN'T SELL

Nor will any celery bring good prices unless it is well bleached and crisp. Altho there are numerous methods of excluding the light and dirt, there is only one

AREANDDEE
CELERY BLEACHER

Only two men needed to apply Areand'ee

Nothing else is so light and strong. It lasts as long as boards, and costs one-third as much. Two men can put it in place almost at the speed of a walk. 500 feet weighs only 150 lbs. Use it this season; you're bound to use it some day.

Write for Descriptive circular.

THE RUSSELLOID COMPANY
Dept. P, Harrisburg, Penna.

EGGS INSTEAD OF MEAT

They are cheaper in our section than meat, consequently we eat a good many of them, especially at this season when they are plentiest. We like them best in omelets or scrambled, tho we make a good many custards.

Fluffy Omelet.

To made an omelet that we are very fond of, I separate the yolks and whites, using no fewer than one more egg than the number of persons to be served. Also better keep in mind the size of your skillet, because this omelet becomes very fluffy while cooking.

I beat the yolks, season them with salt and pepper, then I add 2 tablespoons water per each egg (or it adds to the nourishment to add 2 tablespoons of milk instead of water, and some cream makes the texture real tender). Then I fold in the stiffly beaten whites of the eggs, and pour into a hot skillet greased with ham or bacon fat, or with butter. The butter makes a nicer brown more quickly, and as the omelet cooks very quickly, this is an advantage. I cover the skillet with something that will let the omelet rise as much as it wants to without it touching the cover. I cook it until nearly done thru, about ten minutes. Then I turn it so as to brown the other side, and serve immediately. The result is a moist, fluffy, attractive poduction. For turning such an omelet a double skillet, half of which serves as cover, is very handy.

It makes a pretty variation of this omelet to add bits of green vegetables, such as onion tops, peas or beans, or some bacon or ham or other left-over meat. A pretty omelet is also obtained by pouring the yolk mixture first into the skillet, then spreading the seasoned beaten whites on top, covering and cooking until the yolk is just done thru. Then serve with the fluffy white on top, dotted with tiny sprigs of parsley or the small, white, tender leaves of celery. Or you can fold the omelet so that the white makes a layer between the yellow top and bottom.

As I Scramble Eggs

After they are beaten I add one tablespoon of water or rich milk per each egg, then pour onto the bits of bacon that I have frying in the skillet. I stir while cooking to prevent the egg from forming a continuous sheet. This makes a texture almost as moist and fluffy as an omelet, and the liquid makes a larger quantity.

Eggs in Desserts

When serving a cottage pudding I sometimes use a sauce made of the beaten whites of eggs flavored with the juice of oranges or pineapple or some prune juice. Our Oregon Loganberries make a very pretty and delicious addition to this kind of a sauce.

When making cornstarch I sometimes keep out the whites of the eggs, beat them separately and fold them into the custard after it is removed from the stove and had the flavoring added. The whites prevent the custard from getting solid and heavy, as is apt to be the case when the whites are cooked into the custard. Also the whites are more digestible raw.

A very good cook of my acquaintance does not usually put the whites of eggs in her cakes because she says the yolks are "more brittle," and thus she is more sure of having a tender cake. She uses the whites largely for meringues for the pies, and for pudding dressings.—Mrs. C. W. Shumaker, Lane Co., Ore.

STUDIES IN NUTRITION

By Pearl MacDonald, Penna. State College.

More About Body Regulating Materials

A Well Equipped Kitchen.

In the preceding articles we discussed the purpose of foods in supplying material to build tissues, and to keep them in repair and to furnish heat and energy to do physical work.

It is not sufficient alone to construct a machine, keep it in repair and supply it with fuel. If the machine is to be efficient and to last a long time it must be oiled and the parts adjusted.

So it is with the human machine. The individual, who is the engineer, should know the general construction of the human machine and what is necessary to keep the parts working smoothly.

Some of the problems of regulation are: Digestion, absorption and proper use of food materials, elimination of waste products, secretion of digestive and other fluids, beating of the heart and circulation of the blood to carry oxygen and food to all the cells of the body, and to carry the waste products from all the cells, and the regulation of other body processes.

The material needed for regulating the various body processes are: Water, fiber, mineral matter and organic acids.

Some incorporate the protective substances (the vitamines) in the regulatory group. While in a sense they are regulatory, yet, because of their special function in the body, we believe they should be classified and discussed separately.

Water

Water is not a food in the sense that sugars, starches, fats and proteins are. However, water is very necessary in body nutrition. It enters largely into construction of the tissues, the body being about 70 per cent water. The blood and various secretions must have proper fluidity in order to perform their functions. If the blood is too thick, for example, it will not flow as it should thru the blood system, and various ills result. Water is needed to carry off certain of the waste products thru the kidneys and the urinary tract. It is necessary also in the digestion of food, and in the disposal of waste from the digestive tract. It is essential to keep the tissues moist and flexible.

When we are ill and have a fever, the food and tissues are being burned and used up too rapidly. This takes moisture from the tissues; we know this because the lips and skin become dry and parched, and we have a bad puckery taste in the mouth.

Water is supplied in sufficient quantity for body uses in two ways: Thru the food which we eat (no food can be eaten absolutely dry) and in beverages. All foods must have a certain amount of water.

Fresh fruits and vegetables and breadstuffs all have much water. Before they are cooked dried fruits and vegetables are soaked in water, as you well know, to restore the water lost in the process of frying. However, we do not always restore the water to dates, figs and raisins before we eat them.

Foods that have less water than fruits and vegetables are cheese, sugar, egg yolk, butter, and all fats and oils. The water was largely taken out of the cheese in the form of whey, and out of the sugar by evaporation of the cane or beet sap, or the maple sap as the case happens to be. It was taken from the cream in the buttermilk.

In addition to the water supplied in foods, we need to drink a certain amount of it. A part of it we will get in the beverages that we like to drink with our meals, as milk, cocoa, fruit juices, tea and coffee.

Milk is about 78 per cent water, and in a liquid form. It should, however, be thought of as a food rather than merely a beverage. Cocoa should be made largely of milk, and merely flavored with cocoa. There is absolutely no food value in tea or coffee; they are beverages only, with no use except in the water they carry into our systems.

Fruit juices with little or no sugar should be used as beverages more than they are. They can be canned very easily in the summer, and the pulp residue can be made into tasty sprady for the bread by the addition of a little fruit from which the juice has not been extracted.

Aside from the water taken in foods and beverages, we should drink plenty of water, four to six glasses a day extra for children, and six to eight for adults. A glass in the morning when you first get up, after the teeth and the mouth have been rinsed, a glass just before retiring and the rest distributed thru the day. Children should certainly be trained in their earliest years to drink plenty of water. The question of drinking water with the meals has been much discussed pro and con. Nutrition authorities are now agreed that some liquid with the meals is alright if not allowed to wash down imperfectly masticated food.

(The next article will take up the uses of vegetable fiber in digestion.)

A PLEA FOR THE LITTLE ONES

These are surely strenuous days; competition in everything is strong, and working people are kept so busy making a living that often the little tots, tho they may be supplied with all the necessities of life, are starved for love. No doubt we love them just as much as we would if we were less "rushed" but they want the outward evidences of it. The fact impressed itself upon me quite forcibly tonight while I was washing my supper dishes—a forlorn little figure stood beside my kitchen stove and frequently my seven-year-old observed sadly. "Between the dark and the daylight, when the night is beginning to lower, comes a pause in the day's occupation, that is known as the children's hour," then she added soberly, "but we never have any children's hour." Poor child! She likes to be "cuddled" just as well as she did when she was very tiny but for nearly two years now we have had sickness in the family and I've been so busy that she is rather a neglected midget. It isn't fair either because, as a matter of fact, she does a great deal of the housework. I wouldn't know how to manage without her and she has a right to a part of my time. I took my hands out of the dishwater, washed them, and sat down for a few minutes with the little girl on my lap. I couldn't afford much time and the little I did take made me later getting thru at night but I felt amply repaid. We aren't slow to ask the children to help when we are crowded with work and they ought not to have to ask for the heritage of love that belongs to childhood. Cases are very rare where children are lazy or selfish about helping to the extent of their ability if they are treated fairly. I know not all writers will agree with me but I'll guarantee that for about 99% of the specific cases they could cite it would be easy to discover some perfectly logical reason for the apparent indolence. If we make childhood all work and no play, or if we promise rewards and conveniently forget them, or if we tread upon the rights of our children in any other way, we cannot reasonably expect them to do their best for us. We have no moral right to be so busy we have no time for the little ones. We belong to them just as surely as they belong to us and we must not forget to render unto them the things that are theirs. If the girlie has a favorite doll see that she has an outfit of removable clothes, if she prefers to read get her some good books; provide the boy with the recreation he enjoys most or for which he is best adapted, and allow them both adequate time to enjoy these things. Last, but not least, don't forget to love them and let them know that you do.—E. M. A.

THE COURTESY OF CLEAN SHEATS

"Aunt Jane slept in that bed only one night. Why do you change the sheets when Elsie will sleep there tonight?"

"Because it is the courteous way to give a guest a clean bed," replied her mother.

"Elsie would rather you would save yourself all that washing," persisted Sophia.

"I know," replied her mother, "but I would rather give her the clean bed."

Elsie might not mind sleeping between the sheets and on the pillowslip Aunt Jane did, but then she did not know how the catarrh with which Aunt Jane was afflicted might be transferred to her by way of the pillowslip.

Skin diseases may be transferred from one person to another by using the same bed as easily as when they wear the same clothes. Because persons are members of the same family is no reason why colds cannot be transferred from one to another.

If any member of a family is troubled with colds, sore eyes or any other disease of nose, throat or the lungs, that person should have one pillow for his use. He should never let anyone else use it nor should he use any belonging to another person if he can help it.

It is unsafe to put the sheets of one-night guests onto the beds of the children of the family.

Care in the use of bedclothing even it may make a little more laundry work once in a while will pay in helping keep diseases from spreading thru a whole family once one member contracts them.—Edith Allen.

DRINKING WATER AT MEALS.

The body needs more water than many persons give it when they drink only between meals unless they make up the difference by drinking some at meal time.

Water is needed to regulate the body temperature and to carry food and waste material about the body. Many persons can improve their complections by drinking more water or taking it into their systems by eating juicy fruits, green vegetables, soups and other foods containing a high percent of water.

When juicy foods are served it does not seem important to drink much water at meal time. In some families such foods are not served often enough, and so they should drink water at meal time rather than take the risk of not taking enough into their systems to safeguard their health. In families where only meat, potatoes, bread and coffee are the main foods three times a day, the members must drink water at meals rather than depend on coffee alone for the necessary liquid.

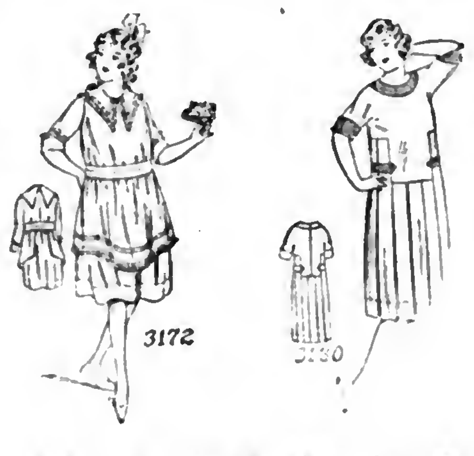
Many folks who do not drink any water at meals because they have heard that it is a bad practice, fail to drink enough between meals. Of the two the latter is the dangerous practice.

The rule to drink a glass of water the first thing on rising in the morning and the last thing at night is excellent to follow under any conditions. Fewer persons would need to take laxatives if they followed that rule. Then be sure to drink enough water during the day to keep the body in good health, whether at meals or between meals.

PENNSYLVANIA FARMER PATTERNS

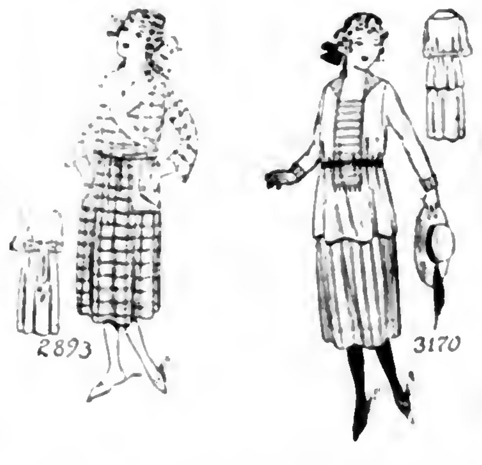
Give figures and letters of each pattern exactly as printed at beginning of each description or we will not be responsible for correct filling of orders. Give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261 S. Third Street, Philadelphia, Pa.

3172.—Pretty Frock For Girls.—The pattern is cut in 4 sizes: 8, 10, 12 and 14 years. A 12-year size will require 4⅛ yards of 36-inch material. Voile batiste, lawn or organdie, with lace edging and insertion, would be good for this style. It is also attractive in taffeta, challie, crepe, and charmeuse. Pattern costs 10 cents.



3180.—A New Frock.—The pattern is cut in 4 sizes: 8, 10, 12, and 14 years. For a 10-year size it will require 3¼ yards of 42-inch material. Shantung in a natural shade with trimming in a contrasting color, would be effective in this style. Linen with embroidery in colors would also be attractive and so would the ginghams or chambrays, Pattern, 10 cents.

2893.—Very Attractive Style for Growing Girls.—This is a very comfortable style; the surplice waist has a fitted lining. The sleeve may be loose and flowing, or finished with a cuff in shorter length. Pattern costs 10 cents.



3170.—A Blouse Dress With New Features.—The pattern is cut in 3 sizes: 12, 14, and 16 years. Size 16 will require 4¼ yards of 36-inch material. Striped galatea or checked gingham may be combined with plain pique, drill or chambray. It is good also for percale, sport silks, and other sports fabrics, also for serge and woolens. Patterns, 10 cents.

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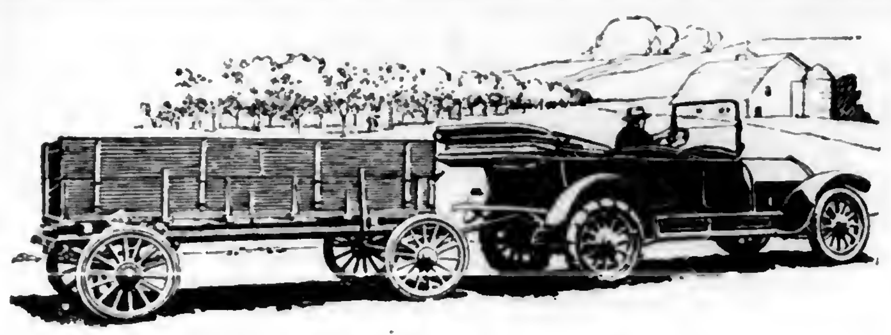

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The Voice of the People

This department is reserved for the use of our readers to discuss all problems and matters of general interest. Write your views and comments briefly on any question of social, economic or educational importance and thus share them with others. It will be necessary to limit such articles to 200 or 300 words. Publication of an article in this department does not signify editorial endorsement.

CONSOLIDATION OF SCHOOLS

The consolidation of schools is being discussed in rural districts more than ever before. With the ever increasing shortage of teachers it is necessary to close a good many of our small, one-room schools. We found last fall that we had to close three of our schools, and having a two-room school we let contracts for the transportation of the pupils from the closed schools to the two-room school. Route 1 has 13 pupils, route 2 11 pupils, and route 3 nine pupils. These 33 pupils, with 30 pupils already attending the school make the total 63.

We find by each teacher having four grades that it about equally divides the pupils, and the teachers could handle them very nicely. The pupils from two of the schools closed were transported 3 miles, while from the other school some of the scholars were nearly five miles away. Of the pupils transported, five have made perfect attendance, to only one of the 30 living near the school building. Also, that the average attendance of those transported is 7 per cent greater, regardless of the fact that for weeks the drivers had to go part of the routes thru fields on account of the roads being drifted-full, with the thermometer registering zero and below. Despite all of this, one mother of three children, who was opposed to the closing of their school, says her children were more comfortable than when they had to walk less than a mile to their own school.

I believe with the success we have had of two teachers doing the work of five, that had we a four-room school building with each teacher having 2 grades, we could take care of our eight schools in the one building.

In the fifteen years I have been director I have seen our largest school with an enrollment of 48 scholars go down to six scholars a year ago, which is only typical of other districts. Parents should insist that their school boards give their children better school advantages, and I am convinced that this can only be accomplished by closing these small, one-room schools. In most rural districts we have a seven months' term. The boy or girl at the age of 16 years has been deprived of 20 months school, or only lacking one month of three whole school years. By consolidation we could get rid of a lot of the repairs on the one-room buildings, most of them which, were built from 40 to 60 years ago, and are not in keeping with the farm building surrounding them.

We find that our transportation of the three schools costs us $1340, of which the state pays $670. Had we secured teachers it would have cost us $1600 to run the three schools. As it is, we now have a credit of over $900 in money; also, that the scholars have done better, taken more interest in their studies, and are forming a comradeship with the pupils of other districts, which cannot be measured in dollars and cents.

We are told that Pennsylvania is an untapped mine of wealth for school purposes. Let us hope that the next legislature will tap that mine and appropriate more for Rural School education, so that the boy or girl living in the country may have equal school advantages with the foreigner's child who lives in the city or borough.—J. B. Neiley, Bradford Co., Pa.

NEW YORK BEHIND.

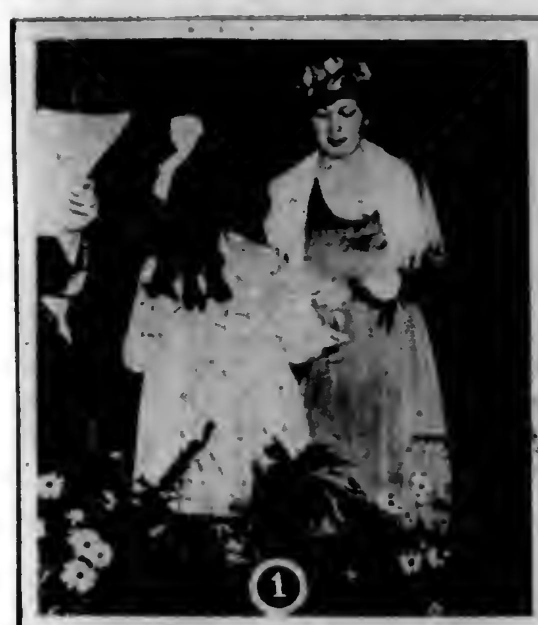
We read in a Minneapolis farm paper that the stories told by N. Y. dairymen sound almost incredible to a western man who belongs to half a dozen co-operative associations and has learned to take care of himself but the paper also adds that it isn't so very long ago that Minnesota farmers were in the same position. Perhaps they were but if we had anything under way that gave any promise of really doing anything for farmers, our beautiful legislature would nip it in the bud directly. They gave us the rottenest school law ever devised by the ingenuity of friends. Our farm papers told us it could be repealed but, once on the statute books, repeal would come like moving the capitol. We deluged Albany with letters and petitions till, after a bitter fight, it was repealed on demand of 95 per cent of the voters of the state. Even this year our law-makers have inflicted the "daylight saving" law upon us till just at the present time the repeal law has finally passed and is awaiting the governor's signature. It isn't possible that the reform we want are in any way wrong because other states have them; the trouble is that we are so dominated by our big cities that our state has become an excellent one for farmers to "move out of." I am sorry to say it but I see little hope for the future of agriculture in New York state.—E. M. A.

MORE ABOUT FARM PAPERS

Replying to article under above heading I will say the idea that pictures shown in our paper will exert any great influence on city consumers is absurd, as this Pennsylvania Farmer is a farmers' paper and the majority of readers are farmers. It is the majority we wish to influence. Were the pictures of poor farm buildings shown it would be necessary to picture all sorts of farm machinery; that hanging in apple trees, on fences or standing in fields; fences falling down with an occasional woodlot showing good fence material rotting on the ground; foundation walls falling from under barns with piles of large stones handy to use for laying up dry walls—in fact would not the pictures of poor farm building include too much territory and present to much evidence of bad business management, we realize that there are a few cases where circumstances make farm life particularly hard, and yet if farmers were organized and would show some community spirit these cases would be lessened.

However, none of us in either good or bad circumstances want to beg sympathy of city consumers. Let's organize and keep records so we can explain things correctly.

PASSING EVENTS IN PICTURES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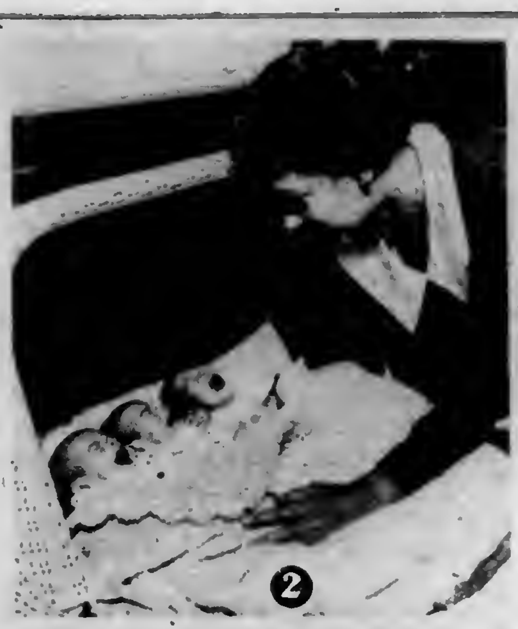
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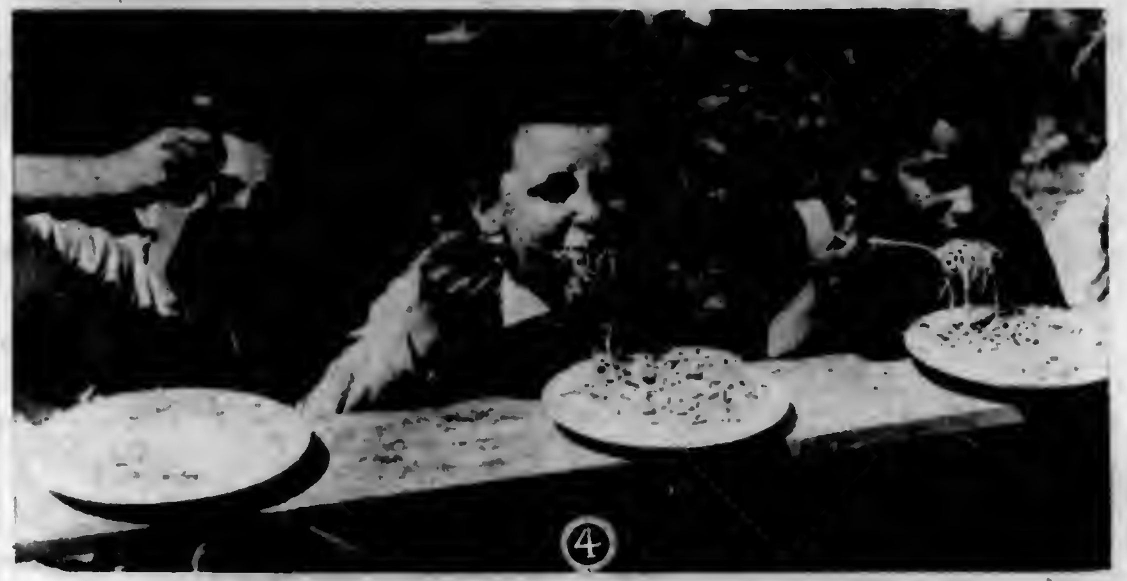
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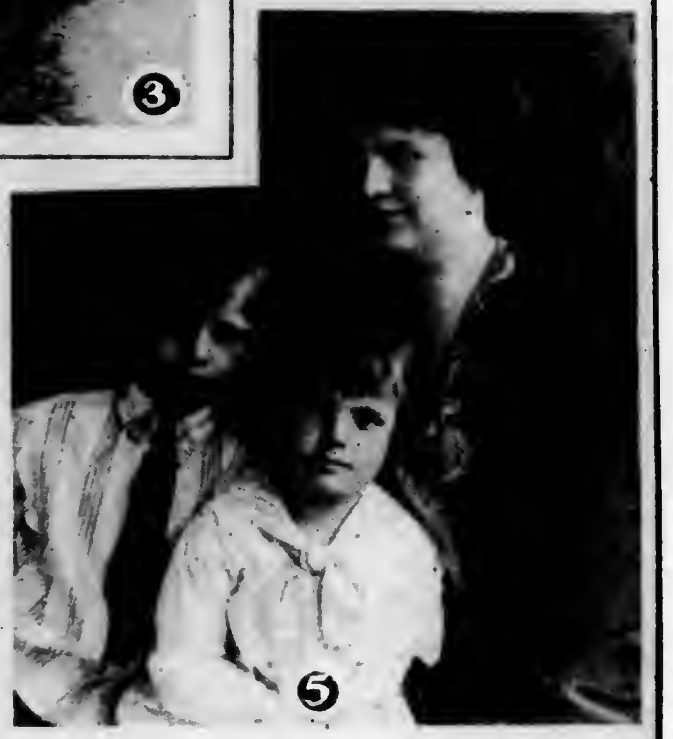
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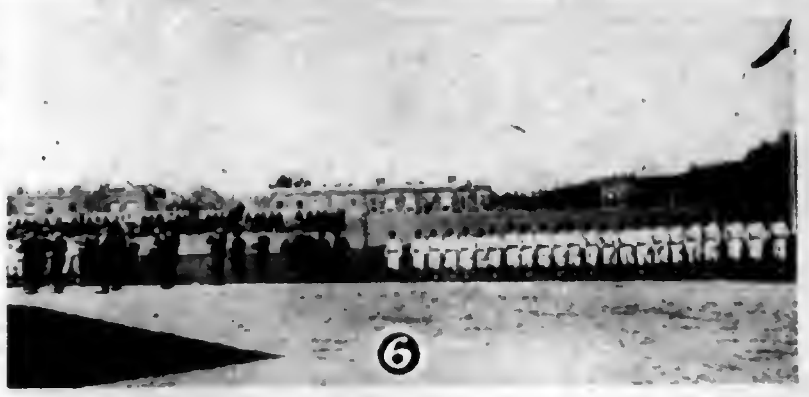
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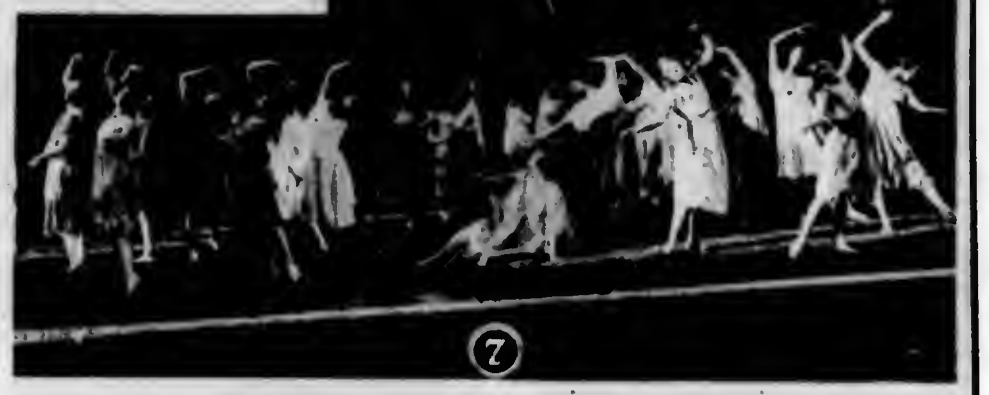
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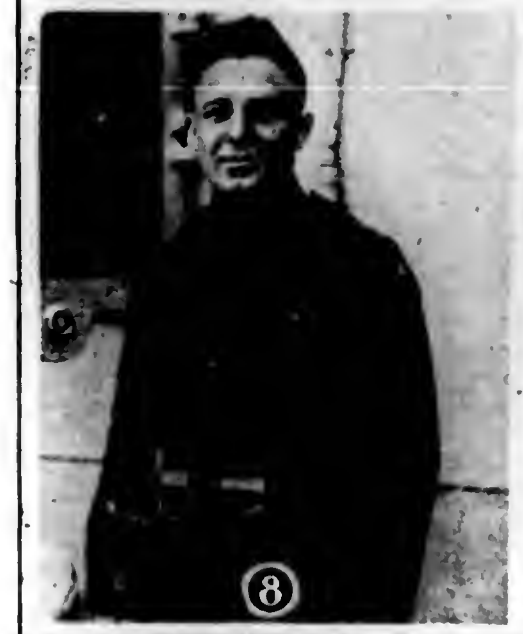
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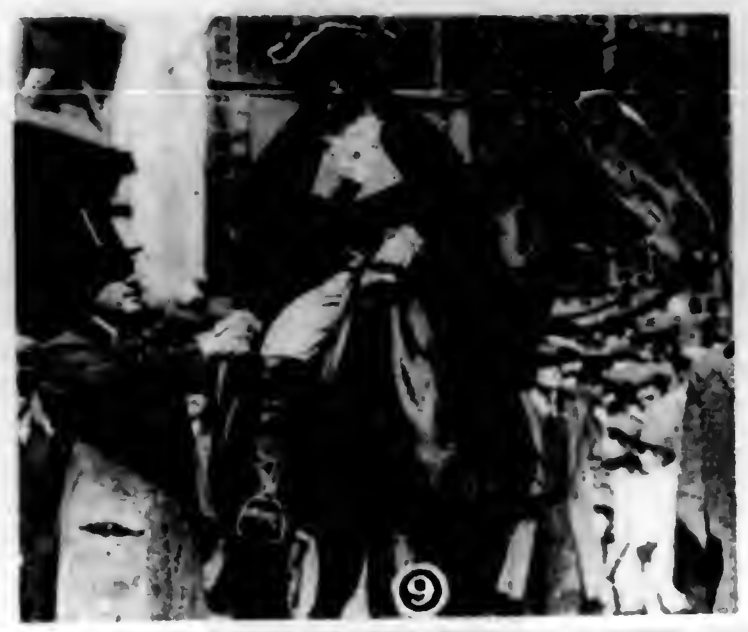
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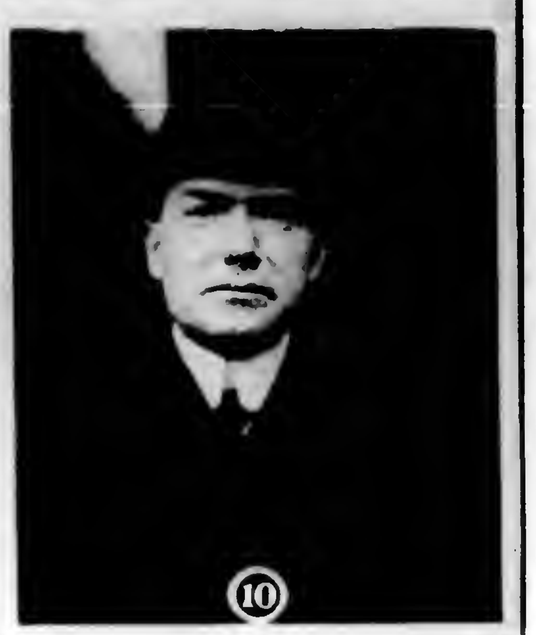
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1.—Princess Mary, of England, awarding a prize to a Young Musical Contestant.

2.—Three San Francisco Babies, Doris, Dorothy and Darinda, Exercising Their Lungs.

3.—Powerful Electric Engine Pulls a Heavy Train With Ease.

4.—Which Boy Will Win This Race?

5.—Mrs. William M. Williams, Wife of U. S. Commissioner of Internal Revenue and Her Children.

6.—The Washington and Boston Red Sox Teams Parading on the Washington Ball Park Grounds.

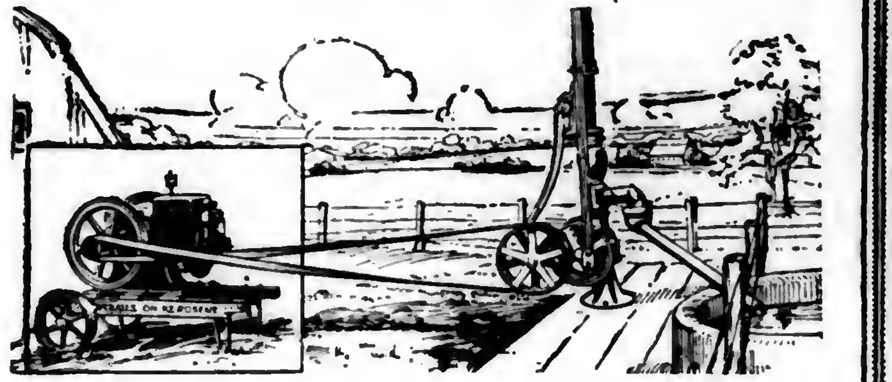
7.—Dancing Girls of the University of California Interpreting the "Poet's Answer."

8.—"Danny" Cohen, Champion Boxer of the Allied Armies on the Rhine.

9.—Sgt. Harry D. Bishop Takes Part of Paul Revere in Staging Historic Event.

10.—John D. Rockefeller, Jr., Arrives in Boston for Inter-Church World Movement Drive.

The Farm Drudge
" Handyman
" Chore Boy
" Burden Bearer



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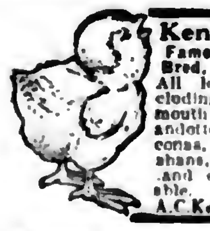
AVICOL
stops chicks dying



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POULTRY

THE POULTRYMAN'S OUTLOOK

Farmers who raise large flocks of poultry have the same uncertain attitute toward the future of their business that exists in many other lines. At the present price of feed the production of poultry meat and eggs requires more capital and greater risk than in past years. But we believe that there is no time when the farm flock has had any better opportunity to be a profit maker.

The law of supply and demand cannot be repealed. Products that are scarce are apt to bring good prices. When egg producers receive 60 cents a dozen instead of 30 cents it does not mean that buyers are twice as generous as they used to be. It does not mean that they feel sorry for the poultryman and wish to help him pay off the mortgage on the farm. It means that eggs are scarce and it is necessary to pay a price that will obtain them.

The Present Situation

Here is the situation in the poultry business in many localities. Owners of commercial egg farms have often found that they could not buy all their feed and make the business pay. So many of them have sold their stock or cut down the flocks and this means fewer eggs going to the big cities.

There have been many farm auctions in the best egg producing sections of the country. The farm poultry from such farms has usually fallen into the hands of dealers and not breeders. This means that the birds are killed and marketed and the chance of increasing the country's poultry supply is past. Many farms are worked by tenants. They cannot afford to purchase much poultry equipment and so they keep very small flocks for home use. From such flocks there is a small surplus of eggs for sale in the spring but not near as many as if the owner worked the farm and carefully culled and fed a flock of several hundred bred-to-lay hens.

The process of cutting down poultry flocks will continue in many sections of the country as long as poultry feed is high and labor is scarce. When an unskilled man can earn 60 cents an hour doing city work it is very difficult for a poultryman to hire such a man and make the deal profitable.

We believe that the poultryman who can raise at least part of his feed can make the business a success if he limits his operations so he does not need any hired labor. We are making our poultry a profitable and satisfactory venture at this time because we like the birds and like to work with them. We have no hired man to require a check each month. We give the hens plenty of range and try and keep only the best bred-to-lay birds.

Culling Necessary.

A poultryman who does not cull carefully at this time can scarcely afford to stay in the business. Farmers should make a greater effort this year to market the "boarder" hens and only keep the best birds which can return a profit. It is not the size of the flock which always determines the profits. Of course 400 fine quality hens are better than 200 fine hens. But 200 good hens are better than 200 good ones and 200 poor ones as the hens of poor laying ability will have appetites and their feed bill may cancel the profits made by the profitable layers.

Another factor in improving the present outlook for the poultry business will be a well balanced enthusiasm for the business. We mean that the farmer must not use up all his enthusiasm for poultry during the spring and neglect them the remainder of the year. Too often the fine days of spring encourage the breeder to set every hen that can be obtained and then run the incubators until twice as many chicks have been hatched as can be given proper care. Then the enthusiasm gradually wanes, especially if there is a high mortality rate among the chicks. Soon the weather becomes hot and the poultry owner neglects the birds while interested in other work. By the time winter comes he considers hens a nuisance and does not give them more than enough care to keep them alive until spring. About that time the fine spring days bring back the "chicken fever" and the round is on again. The poultry business must be a 365 day job and it cannot be neglected at any season without serious risk.

Scarcity Expected

We believe that the scarcity of poultry meat and eggs during the next five years is going to make our business much more profitable than during the last five. If there is not so much demand for grain from foreign countries we will eventually have lower priced wheat, oats and corn in this country. A bumper crop of grain can be produced in one year. But a farm flock of high egg producing poultry can not be obtained in one year. It takes several years to build up such a flock. The man who does not own such poultry cannot purchase them at market prices. In fact it is often difficult to purchase them at any price. This condition exists because the best birds are not for sale and there is nothing gained in purchasing the culls from other flocks.

The only way we have found that large flocks of poultry can be produced is to grow them on the home farm from eggs laid by stock of which the quality is known. This means that the farm flocks which have been sold cannot easily be replaced and eggs are apt to be scarce and high for several years.

Our plan is not to plunge heavily on poultry and not to become discouraged with the present outlook. The middle ground is always the safest.

It seems as if the men who raise special crops must plan on sticking to their venture continually. If they are constantly jumping in and out they are always out at the wrong time. It seems as if the poultry business at present is not sufficiently profitable to encourage the inexperienced to try it. But the farmer with good birds and good judgment ought to make it pay if a fair amount of skill is used in marketing and the flocks are continually culled so that only the best of the flock will be multiplied.—R. G. Kirby.

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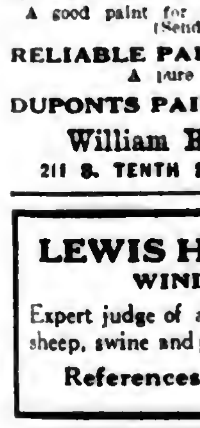

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SHEEP IN GENERAL FARMING

One who has never kept sheep on his farm cannot appreciate fully their value in many ways, both as a source of income and the advantage which may be taken of their feeding habits. Many beginners with sheep seem to get the impression that sheep require little or no attention and are disappointed when they do not succeed as well as the man who has been in the business a number of years. To all beginners, I would say, study the business of sheep raising and give the flock particular attention the first year; after that you will know the value of attention to sheep better and not make the mistake of neglecting them at a critical time.

Sheep, taking them year in and year out, have proven to be about the most profitable of our livestock, and our farm has always handled a flock of twenty to fifty or sixty head without any inconvenience whatsoever. Sheep bring an income twice each year. In the spring or early summer the wool clip is valuable, and it often comes at a time when the farmer is in need of ready cash for the purchase of farm machinery or supplies needed at that time.

Ready for a Day's Work

In the late summer, fall or early winter, depending on the management of the flock as to breeding and feeding, lambs are marketed. In the past few years lambs have been growing in demand in the market, until at the present time they are commanding high prices in comparison with the prices of other livestock and the future outlook for continued high prices is encouraging.

Sheep are nice to have in a pasture with cattle. They like especially the succulent leaves of weeds and other plants which cattle will not eat while the pasture grasses are luxuriant, and they help to hold the weeds in check for this reason. The same is true when they are turned into the orchard or other lot where weeds are bothersome.

Two years ago when white top was very thick in our timothy meadows and the white top threatened to grow so thick and rank that the timothy would make a very inferior grade of hay, we turned some sixty head of sheep and lambs into the meadow when the white top first began to show up thickest. Within three weeks a greater part of the white top had been eaten off or its leaves were nipped off so that it was quite a different appearing field. The timothy of course was injured somewhat and the yield of hay reduced, but what hay there was, was of a great deal better quality than if the sheep and lambs had not been turned into the field.

Lambs can often be used to help clean up the weeds in the cornfield sometime after the last cultivation. The ewes will injure the corn, but the lambs are small at this time and seldom do much injury to the corn stalks. We left them in the corn for a month at a time, usually keeping them in one of the small fields so that they may be found readily and counted each day. If a little grain is fed them in troughs on one edge of the cornfield once or twice a day, the lambs will get in the habit of coming up regularly. Salt placed conveniently will also encourage them to come up.

Handling sheep is very pleasant work and it need not interfere with other work.—J. L. J., Indiana.

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The Security Lightning Rod Company
503 Pine Street Burlington, Wis.

Whispering Smith

by Frank H. Spearman

CHAPTER I

The Wrecking Boss

News of the wreck at Smoky Creek reached Medicine Bend from Point of Rocks at five o'clock. Sinclair, in person, was overseeing the making up of his wrecking train, and the yard, usually quiet at that hour of the morning, was alive with the hurry of men and engines. In the trainmaster's room of the weather-beaten headquarters building, nicknamed by railroad men "The Wickiup," early comers—sleepy-faced, keen-eyed trainmen—lounged on the tables and in chairs discussing the reports from Point of Rocks, and among them crew-callers and messengers moved in and out. From the door of the big operators' room, pushed at intervals abruptly open, burst a blaze of light and the current crash of many keys; within, behind glass screens, alert, smooth-faced boys in shirt sleeves rained calls over the wires or bent with flying pens above clips, taking incoming messages. At one end of the room, heedless of the train on the division, press despatches and cablegrams clicked in monotonous relay over commercial wires; while at the other, operators were taking from the despatchers' room the train orders and the hurried dispositions made for the wreck emergency by Anderson, the assistant superintendent. At a table in the alcove the chief operator was trying to reach the division superintendent, McCloud at Sleepy Cat; at his elbow, his best man was ringing the insistent calls of the despatcher and clearing the line for Sinclair and the wrecking gang. Two minutes after the wrecking train reported ready they had their orders and were pulling out of the upper yard, with right of way over everything to Point of Rocks.

The wreck had occurred just west of the creek. A fast east-bound freight train, double-headed, had left the tract on the long curve around the hill, and when the wrecking train backed thru Ten Shed Cut the sun streamed over the heaps of jammed and twisted cars strung all the way from the point of the curve to the foot of Smoky Hill. The crew of the train that lay in the ditch walked slowly up the track to where the wreckers had pulled up, and the freight conductor asked for Sinclair. Men rigging the derrick pointed to the hind car. The conductor, swinging up the caboose steps, made his way inside among the men that were passing out tools. The air within was bluish-thick with tobacco smoke, but thru the haze the freightman saw facing him, in the far corner of the den-like interior, a man seated behind an old dining-car table, finishing his breakfast; one glimpse was enough to identify the dark beard of Sinclair, foreman of the bridges and boss of the wrecking gang.

Beside him stood a steaming coffee tank, and in his right hand he held an enormous tin cup that he was about to raise to his mouth when he saw the freight conductor. With a laugh, Sinclair threw up his left hand and beckoned him over. Then he shook his hair just a little, tossed back his head, opened an unusual mouth, drained the cup at a gulp, and cursing the freightman fraternally, exclaimed, "How many cars have you ditched this time?"

The trainman, a sober-faced fellow, answered dryly "All I had."

"Running too fast, eh?" glared Sinclair.

With the box cars piled forty feet high on the track, the conductor was too old a hand to begin a controversy. "Our time's fast," was all he said.

Sinclair rose and exclaimed, "Come on!" And the two, leaving the car, started up the track. The wrecking boss paid no attention to his companion as they forged ahead, but where the train had hit the curve he scanned the track as he would a blue print. "They'll have your scalp for this," he declared abruptly.

"I reckon they will."

"What's your name?"

"Stevens."

"Looks like a day for you, doesn't it? No matter; I guess I can help you out."

Where the merchandise cars lay, below the switch, the train crew knew that a tramp had been caught. At intervals they heard groans under the wreckage, which was piled high there. Sinclair stopped at the derrick, and the freight conductor went onto where his brakeman had enlisted two of Sinclair's giants to help get out the tramp. A brake-beam had crushed the man's legs, and the pallor of his face showed that he was hurt internally, but he was conscious and moaned softly. The men had started to carry him to the way car when Sinclair came up, asked what they were doing, and ordered them back to the wreck. They hastily laid the tramp down. "But he wants water," protested a brakeman who was walking behind, carrying his arm in a sling.

"Water!" bawled Sinclair. "Have my men got nothing to do but carry a tramp to water? Get ahead there and help unload those refrigerators. He'll find water fast enough. Let the blasted hobo crawl down to the creek after it."

The tramp was too far gone for resentment; he had fainted when they laid him down, and his half-glazed eyes, staring at the sky, gave no evidence that he heard anything.

The sun rose hot, for in the Red Desert sky there is rarely a cloud. Sinclair took the little hill nearest the switch to bellow his orders from, running down among the men whenever necessary to help carry them out. Within thirty minutes, though apparently no impression had been made on the great heaps of wrenched and splintered equipment, Sinclair had the job in hand.

Work such as this was the man's genius. In handling a wreck Sinclair was a marvel among mountain men. He was tall but not stout, with flashing brown eyes and a strength always equal to that of the best man in his crew. But his inspiration lay in destruction, and the more complete the better. There were no futile moves under Sinclair's quick eyes, no useless pulling and hauling, no false grappling; but like a raven at a feast, every time his derrick-beak plucked at the wreck he brought something worth while away. Whether he was righting a tender, rerailing an engine, tearing out a car-body, or swinging a set of trucks into the clear, Sinclair, men said, had luck, and no confusion in day or night was great enough to drown his heavy tones or blur his rapid thinking.

Just below where the wrecking boss stood lay the tramp. The sun scorched his drawn face, but he made no effort to turn from it. Sometimes he opened his eyes, but Sinclair was not a promising source of help, and no one that might have helped dared venture within speaking distance of the injured man. When the heat and the pain at last extorted a groan and an appeal, Sinclair turned. "Damn you, ain't you dead yet? What? Water?" He pointed to a butt standing in the shade of a car that had been thrown out near the switch. "There's water; go get it!" The cracking of a box car as the derrick wrenched it from the wreck was engaging the attention of the boss, and as he saw the grapple slip he yelled to his men and pointed to the chains.

The tramp lay still a long time. At last he began to drag himself toward the butt. In the glare of the sun timbers strained and snapped, and men with bars and axes chopped and wrenched at the massive frames and twisted iron on the track. The wrecking gang moved like ants in and out of the shapeless debris, and at intervals, as the sun rose higher, the tramp dragged himself nearer the butt. He lay on the burning sand like a crippled insect, crawling, and waiting for strength to crawl. To him there was no railroad and no wreck, but only the blinding sun, the hot sand, the torture of thirst, and somewhere water, if he could reach it.

The freight conductor, Stevens, afraid of no man, had come up to speak to Sinclair, and Sinclair, with a smile, laid a cordial hand on his shoulder. "Stevens, it's all right, I'll get you out of this. Come here." He led the conductor down the track where they had walked in the morning. He pointed to flange-marks on the ties. "See there—there's where the first wheels left the track, and they left on the inside of the curve; a thin flange under the first refrigerator broke. I've got the wheel itself back there for evidence. They can't talk fast running against that. Give me a cigar—haven't got any? Great gun, man, there's a case of Key Wests open up ahead; go fill your pockets and your grip. Don't be bashful; you've got friends on the division if you are Irish, eh?"

"Sure, only I don't smoke," said Stevens, with diplomacy.

"Well, you drink, don't you? There's a barrel of brandy open at the switch."

The brandy-cask stood up-ended near the water-butt, and the men dipped out of both with cups. They were working now half naked at the wreck. The sun hung in a cloudless sky, the air was still, and along the right of way huge wrecking fires added to the scorching heat. Ten feet from the water-butt lay a flattened mass of rags. Crusted in smoke and blood and dirt, crushed by a vise of beams and wheels out of human semblance, and left now an aimless, twitching thing, the tramp clutched at Stevens's foot as he passed. "Water!"

"Hello, old boy, how the devil did you get here?" exclaimed Stevens, retreating in alarm.

"Water!"

Stevens stepped to the butt and filled a cup. The tramp's eyes were closed. Stevens poured the water over his face; then he lifted the man's head and put a cupful to his lips.

"Is that hobo alive yet?" asked Sinclair, coming back smoking a cigar. "What does he want now? Water? Don't waste any time on him."

"It's bad luck refusing water," muttered Stevens, holding the cup.

"He'll be dead in a minute," growled Sinclair.

The sound of his voice roused the failing man to a fury. He opened his bloodshot eyes, and with the dregs of an ebbing vitality cursed Sinclair with a frenzy that made Stevens draw back. If Sinclair was startled he gave no sign.

With a ghastly effort the man made his retort. He held up his blood-soaked fingers. "I'm going all right—I know that," he gasped, with a curse, "but I'll come back for you!"

Sinclair, unshaken, stood his ground. He repeated his imprecation more violently; but Stevens, swallowing, stole out of hearing. As he disappeared, a train whistled in the west.

CHAPTER II

At Smoky Creek

Karg, Sinclair's crew foreman, came running over to him from a pile of merchandise that had been set off the right of way on the wagon-road for loot. "That's the superintendent's car coming, ain't it Murray?" he cried, looking across the creek at the approaching train.

"What of it?" returned Sinclair.

"Why, we're just loading the team."

The incoming train, an engine with a way car, two flats, and the Bear Dance derrick, slowed up at one end of the wreck while Sinclair and his foreman talked. Three men could be seen getting out of the way car—McCloud and Reed Young, the Scotch roadmaster, and Bill Dancing. A gang of trackmen filed slowly out after them.

The leaders of the party made their way down the curve, and Sinclair, with Karg, met them at the point. McCloud asked questions about the wreck and the chances of getting the track clear, and while they talked Sinclair sent Karg to get the new derrick into action. Sinclair then asked McCloud to walk with him up the track to see where the cars had left the rail. The two men showed in contrast as they stepped along the ties. McCloud was not alone younger and below Sinclair's height; his broad Stetson hat flattened him somewhat. His movement was deliberate beside Sinclair's litheness, and his face, tho burned by sun and wind, was boyish, while Sinclair's was strongly lined.

"Just a moment," suggested McCloud mildly, as Sinclair hastened past the goods piled in the wagon-road. "Whose team is that, Sinclair?" The road followed the right of way where they stood, and a four-horse team of heavy mules was pulling a loaded ranch-wagon up the grade when McCloud spoke.

Sinclair answered cordially. "That is my team from over on the Frenchman. I picked them up at Denver. Nice mules, McCloud, ain't they? Give me mules every time for heavy work. If I had just a hundred more of 'em the company could have my job—what?"

"Yes. What's that stuff they are hauling?"

"That's a little stuff mashed up in the merchandise car; there's some tobacco there and a little wine, I guess. The cases are all smashed."

"Let's look at it."

"Oh, there's nothing there that's any good, McCloud."

"Let's look at it."

As Bill Dancing and Young walked behind the two men toward the wagon, Dancing made extraordinary efforts to wink at the roadmaster. "That's a good story about the mules coming from Denver, ain't it?" he muttered. Young, unwilling to commit himself, stopped to light his pipe. When he and Dancing joined Sinclair and McCloud the talk between the superintendent and the wrecking boss had become animated.

"I always do something for my men out of a wreck when I can; that's the way I get the work out of them," Sinclair was saying. "A little stuff like this," he added, nodding toward the wagon, "comes handy for presents, and the company wouldn't get any salvage out of it, anyway. I get the value a dozen times over in work. Look there!" Sinclair pointed to where the naked men heaved and wrenched in the sun. "Where could you get white men to work like that if you didn't jolly them along once in a while. What? You haven't been here long, McCloud," smiled Sinclair, laying a hand with heavy affection on the young man's shoulder. "Ask any man on the division who gets the work out of his men—who gets the wrecks cleaned up and the track cleared. Ain't that what you want?"

"Certainly, Sinclair; no man that ever saw you handle a wreck would undertake to do it better."

"Then what's all this fuss about?"

"We've been over all this matter before, as you know. The claim department won't stand for this looting; that's the whole story. Here are ten or twelve cases of champagne on your wagon—soiled a little, but worth a lot of money."

"That was a mistake loading that up; I admit it; it was Karg's carelessness."

"Here is one whole case of cigars

and part of another," continued McCloud, climbing from one wheel to another of the wagon. "There is a thousand dollars in this load! I know you've got good men, Sinclair. If they are not getting paid as they should be, give them time and a half or double time, but put it in the pay checks. The freight loss and damage account increased two hundred per cent last year. No railroad company can keep that rate up and last, Sinclair."

"Hang the company! The claim agents are a pack of thieves," cried Sinclair. "Look here, McCloud, what's a pay check to a man that's sick, compared with a bottle of good wine?"

"When one of your men is sick and needs wine, let me know," returned McCloud; "I'll see that he gets it. Your men don't wear silk dresses, do they?" he asked, pointing to another case of goods under the driver's seat. "Have that stuff all hauled back and loaded into a box car on track."

"Not by a damned sight!" exclaimed Sinclair. He turned to his ranch driver, Barney Rebstock. "You haul that stuff where you were told to haul it, Barney." Then, "You and I may as well have an understanding right here," he said, as McCloud walked to the head of the mules.

"By all means, and I'll begin by countermanding that order right now. Take your load straight back to that car," directed McCloud, pointing up the track. Barney, a ranch hand with a cigarette face looked surlily at McCloud.

Sinclair raised a finger at the boy. "You drive straight ahead where I told you to drive. I don't propose to have my affairs interfered with by you or anybody else, Mr. McCloud. You and I can settle this thing ourselves," he added, walking straight toward the superintendent.

"Get away from those mules!" yelled Barney at the same moment, cracking his whip.

McCloud's dull eyes hardly lightened as he looked at the driver. "Don't swing your whip that way, my boy," he said, laying hold quietly of the near bridle.

"Drop that bridle!" roared Sinclair.

"I'll drop your mules in their tracks if they move one foot forward. Dancing, unhook those traces," said McCloud peremptorily. "Dump the wine out of that wagon-box, Young." Then he turned to Sinclair and pointed to the wreck. "Get back to your work."

The sun marked the five men posted for an instant on the hillside. Dancing jumped at the traces, Reed Young clambered over the wheel, and Sinclair, livid, faced McCloud. With a bitter denunciation of interlopers, claim agents, and "fresh" railroad men generally, Sinclair had swore he would not go back to work, and a case of wine crashing to the ground infuriated him. He turned on his heel and started for the wreck. "Call off the men!" he yelled to Karg at the derrick. The foreman passed the word. The derrick-men, dropping their hooks and chains in some surprise, moved out of the wreckage. The axemen and laborers gathered around the foreman and followed him toward Sinclair.

"Boys," cried Sinclair, "we've got a new superintendent, a college guy. You know what they are; the company has tried 'em before. They draw the salaries and we do the work. This one down here now is taking his little kick about the few pickings we get out of our jobs. You can go back to your work or you can stand right here with me till we get our rights. What?"

Half a dozen men began talking at once. The derrickman from below, a hatchet-faced wiper, with the visor of a greasy cap cocked over his ear, stuck his head between the uprights and called out shrilly, "What's er matter, Murray?" and a few men laughed. Barney had deserted the mules. Dancing and Young, with small regard for loss or damage, were emptying the wagon like deckhands. As in a fight such as now appeared imminent, possession of the goods even on the ground seemed vital to prestige. McCloud waited only long enough to assure the emptying of the wagon, and then followed Sinclair to where he had assembled his men. "Sinclair, put your men back to work."

"Not till we know how we stand," Sinclair answered insolently. He continued to speak, but McCloud turned to the men. "Boys, go back to your work. Your boss and I can settle our own differences. I'll see that you lose nothing by working hard."

"And you'll see we make nothing, won't you?" suggested Karg.

"I'll see that every man in the crew gets twice what is coming to him—all except you, Karg. I discharge you now. Sinclair, will you go back to work?"

"No!"

Then take your time. Any men that want to go back to work may step over to the switch," added McCloud.

Not a man moved. Sinclair and Karg smiled at each other, and with no apparent embarrassment McCloud himself smiled. "I like to see men loyal to their bosses," he said good-naturedly. "I wouldn't give much for a man that wouldn't stick to his boss if he thought him right. But a question has come up here, boys, that must be settled once for all. This wreck-looting on the mountain division is going to stop—right here—at this particular wreck. On that point there is no room for discussion. Now, any man that agrees with me on that matter may step over here and I'll discuss with him any other grievance. If what I say about looting is a grievance, it can't be discussed. Is there any man that wants to come over?" No man stirred.

"Sinclair, you've got good men," continued McCloud, unmoved. "You are leading them into pretty deep water. There's a chance yet for you to get them out of serious trouble if you think as much of them as they do of you. Will you advise them to go back to work—all except Karg?"

Sinclair glared in high humor. "Oh, I couldn't do that! I'm discharged!" he protested, bowing low.

"I don't want to be over-hasty," returned McCloud. "This is a serious business, as you know better than they do, and there will never be as good a time to fix it up as now. There is a chance for you, I say, Sinclair, to take hold if you want to now."

"Why, I'll take hold if you'll take your nose out of my business and agree to keep it out."

"Is there any man here that wants to go back to work for the company?" continued McCloud evenly. It was one man against thirty; McCloud saw there was not the shadow of a chance to win the strikers over. "This lets all of you out, you understand, boys," he added; "and you can never work again for the company on this division if you don't take hold now."

"Boys," exclaimed Sinclair, better-humored every moment, "I'll guarantee you work on this division when all the fresh superintendents are run out of the country, and I'll lay this matter before Bucks himself, and don't you forget it!"

"You will have a chilly job of it," interposed McCloud.

"So will you, my hearty, before you get trains running past here," retorted the wrecking boss. "Come on, boys."

The disaffected men drew off. The emptied wagon, its load scattered on the ground, stood deserted on the hillside, and the mules drooped in the heat. Bill Dancing, a giant and a dangerous one, stood lone guard over the loot, and Young had been called over by McCloud. "How many men have you got with you, Reed?"

"Eleven."

"How long will it take them to clean up this mess with what help we can run in this afternoon?"

Young studied the prospect before replying. "They're green at this sort of thing, of course; they might be fussing here till tomorrow noon, I'm afraid; perhaps till tomorrow night, Mr. McCloud."

"That won't do!" The two men stood for a moment in a study. "The merchandise is all unloaded, isn't it?" said McCloud reflectively. "Get your men here and bring a water-bucket with you."

McCloud walked down to the engine of the wrecking train and gave orders to the train and engine crews. The best of the refrigerator cars had been rerailed, and they were pulled to a safe distance from the wreck. Young brought the bucket, and McCloud pointed to the caskful of brandy. "Throw that brandy over the wreckage, Reed."

The roadmaster started. "Burn the whole thing up, eh?"

"Everything on the track."

"Bully! It's a shame to waste the liquor, but it's Sinclair's fault. Here boys, scatter this stuff where it will catch good, and touch her off. Everything goes—the whole pile. Burn up everything; that's orders. If you can get a few rails here, now, I'll give you a track by sundown, Mr. McCloud, in spite of Sinclair and the devil."

The remains of many cars lay in heaps along the curve, and the trackmen like firebugs ran in and out of them. A tongue of flame leaped from the middle of a pile of stock cars. In five minutes the wreck was burning; in ten minutes the flames were crackling fiercely; then in another instant the wreck burst into a conflagration that rose hissing and seething a hundred feet straight up in the air.

Reaching for Knowledge

From where they stood, Sinclair's men looked on. They were nonplussed, but their boss had not lost his nerve. He walked back to McCloud. "You're going to send us back to Medicine Bend with the car, I suppose?"

McCloud spoke amiably. "Not on your life. Take your personal stuff out of the car and tell your men to take theirs; then get off the train and off the right of way."

"Going to turn us loose on Red Desert, are you?" asked Sinclair steadily.

"You've turned yourselves loose."

"Wouldn't give a man a tie-pass, would you?"

"Come to my office in Medicine Bend and I'll talk to you about it," returned McCloud impassively.

"Well boys," roared Sinclair, going back to his followers, "we can't ride on this road now! But I want to tell you there's something to eat for every one of you over at my place on the Crawling Stone, and a place to sleep—and something to drink," he added, cursing McCloud once more.

The superintendent eyed him, but made no response. Sinclair led his men to the wagon, and they piled into it till the box was filled. Barney Rebstock had the reins again, and the mules groaned as the whip had cracked. Those that could not climb into the wagon as it moved off straggled along behind, and the air was filled with cheers and curses.

The wreck burned furiously, and the column of black smoke shot up straight. Sinclair, as his cavalcade moved over the hill, followed on foot, grimly. He was the last to cross the divide that shut the scene on the rack away from the striking wreckers, and as he reached the crest he paused and looked back, standing for a moment like a statue outlined in the vivid sunshine. For all his bravado, something told him he should never handle another wreck on the mountain division—that he stood a king dethroned. Uninviting enough to many men, this had been his kingdom, and he loved the power it gave him. He had run it like many a reckless potentate, but no one could say he had not been royal in his work as well as in his looting. It was impossible not to admire the man, his tremendous capacity, his extraordinary power as a leader; and no one liked his better traits more than McCloud himself. But Sinclair never loved McCloud. Long afterward he told Whispering Smith that he made his first mistake in a long and desperate game in not killing McCloud when he laid his hand that morning on the bridle of the mules; it would have been easy then. Sinclair might have been thinking of it even as he stood looking back. But he stood only for a moment, then turned and passed over the hill.

(Continued Next Week.)

REACHING FOR KNOWLEDGE

Every normal human being is eager to learn. Good books are among the best teachers. Not every one can have a private library, but every one should share in the great American Institution—the public library. At present, however, sixty million persons in the United States have little or no access to public libraries. The American Library Association has determined to change this state of affairs, and it is raising two million dollars for promoting the extension of library service.

THE VALUE OF A SMILE.

The thing that goes the farthest toward making life worth while,
That costs the least and does the most, is just a pleasant smile.
The smile that bubbles from the heart that loves its fellow-men
Will drive away the clouds of gloom and coax the sun again.
It's full of worth and goodness, too, with manly kindness bent;
It's worth a million dollars, and it doesn't cost a cent.

There is no room for sadness when we see a cheery smile;
It always has the same good look; it's never out of style;
It nerves us on to try again, when failure makes us blue;
The dimples of encouragement are good for me and you.
It pays the highest interest—for it is merely lent—
It's worth a million dollars, and it doesn't cost a cent.

A smile comes very easy—you can wrinkle up with cheer
A hundred times before you can squeeze out a salty tear;
It ripples out, moreover, to the heart strings that will tug
And always leaves an echo that is very like a hug.
So, smile away! Folks understand what by a smile is meant—
It's worth a million dollars, and it doesn't cost a cent.

Markets

PHILADELPHIA PRODUCE

Philadelphia, May 17, 1920

Old potatoes have gained strength. The supplies left are very light, and the increasing supplies of new potatoes have as yet had no apparent effect on the market on old potatoes. Pennsylvania potatoes sell at slightly higher prices than stock from other sections, the Pennsylvania stock selling at $7@7.35 per cwt., while New York State and Maine stock sell at $7@7.25 per cwt. Poor stock and potatoes showing sprout which were on the market last week have been cleaned up, and the market is now very firm. There were about 12 cars of new potatoes from Florida here this morning, and the market is a little lower than it was a week ago. At this writing No. 1 new potatoes are selling at $14@15 per barrel, with No. 2s at $13@14, and No. 3s at $9@10 per barrel.

Sweet potatoes from southern points were more in evidence this morning, there being six cars offered at prices ranging around $3.50@3.75 per hamper for No. 1s with No. 2s at $1.25@1.50. The nearby New Jersey potatoes on the other hand are in lighter supply and these are ruling firmer at $2.75@3 per ⅝ basket for No. 1s, with mediums at $1.75@2.25, and No. 2s at $1.25@1.65.

Vegetables.

Practically all asparagus is New Jersey and Pennsylvania grown, and when fancy is very firm and active. Today extra fancy asparagus sold at 45@50c per bunch, with fancy at 30@40c, and prime at 25@35c, and culls at 15@22c per bunch. Many of the southern beans are now running very poor and prices are taking a very wide range from 50c@$2 per hamper with fancy South Carolina stock at $3 per hamper. Norfolk is now increasing her offerings of new bunch beets, but the market is ruling firm at around 12@14c per bunch, but as the supplies increase these prices gradually ease off. Cabbage was in much more plentiful supply this morning and prices are lower, barrel crates selling from $4@5.75 per crate mostly with some fancy from the Norfolk section selling up to $6 per crate. Half barrel hampers ranged from $2.50@3.25 per hamper. Old carrots continue scarce and firm at $5@5.50 per barrel or $5@5.50 per 100 lb sack. New carrots are in light supply and selling around 5@6c per bunch. Egg plants are selling at the low price of 50c@$3 per crate because they are very poor. Kale has been very scarce, fancy nearby Pennsylvania stock has been selling around $3 per barrel. Lettuce has also been scarce this week, poor and selling at low prices mostly around $1@2 per hamper, with now and then some of better quality at $3 per hamper. Pennsylvania hot bed lettuce is fairly plentiful and selling around $4@5.25 per barrel for No. 1 stock with No. 2 at $2.50@3 per barrel. Mushrooms are showing the effects of warm weather some showing poor condition and prices are lower ranging from 75c@$1.50 per 3 pound basket. Onions have been much more plentiful and lower prices are prevailing, No. 1 yellow selling at $2.50@2.75 per crate and No. 2 yellows or boilers at $1.65@2.15 per crate. Parsley is practically unchanged at $6@8 per barrel for curley and $4@5 per barrel for plain. There are quite a few peas on the market which is ruling firm on fancy stock at $2.50@3.25 per bushel hamper, while some western peas sold at $7.50 per drum. Peppers continue scarce but show a wide range in quality and prices range all the way from $2.50@7 per crate as to condition. Nearby rhubarb continues active at the practically unchanged price of 5@6c per bunch. Radishes from nearby New Jersey and Pennsylvania points are plentiful and selling at 1½@2c per bunch. New Jersey and Pennsylvania scallions are also plentiful but meeting an active demand at 1@2c per bunch as to size. Nearby spinach is beginning to come more and more freely and by this week end should be supplying the market almost entirely. Today Norfolk spinach sold at $1.75@2.25 per barrel, while Pennsylvania spinach sold at 75c@$1.25 per bushel box and New Jersey 65@90c per ⅝ basket. A car of white turnips (new crop) from the south on the market this morning was being sold at $3.50@4 per barrel. Southern yams are moving slowly at $5.50@7 per barrel, or $2.50@2.65 per hamper. Watercress is holding about steady at the practically unchanged price of 2½@3½c per bunch.

Fruits.

The market on apples is not as firm, active and high as it was a week ago. This easier feeling and lower prices has probably been occasioned by the increasing supplies of strawberries. At this writing Baldwin apples are selling at $5@11.50 per barrel, and Ben Davis and Russetts at $5@9. This morning there were about 6 cars of N. C. strawberries here which sold mostly at 25@33c per quart, with some in poor condition as low as 20c, two cars of Tennessee strawberries which sold mostly at 28@32c per quart, and about a car of Norfolks which brought from 23@30c, and some express shipments of Eastern Shore of Virginia strawberries which sold at 30@35c per quart mostly with a very few extra fancy a little higher. Two cars of pineapples sold at $6@7.50 per crate.

Poultry.

The market on live fowls, roosters and ducks is ruling lower than a week ago, while spring chickens continue firm at practically unchanged prices. At this writing fancy fowls are selling at 39@41c per pound and fair to good at 36@38c per pound. Old roosters are bringing 22@23c per pound. Broiling chickens are very firm under the light supplies at 75@85c for stock not leghorns while the leghorn broilers bring 55@65c per pound. Ducks are selling at 27@30c per pound.

Eggs

There has been several advances of from ½ to 1c per dozen on eggs since our last week's report so that at this writing prices are fully 2½c per dozen higher than the prices prevailing one week ago, and the market is ruling very firm and active at the advance. At this writing Pennsylvania and other nearby current receipts are selling at 46c per dozen with firsts at 47c, the western firsts selling at 46c, and the western extra firsts at 47c per dozen. Southern eggs are running so irregular in quality that no quotations are given, prices ruling very irregular as to quality and condition.

LANCASTER PRODUCE MARKET

Lancaster, May 17, 1920

One of the greatest jams of buyers in history turned out here today to choose from the big offerings of produce and farmers reported one of the biggest business days they have ever had. Produce of all kinds was abundant, and there was little change in the scale of prices. The quotations: Butter and Eggs.—Creamery butter, 80c per pound; country butter, 75@80c per pound; fresh eggs, 45@48c per dozen; duck eggs, 55c per dozen; goose eggs, 6@7c each.

Poultry.—Dressed old chickens, $2.25@2.50 each; dressed young chickens, $1.90@2.25 each. No live fowls offered.

Vegetables.—New peas, 25c per quart; asparagus, 15c per small bunch; lima beans (dried), 20c per pint; cauliflower, 25@35c per head; cabbage, 20@40c per head; sweet potatoes, 50c per half peck; potatoes, 60@70c per ½ peck; do. $5@5.50 per bushel; new potatoes, 80c per ½ peck; turnips, 40c per ½ peck; spinach, 40c per ½ peck; parsnips, 10@15c per box; lettuce 20@30c per head.

Fruit.—Apples, 40@60c per ½ peck; strawberries, 25@45c per box.

YORK PRODUCE MARKETS

York, Pa., May 17, 1920

Saturday was one of the most crowded market days this spring. The day was fine and the ground too wet to work, hence many were in town who would not have been there otherwise. The variety of produce was limited but the demand seemed good for all but old potatoes. One would think the consumers have turned to some other food to take their place judging from the small quantity sold. Eggs are stronger at advanced prices and butter has also picked up somewhat.

Eggs.—42@45c per dozen.

Butter.—Country, 65@70c pound; separator, 75@85c pound; milk, 12c quart.

Poultry.—Hens, 35@40c pound; dressed, 75c@$2.75 each.

Vegetables.—Potatoes, 50c ½ peck; $3.50@4 per bushel; lettuce, 5@10c head; cabbage, 10@15c head; beets, 5c bunch; radishes, 5c bunch; onions, 5c bunch; lima beans, 40c quart; soup beans, 25@30c quart; celery, 5@15c stalk; turnips, 20c ½ peck; rhubarb, 4@6c bunch; asparagus, 10@15c bunch; sausage, 40c pound; ham, 45@50c pound; whole, 40@45c pound.

Fruit.—Apples, 50@80c ½ peck.

Retail Grain Market.—Wheat, $3.50; corn $2; oats, $1.25; rye, $2; bran, $3.25 cwt.; middlings, $3.75 cwt.

Wholesale Grain Market.—Wheat, $3.20; corn, $1.60; oats, $1; rye, $1.85; bran, $65 per ton; middlings, $72 per ton.

NEW YORK PRODUCE

New York City, May 17, 1920

Butter.—Firm; receipts 3996 tubs; creamery, higher than extras, 64½@65c; creamery, extras (92 score), 63½@64c; firsts (88 to 91 score), 59@62½c; packing stock, current make, No. 2, 40½@41c.

Eggs—Irregular; receipts, 23,935 cases; storage packed, extra firsts, 45½@49c; firsts, 45½@48c; fresh gathered, extra firsts, 47@48c; firsts, 44@46½c; state, Pennsylvania and nearby western hennery whites firsts to extras, 51@53c; state, Pennsylvania and nearby hennery browns, extras 51@52c; do, gathered browns and mixed colors, firsts to extras, 46@50c.

Cheese—Steady; receipts, 924 boxes; state, whole-milk flats, held, specials, white and colored, 31@32c; do, average run, 30c; state, whole-milk flats, current make, specials, white and colored, 25@29c; do, average run, 27½c.

Poultry—Live steady; express broilers, 50@85c; fowls, 41c; old roosters, 24c; turkeys, 30c. Dressed steady; chickens, western broilers, frozen, 40@56c; chickens, frozen, 38@43c; fowls, fresh, 31@43c; frozen, 30@43c; old roosters, 27@28c; frozen, 28@29c; turkeys, 51@56c.

Vegetables.—Asparagus, dozen bunches, green, colossal, $6@6.50; fancy, $5@5.50; extra, $4@4.50; prime, $3@3.50, culls, $2@2.75. Potatoes old, $11.50@12 per 165-pound sack. Beets, $3@6 per barrel. Carrots, $7@8.50 barrel. Kale, nearby, $2@3 barrel. Rhubarb, Jersey, $2.50@$4 per 100 bunches. Turnips, $1.50@2.50 barrel.

PITTSBURGH PRODUCE

Pittsburgh, Pa., May 17, 1920

Butter.—Prints, 63@63½c; Tubs, 62½@63½c; cooking, 58@60c; Ohio, 58@59c.

Cheese.—New York full cream, 34@37c; Ohio, 33@34c; Wisconsin Swiss, 58@60c; Philadelphia cream, $1 per dozen.

Eggs.—Fresh, select, 48@49c; at mark, 44@45c; do, candled, 43@44c.

Potatoes.—Round, $11.50@12 per 150-pound sacks. Onions, Texas, $2.75@3.50 crate; cabbage, Texas, 3@5c pound. Sweet potatoes, $3@3.50 hamper. Turnips, $2.25@2.50 bushel. Radishes, 25@35c dozen. Rhubarb, 30@40c bunch. Spinach, Texas, $1.50@1.75.

Fruit.—Apples, $3@5 box. Strawberries, 24 quart crate $7.50@9.

BALTIMORE PRODUCE

Baltimore, Md., May 17, 1920

Butter.—Creamery, Western Separator, extras, 63@64c; do, firsts, 62@63c; Western prints, ½ pound extras 65@66c; do, crate 64@65c; do, 1 pound extras 65@66c; do firsts 64@65c; nearby creamery extras 61@62c; do firsts, 60@61c; dairy prints, Maryland, Pennsylvania and Virginia extras, 42@43c; do, 40@41c; storepacked, firsts, 39c; rolls, Maryland and Pennsylvania, extras, 41@42c.

Eggs.—Western Maryland and Pennsylvania, nearby firsts, 43c; Eastern Shore, Maryland and Virginia, firsts, 43; Western (Ohio), firsts, 43c; West Virginia, firsts, 42c; Southern (North Carolina), firsts, 41c.

Live Poultry.—Chickens, large, young, smooth, pound, 45@50c; do, winter, under 2 pounds, pound, 60@65c; do, spring, 1 to 1½ pounds, pounds, 70@75c; do, old roosters, pound, 23c; do, old hens, over 4 pounds, pound, 35@36c; do, small, pound, 35@36c; do, white leghorn hens, pound, 35@36c. Ducks.—Muscovy and mongrel, pound, 30@32c; do, white Pekin, pound, 35c; do, puddle, 4 pounds and over, pound, 32c; do, small, poor, pound, 30@31c. Pigeons, old, pair, 45@50c; do, young, pair 45@50c.

PHILADELPHIA LIVESTOCK

Philadelphia, May 17, 1920

Receipts for the week ending May 8th, were as follows:

	Beef Cattle	Sheep and Lambs	Hogs
Previous week	1,855	5,280	8,701
Totals for week	2,311	4,904	9,917

Calves.—Receipts of calves were 4,401 head against 2,224 head previous week.

Beef Cattle.—Steers and cows were in ample supply and quiet, with prices showing no important change. Veal was freely offered, dull and easier. We quote as follows: Steers, fair to good, $12@13.50; common to fair, $10.50@12; cows, per pound, good to choice, corn fed, 9@10½c; fair to good, 7@9c; common to fair, 5@7c; calves extra to choice, $17.50@18; do, fair to good $14.50@16.50; do, common, $10.50@13.50; do, heavy and rough, $7@10; Tennessee, $14@15; other southern, $8.50@12.

Sheep and Lambs.—Sheep were in liberal supply and lower, with demand light. Lambs of fine quality sold fairly and ruled steady under moderate offerings. We quote: Sheared sheep, wethers, extra, $11@11.50 do, good to choice, $9.50@10.50; do, medium, $8@9; do, common, $4.50@6; ewes, heavy, fat, $9@10; lambs, sheared, choice, $18.50@19; do, medium grades, $15.50@16.50; do, culls and common, $10@13.

Hogs.—The market was dull and easier, due to a slow demand, free offerings and easier outside advices. We quote. Best Western, $17.50@18.00; hogs, good, $16@16.50.

City Dressed Stock.—The market for steers, heifers and cows was quiet and unchanged. Lambs of fine quality sold fairly and ruled steady. Sheep were weak and lower. Veal was quiet, with little change in prices. We quote: Steers, 20@24c; heifers, 16@20c; cows, 14@18c; calves, city dressed, choice, 26@28c; calves, country dressed, 23@25c; lambs, spring, choice, 33@36c; sheep 16@24c; hogs, 24c.

LIVESTOCK MARKETS

East Buffalo, N. Y., May 17.—Cattle—Receipts, 3000; heavy lower; shipping steers, $12@13; butchers, $9@12; yearlings, $12.50@13; heifers, $6@10.50; cows, $4@10.50; bulls, $7@10; stockers and feeders, $6@10; fresh cows and springers, 65c@$1.50. Calves—Receipts, 2500; 50c lower $6@16.50. Hogs—Receipts, 13,300; 25@75c lower; heavy, $14@14.50; mixed, yorkers, light do and pigs, $15; roughs, $12; stags, $7@8.50. Sheep and Lambs—Receipts, 8000; steady, unchanged.

Pittsburgh, May 17.—Cattle steady; supply light; prime, $13.50. Sheep slow; supply light; prime wethers, $10@11; culls and common, $3.50@5; spring lambs, $16@19; lambs, $7@17; veal calves, $15@15.50. Hogs lower; supply 15 double-decks; prime heavies, $14.25@14.50; mediums and heavy yorkers, $15.75@15.85; light yorkers, $15@15.50; pigs, $14.75@16; roughs, $10@12.

New York, May 17.—Beeves—Receipts, 500; no trading. Calves—Receipts, 480; higher; veals, $14@17; culls, $10@13; little calves, $13. Sheep and Lambs—No trading. Hogs.—Receipts, 2160; steady at $15.50@17; roughs, $13.50.

PHILADELPHIA HAY AND GRAIN

Philadelphia, May 17, 1920

Baled Hay and Straw.—Receipts, 84 tons of hay and 4 cars of straw. In fair demand and firm. Timothy hay, No. 1, none here; No. 2, $43@44; No. 3, $40@41; sample, $35@37; no grade, $30@32. Clover-mixed hay, light mixed, $43@44; No. 1 mixed, $40.50@41. Straw, No. 1, straight rye, $19@20; No. 2 do., $18@18.50; No. 1 tangled rye, $17.50@18; No. 2 do., $16.50@17; No. 1 wheat straw, $16.50@17; No. 2 do., $16@16.50.

Bran. Offerings very light and market firm. Soft winter bran, western, in 100-lb. sacks, per ton, $64@64.50; spring bran, in 100 lb. sacks, $63.50@64.

Corn.—No. 2 yellow, $1.98@2.08.

Oats.—No. 2 white, $1.33@1.34; scarce and nominal.

Rye.—No. 2, $2.22.

Barley.—$1.60@1.89.

PITTSBURG HAY AND GRAIN

Pittsburgh, Pa., May 17, 1920

There is a slight improvement in railroad conditions. The Penna. and the Baltimore and Ohio are still bringing goods in sparingly. The B. R. and P. and the P. and W. Va. are open and goods are arriving normally over these roads, especially the latter. None of the carriers, however, are making convenient delivery. Purchasers at this end are willing to haul stock any reasonable distance. Market looks as if it would continue strong. Hay and straw are selling today as follows: No. 1, Timothy, $44@45; Standard $43@44; No. 2 Timothy, $42@43; No. 3 Timothy $40@41; No. 1, Oat Straw $20; No. 1 Wheat Straw $18.

NEW YORK HAY AND GRAIN

New York City, May 17, 1920

Feed.—The market for mill feed was firm and the demand was active where delivery could be assured. Forward business, however, was again small and there was some hesitation shown about making large contracts in any position, as it was thought that feed grains might react in the event of any improvement in transportation conditions.

Quotations: City feed, bran, $64; middlings, $66, in 100-pound sacks; red dog, $76, nominal, in 100-pound sacks; Western spring bran, $64; standard middlings, $66; flour middlings, $69; red dog, $75, all in 100-pound sacks, 30-day shipment. Oat feed, $42; rye middlings, $62; white hominy feed, $67.50, all in 100-pound sacks. Cottonseed oil meal, $74; linseed oil meal, $68, in 100-pound sacks.

Hay and Straw.—Market is generally weak and lower with extreme irregularity at the different harbor points because of varying quantities of hay offering at those points. Rye straw is offering at the close down to $18, with peddling sales up to $19. Oat straw about steady.

Large bales, No. 1, $59@61; No. 2, $55@59; No. 3, $52@55; Shipping, $48@52; No grade, $41@47. Straw large bales, No. 1 rye, $18@19; No. 1 oat, $25.

Wheat.—No. 2, red, $3.26.

Corn.—No 2, Yellow $2.30½; No. 3, Yellow, $2.27½; No. 2, mixed, 2.29½.

Oats.—All grades, $1.47½ nominal.

Rye.—F. O. B., $2.56; Barley, feeding $1.80.

PHILADELPHIA DAIRY MARKET

Philadelphia, May 17, 1920

Butter.—Receipts, 1182 tubs. There was very little wholesale trading as usual on Saturday, but offerings of desirable table grades were light and prices ruled firm. Quotations: Fresh, solid-packed creamery, fancy, high-scoring goods, 65@66, the latter for jobbing sales; extra, 63c; do, extra firsts, 61@62c; firsts, 58@60c; seconds, 54@57c, sweet creamery, choice and fancy, 65@67; ordinary to good, 56@64; ladle packed, as to quality, 43@45; packing stock, 37@40c; fancy brands of nearby prints were jobbing at 72@74c; good to choice, 64@71c; fair, 61@63c.

Cheese.—Fancy stock was well cleaned up and firm. We quote as follows: New York, whole milk, flats, held fancy, 32; specials higher; ordinary to good, 25@31; current make best, 30c, common to fair, 24@29c; jobbing sales of fancy held goods, 33@34c.

INTERSTATE MILK PRICES

The basic price for 3 per cent milk within 10 miles of Philadelphia is $3.28 per 100 pounds, and one cent per hundred less for each 10 miles distant. Four cents per 100 pounds is paid for each one-tenth of one per cent fat above 3 per cent. These are prices for the basic quantity or less. Amounts exceedings the basic quantity are paid for at a less price.

THE MILK MARKET

New York City, May 17, 1920

At New York supply fell off a trifle and with a very much better demand, caused by more favorable weather conditions and buying of manufactured products by representatives of foreign markets, the surplus was reduced to below normal for this time of year. The rate for May in 200 mile zone for 3 per cent milk is $2.55 per 100 lbs.; 3.6 per cent milk is $2.79 and 4 per cent milk is $2.95.

Receipts of milk and cream in 40 quart cans for the week ending May 15, 1920, were as follows:

Railroad	Milk	Cream
Erie	45,989	2,921
Susquehanna	8,353	132
West Shore	17,747	1,314
Lackawanna	58,175	1,296
N. Y. C. (long haul)	178,625	3,575
Ontario	44,218	1,523
Lehigh Valley	54,522	1,636
New Haven	6,850	65
Pennsylvania	12,110	455
Other Sources	6,000	250
Totals	432,589	13,517
Same week last year	398,048	13,322

TOBACCO MARKET

Practically the whole tobacco crop of the country is now out of the farmers hands with the exception of the "black patch" of Southern Kentucky. The big burley crop of Ohio and southward was mainly marketed during winter and early spring. The Pennsylvania product is practically all sold and in Wisconsin and the Connecticut valley most of the crop has been shipped to factories or is held by speculators.

But in the unfortunate locality mentioned which grows export tobacco almost exclusively there has been little demand and most of the crop still hangs in the sheds of growers who will naturally direct their energies along other lines. Some will grow potatoes, others tomatoes, etc., doubtless to the liking of certain economists of the day who think the farmer should grow more food incidently to feed the follow who is doing the complaining. In general tobacco farmers will grow less and less surplus food.

The moral of the people was never so depressed as at present amounting to an actual lack of patriotism and nothing but a speedy cessation of the present era of extortion and taxation will avoid an upheaval that may shake the very foundation of our government and result in the discontinuation of certain features which are generally thought to be obsolete.

Would that we could get back to an era of prosperity and fair valuations, when it would not require the price of a hog to buy a pair of shoes, when sugar could be bought at five cents a pound, etc. If farm products were then lower than at the present, it was easier to make ends meet and there was no complaining and the [illegible] of the people was unbounded.

Garden and Truck Crops

FEWER ACRES OF POTATOES AND BEANS THIS YEAR

Reduction of 5 per cent in the acreage planted to potatoes last year and of 29 per cent in areas devoted to beans are indicated for this season in reports from field agents. High prices for potato seed and the farm labor shortage are the principal reasons given for the redution in potato plantings. The unsatisfactory market for beans is given as the reason for the smaller acreage planned for that crop.

New York reports the intention to plant 97 per cent of last year's acreage in potatoes, Michigan, 90; Wisconsin, 95; Minnesota, 89; Colorado, [illegible]; Idaho, 95; and California, 100. Aroostock County, Maine, which produces 60 per cent of the potato crop of New England, intended to plant as much or more, but deep snows, strikes, and embargoes have delayed receipt of fertilizer, and plantings will depend upon the amount received in time.

New York reports an intended acreage in beans 90 per cent as large as last year, Michigan, 75; Wisconsin, 70; Colorado, 65; New Mexico, 80; Idaho, 100. California will plant 60 per cent of all varieties, limas being 90 per cent and other varieties 45 per cent of last year, altho a poor barley crop in Sacramento and San Joaquin Valleys may increase plantings of the latter.

The potato crop last year was [illegible],000,000 bushels — 51,000,000 bushels less than in 1918, and 83,000,000 less than in 1917, but 70,000,000 more than in 1916. It was about three per cent smaller than the average crop of the preceding 10 years, and six per cent smaller than the average crop of the preceding five years. The plantings last year were large enough to have produced with an average yield a crop of [illegible]90,000,000 bushels.

The bean crop of the United States last year was about 12,000,000 bushels. While only about three-fifths as large as the crops grown on the exceptionally large acreages of 1918 and 1917, the 1919 crop was almost equal to the crops of 1914 to 1916, which averaged between 12 and 13 million bushels. The planting as now indicated—about 800,000 acres—with a yield equal to the average of the last five years would produce a crop of 8,250,000 bushels.

RESOLUTIONS ADOPTED BY THE CHAMBER OF COMMERCE

The resolutions of the meeting of the U. S. Chamber of Commerce at Atlantic City, which was called an "Increased Production Convention," declare that:

The country's problems can be largely solved thru increased production and economy must be practiced by public authorities and by every citizen.

A treaty of peace should be put into effect without more delay.

The government should refrain from entering any field of business where it can be conducted by private enterprise.

American ideals should be maintained.

Agricultural organizations should be taken into the chamber as an integral part of business.

Railroad transportation facilities should be built up.

Congress should expedite shipping legislation as the means of giving the country a merchant marine.

Adequate appropriation should be made for development of waterways.

The traction situation should be improved.

Pivotal industries should be protected.

It is the duty of everyone to join in preventing fire waste.

It is imperative that the war department delay no longer in making final disposition of war plants and machinery.

Public welfare requires that immediate compensation be made for war damages.

Changes in postal rates without determination of the results on business enterprise may have inequitable effects.

A national budget should be adopted.

The Chamber should hold a referendum on taxation.

The Chamber opposes a general cash bonus given to all men who served in the war without any discrimination.

Provision should be made for supplying populations with the necessities of life in emergencies.

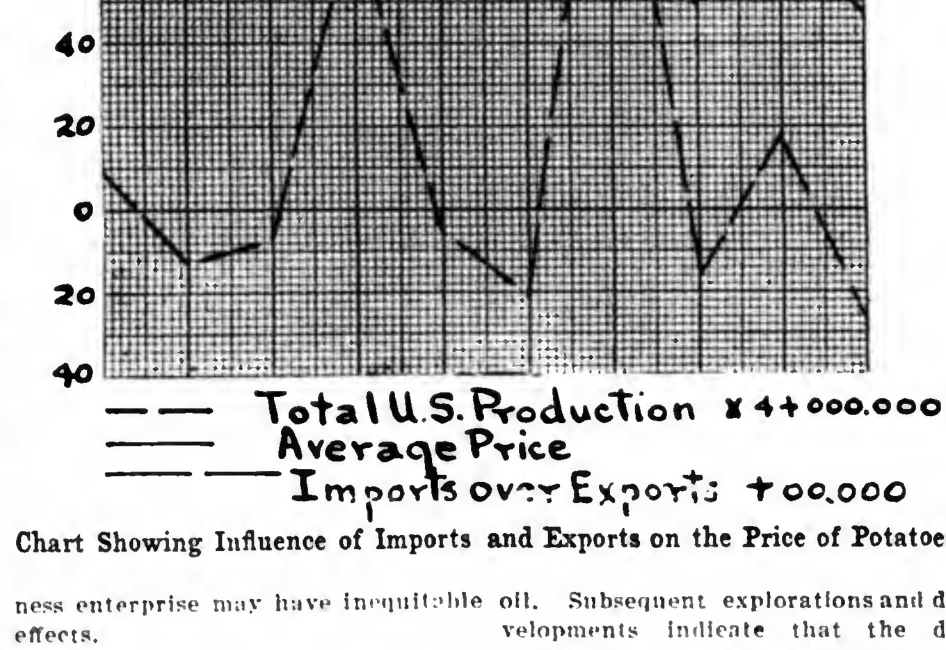


Chart Showing Influence of Imports and Exports on the Price of Potatoes

THE COST OF PRODUCING WHEAT IN KANSAS.

The average cost of producing an acre of wheat in 1919 and the average return to the acre from wheat sold to December 1st, 66% of the crop, as shown by reports of 2,040 wheat growers, as follows:

The State Cost per acre......$25.20
Return per acre... 24.77
Loss per acre..... .43

Attention is called to the significance given the figures by the preeminence of Kansas in wheat production, having raised 16% of the nations crop last year, and by the fact that they are the result of the first voluntary effort of any large class of producers, manufacturers, or distributors to show the exact cost of services rendered.

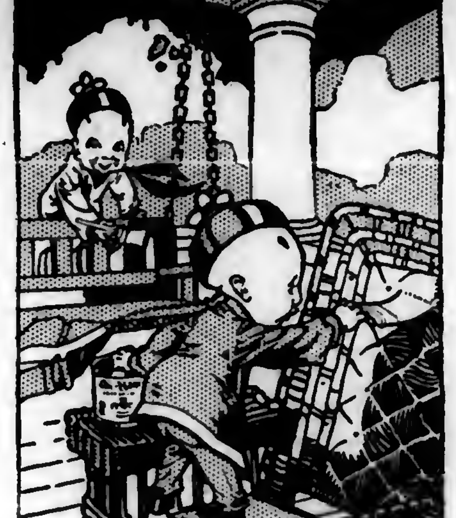
For the state as a whole the loss shown on the face of the returns is 43 cents per acre, but in the main wheat belt (Central Kansas) the loss reaches $1.52 an acre. Of the total acreage of the state 76% shows a loss and 24% a gain. These figures do not show the full extent of the loss because in calculating costs nothing has been charged for the depletion of the soil, nothing has been allowed the farmer in the nature of "overtime" pay for long working days, and no account has been taken of time lost thru the seasonal character of his vocation. As wheat growing is carried on in Kansas, these three factors add materially to the cost of production, but with the data available it is impracticable to express their effect in exact figures.—Kansas State Board of Agriculture.

THE POTASH DEPOSITS OF ALSACE

Potash salts were discovered in upper Alsace, in 1904, in drilling for oil. Subsequent explorations and developments indicate that the deposits underlie an area of more than 70 square miles, and that the workable beds have a depth of about 2,000 feet and range in thickness from 6 to 30 feet. The salts consist essentially of sylvinite, a mixture of sylvite and rock salt. Estimates place the quantity of potash salts in the deposit at 1,472,058,000 metric tons, which gives more than 300,000,000 tons of potash (K2O). The first mining shaft was completed in 1909 and production began in 1910. In 1913 40,707 tons of potash (K2O) was produced from this source. The German Kali Syndicate, which controlled these mines as well as those at Stassfurt, determined the proportion of potash to be produced by the Alsatian mines at about 4 per cent of the total annual production from Germany. The main object in limiting the output was to prevent overproduction and thus a lowering of the price.

When the armistice was signed in November, 1918, the Alsatian mines were transferred to French control and apparently were in a very bad state of repair.

Don't let the junk man get part of the goodness from your meat. He will if the meat is not removed from the wrapping paper as soon as it comes from the market; the paper absorbs some of the juice.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MILKING SHORTHORN SALE

111 Head

30 cows
30 bred heifers
30 open heifers
11 bulls service age
10 bulls under 1 yr.

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Bradford County Penn'a Breeders
at
Troy, Pa., June 12, 1920

111 Head

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30 open heifers
11 bulls service age
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Sale starts prompt 11 A. M. Lunch 12:30 P. M.

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Guernsey Bull Calf 4 weeks old. 5 May Rose crosses, at $65. Sire's 5 nearest dams have over 680 lbs. fat. LOCUST LAWN FARM, Bird-in-Hand, Pa. Box P.

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40 head, free of tuberculosis, bull calves for sale. EDWIN B. MAULE. COATESVILLE, PA.

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King Korndyke Sadie Vale Jr., No. 20391, two nearest dams averaging 36 pounds of butter in 7 days, heads my herd. Butter records from 17 pounds two-year-olds to 34 pounds at full age. Also high grade Holstein calves, either sex, $20.00 each. Write your wants. PAUL H. STEVENS, Prop.

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Write R. L. SHENK, Sec., Newville, Pa., for your catalog

PENNSYLVANIA CROP NOTES

Reduction in winter wheat acreage from last year of 97,000 acres and the condition of the crop 3 per cent under the ten year average are the outstanding features. The area of winter wheat abandoned due to winter killing is estimated at 56,000 acres or 3.5 per cent less than was seeded last fall. This abandonment was due principally to the severe weather during the past winter and Hessian fly damage to early sown wheat. The area remaining to be harvested is estimated at 1,541,000 acres. The condition of the crop on May 1, was 85 per cent of a normal indicating a yield of 17.4 bushels and a total production of 26,813,000 bushels as compared with 28,655,000 bushels last year, and 23,722,000 bushels, the average production for the past ten years.

Rye.—Rye suffered from the severe winter weather. The area remaining for harvest is estimated at 214,000 acres or 94 per cent of the area harvested last year. The condition on May 1, was 89 per cent of a normal indicating a yield of 16.6 bushels and a total production of 3,552,400 bushels as compared with 3,648,000 bushels, last year's final estimate and 4,549,000 bushels, the average production for the past ten years.

Hay.—The total area of all meadow lands is estimated at 100 per cent of last year or 2,978,000 acres. The condition is somewhat backward due to late spring and is estimated at 91 per cent of a normal indicating a yield of 1.43 tons per acre as compared with 1.45 tons last year's final estimate. The percentage of last year's crop remaining on farms is estimated at 12 per cent of last year's production or 518,000 tons as compared with 521,000 tons last year and 571,000 tons, the average for the past ten years.

Farm Work.—The percentage of spring plowing completed to May 1 is estimated at 54 per cent compared with 77 per cent last year and 66 per cent, the average completed for the past ten years on May 1. The percentage of spring sowing and planting completed is estimated at 24 per cent as compared with 50 per cent last year and 40 per cent, the average completed for the past ten years on May 1. This is rather a commendable showing in view of the fact that farm labor supply is 18 per cent less than last year and 29 per cent less than the usual supply.

Pasture.—The growth of pastures has been retarded by cold, backward season and the condition is 85 per cent of normal as compared with 86 per cent last year and 84 per cent, the average condition for the past ten years years on May 1.

Carbon Co., Pa., (E. C.) A very backward spring this year and farmers are a month behind with their work. Some oats in the ground and some potato planting done. Many farmers without help and are doing their work themselves.

The last car of potatoes was loaded at $4 per bushel at the car. They are worth $5 to $5.50 retail. No more being planted than last year and probably not as many, because $5 now may look a whole lot better than a low price in fall.

Some farmers have not received their spring fertilizer yet, and may not get it in time to be of use. If this looks like more food and lower cost of living to labor next fall, let them go to it with the farmers re[illegible] W. S. Bittner.

Facts in BLACK & WHITE

Large Profits from Purebred Holstein Cattle

In the production of milk and butter the larger the cow the larger the profit, other things being equal. This principle has been established thru the investigations of government experts and is generally recognized.

When a cow's milking days are over, size is still an important factor. The big Holstein-Friesian, weighing anywhere from 1,000 to 1,800 lbs. with her clean white fat well distributed through her muscular system, proves a most profitable dairy beef animal.

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registered in the Herd Books of the Holstein Friesian Association of America. Herd sire out of world's record senior four-year-old,
KEYSTONE BEAUTY PLUM JOHANNA
No. 161646
At 4-10-20, 365 days—25787.5 milk; (4.02%) 1294.7 butter
At 3- 3-23, 365 days—22496.8 milk; (3.94%) 1108.8 butter
2 years under full age—48284.1 milk; 2403.6 butter. The youngest cow in the world to have two consecutive records averaging over 24,000 lbs. of 4% milk in a year.
Bull calves $100.00 and up. GEORGE E. STEVENSON & SONS, Clarks Summit, Pa.

Reg. Jerseys Bull and heifer calves sired by Interested Sayda's King, whose dam, Fontaine Sayda's Queen produced 15,200 lbs of milk and 938 lbs. of butter in one year. Priced from $50 up. CHAS A. LEONARD, TROY, PA.

Registered Holstein Friesian Cattle Sons of the great Finderne Sir Valdessa, a 37 lb. bull, for sale. MILLARD E. BASEHOAR, Littlestown, Pa.

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EXTRA PROMISING
Twelve weeks old White Wyandotte cockerels from our trapnested stock for meat and eggs, $3.00 each. These cockerels will sell for Ten Dollars when full grown. Limited number selected eggs at $15.00 per 100, $8.00 per 50, $2.50 per setting of 15. Chicks 40 cents each. Eggs and chicks forwarded Parcel Post prepaid. Terms, cash with order. We know you will be pleased with our stock.
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EGGS FOR HATCHING
NONE SUCH WHITE LEGHORNS. For 18 years NONE SUCH WHITE LEGHORNS have been trapnested and bred to lay more eggs. FERRIS WHITE strain, mated to Grandsons of Prince Eglatine, a son of the world's famous Lady Eglatine. Fertility GUARANTEED. Hatching eggs and day old chicks
May Prices
300 egg strain, hatching eggs 15, $3.00 100, 11[illegible]
300 egg strain, day old chicks 25, 8.75 100, 3[illegible]
The H. M. Spahr Breeding Estate, Dept. C, Woodsboro, Md

Leader's Leghorn Chicks have the confidence of the folks at home. York Co. Poultry Growers bought our entire output, 2,400 to 3,000 weekly, in Feb. March and April. These men KNOW GOOD LEGHORNS and come to our plant for their chicks. Many of them each succeeding year. Book your order now for May and June delivery of the same quality chicks at $17 per 100.
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ENGLISH WHITE WYANDOTTE & MAMMOTH PEKIN DUCK EGGS
for hatching, from the very best stock. Wyandotte eggs, 15 for $2.50. Ducks eggs, 11 for $2.50. All carefully packed and delivered. A. R. LOGUE. WOODBURY, BEDFORD CO., PA.

Baby Chicks and hatching eggs from our high-egg-laying strain. White Leghorn baby chicks $20.00 hundred. Hatching eggs $1[illegible] hundred. Safe delivery guaranteed. We invite your inspection of our birds, if possible. TENACRE POULTRY FARM, Princeton, N. J.

[illegible]00 CHICKS for 1920, Leghorns, Barred P. Rocks and mixed chicks. Write for booklet for June and July delivery. Safe delivery guaranteed. THE CYCLONE HATCHERY, Millerstown, Pa

Baby Chicks. Eleven leading varieties, bred from show-stock, to produce eggs, [illegible] utility prices. Send for illus. catalog and price list. Ohio Poultry Yard & Hatcheries, Dept. B, Marion O.

PIELL'S BLACK LEGHORNS. Famous Leghorns, real layers, fine birds. Hatching eggs only, $[illegible] setting. Information free. Book orders now. RUSSEL F. PIELL, PITTSTOWN, N J

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Single Comb White Leghorns. Big Vigorous Birds. Good layers. Eggs and Chicks. Write PAUL R. EMERICK, CLINTONDALE, PA

WHITE ROCK CHICKS
From good stock, $25 per 100 postpaid
MRS. I. F. GRIFFITH, R. 2, MOHNTON, PA

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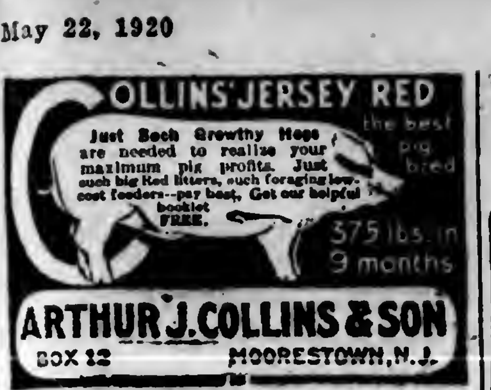
SHIREY'S S. C. White Leghorn Baby Chicks [illegible] and up according to season. They make the greatest egg producers on earth. C. P. Shirey, Stewartstown, Pa.

LEG BANDS 15 styles, all sizes. Chick, Turkey. Free circular. A. C. SINE, QUAKERTOWN, PA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Just Such Growthy Hogs are needed to realize your maximum pig profits. Just such big Red litters, such foraging low-cost feeders—pay best. Get our helpful booklet FREE.
the best pig bred
375 lbs. in 9 months
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200,000 CHICKS
Reds, Rocks, Leghorns, Minorcas and Broilers at rock bottom prices by Parcel Post. Prepaid and safe delivery guaranteed. Our 11th year. Catalog free. KEYSTONE HATCHERY, Richfield, Pa.

June Chicks Strickler's Husky, Pepful Baby Chicks. Tom Barron 300 egg strain S. C. White Leghorns. Greatly reduced prices for June delivery. Special delivery parcels post prepaid; safe delivery guaranteed. $15 per 100; $70 per 500. Hatching Eggs, 8 cents straight. LEONARD STRICKLER, SHERIDAN, PA.

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White Leghorns	$20—100
Barred Rocks	25—100
R. I. Reds	25—100
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CHICKS from large, pure white, two-year-old hens. Wyckoff strain, 18 cts. Extra fine. Brown Leghorns, 20 cents. White Rocks, Barred Rocks, Orpingtons, R. I. Reds, Black Minorcas 25 cents. Postpaid. Eggs: Half price of chicks. J. NEVIN STROUP, MIDDLEBURG, PA.

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Farm range, prize winning Buttercups. Investigate this wonderful variety. Write for circular. MAPLE LAWN FARMS, CORTLAND, N. Y.

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5,000 Baby Chicks for sale. Must be sold the next 10 days. Weight [illegible] and are extra fine. 3,000 B. P. Rocks, 1,000 R. I. Reds, 1,000 W. Leghorns. CRYSTAL SPRING STOCK FARM, Littlestown, Pa.

Selby Service Satisfies Ship us your produce, poultry and [illegible] Penna. Potatoes a specialty. Returns day goods are sold. Ask for our market letter. SELBY PRODUCE CO., PHILADELPHIA

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That Lay and Pay Beautiful Buff Rocks. Vigorous and prolific. Eggs, $1.50 for 15, balance of season. M. W. THOMAS, Chestertown, Md.

20,000 Big Hatching Chicks For 1920, 15 cents up. Barrons, S. C. Leghorns, Ringlet Barred Rocks. 23 years' experience. CHESTNUT HILL POULTRY FARM, Aspers, Pa.

HATCHING EGGS Thorobred S. C. R. I. Reds, $1.50 for 15, $8 per 100. Bourbon R. Turkey eggs all sold. White Pekin Duck eggs, $1.65 for 11. Prepaid. MRS. L. J. KILLIAN, Lebanon, Pa. R. 6.

Hatching Eggs of Pure-Bred Poultry
Prices reasonable. Catalog free.
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Miscellaneous

Choice Pigs Reg. Holstein Cattle
Sunnybrook Stock Farm
Reg. Holstein bulls from $10 to $100 each. High grade Holstein heifer calves $20 each. Fine O. I. C. pigs $16 each. Reg. O. I. C. Boars and Sows. Write your wants. SUNNYBROOK STOCK FARM, Wyalusing, Pa.

All Kinds of Purebred Live Stock
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Herefords, Holsteins, Berkshires. Six large type yearlings sows bred to farrow Sept. 1st. Can furnish spring pigs for club work. W. F. RISHEL, CENTRE HALL, PA.

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FLEMISH GIANTS FOR SALE. 3 months old, $3 each. 6 months old, $5 each. JOHN C. TURTON, Williamstown, N. J.

Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Warts on Young Bull.—We have a yearling bull that is troubled with warts on neck and shoulders. Some of them are slim and long, others are very flat and their surface is rough. A. J. K., Venango Co., Pa. Either cut or twist off the slim ones, then apply pine tar to wounds and flat ones twice a week. Give him two drams Fowler's Solution at dose twice daily, until the warts are gone.

Cannibal Doe.—Our Doe rabbit eats her babies when they are three days old. Have never heard or read of a case of this kind before. I feed them all the greens they can eat, also oats, oat meal, hay, peanuts, some salt and see that they have plenty clean water. E. S. H., Church Road, Va.—When she devoured her young she was in a delerious state of mind. You have seemingly fed and given her good care, it is not necessary to give her any medicine. Breed her again and let her have plenty exercise and green feed. Rabbits seldom eat their young. Had you fed her some meat she might have left them alone.

Worms.—Have been reading veterinary column, but failed to find what I was looking for. Now I would like to know what can be done for horse that has been troubled with worms for the past 6 years? P. W. S., Bucks Co., Pa. Most farm horses get rid of their bots and many of the worms, as soon as they are turned out to pasture. The cathartic properties of the young grass seems to have the effect of unloading many bowel parasites. A simple home remedy is to give horse a drench composed of turpentine one ounce, and raw linseed oil one pint when the stomach is empty, and not oftener than once a week. Give a teaspoonful of powdered sulphate of iron and the same quantity of salt at a dose in feed once daily. Santonine and areca nut is another very good worm remedy for horses.

Opacity of Cornea.—Our 8-year-old mare has white film covering eye ball of both eyes, causing total loss of vision. This loss of sight occurred about a week ago. I am told that she has moon blindness. Have been using boric and salt water. Is there anything we can do for her? A. G. L., Franklin Co., Pa. Blow one part calomel and two parts boric acid into eyes once a day. Give 40 grains of potassium iodide at dose twice daily. Remember a bright light will always irritate an inflamed eye.

Tuberculosis in Fowls.—There is something wrong with my chickens. They gradually lose flesh, wattles grow pale, feathers seem dry, and nearly every one of them limp and some have diarrhea. When opened, I notice the liver has yellow spots on it and other little bunches are found on the inwards, but I don't know what they are. From this description what do you believe ails them? H. K. L., Crawford Co., Pa. I am inclined to believe your chickens suffer from Tuberculosis, which of course is incurable. It should be kept in mind that tuberculosis of fowls is a distinct disease from tuberculosis of other farm animals, and of humans, and is not communicable to man. Therefore, you need not be alarmed when you read this answer to your letter. Kill all the badly diseased and thin birds and burn them. I might say that spots on the liver such as you mention is a characteristic but not a positive symptom as if you find tubercules on the spleen and intestines, for in other ailments we sometimes find white and yellow spots on the liver. If you find nodules on the liver, spleen, and intestines you surely have Avrian Tuberculosis.

Make 'em Grow Fast

Hog and poultry raisers in all parts of the country are using Semi-Solid Buttermilk because they know it is the "Best Hog and Poultry Feed on Earth." It gives quicker gains, earlier marketing and bigger profits. 100 per cent digestible.

Semi-Solid Buttermilk
"The Best Hog and Poultry Feed on Earth."

Just creamery buttermilk with the water removed and nothing added. The same as home churned. Contains high percentage of protein and natural lactic acid. Contains no sulphuric acid or other injurious preservatives. Natural lactic acid keeps it fresh indefinitely. Semi-Solid Buttermilk is pure enough to drink or use in batter cakes. Don't use a substitute or so-called modified buttermilk. Get the Genuine Semi-Solid Buttermilk, absolutely pure and unadulterated, for quick results.

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Makefield Farms Quality Durocs
Will furnish you with foundation stock, registered and of most approved blood lines. Address, Makefield Farms, 803 Broad Street Bank Bldg., Trenton, N. J. Farms nearby at Yardley, Pa. All stock cholera immuned.

Palmyra Quarry FARMS OFFER Fine Big Type Reg. Berkshire Hogs for sale. Outstanding Pigs, either sex, with stretch, up on toes, smooth, and splendid heads, out of exceptional big sows; Rivals Champion, Lord Premier Successor and Superbus breeding. Also bred Gilts, bred to our outstanding herd boar, Highwood Rival 431st. Pay when you see the stock. Satisfaction guaranteed. Galen G. Grubb, Palmyra, Pa.

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All ages. Strong and vigorous stock. When you buy you want the best, don't you? Then write us. Inspection invited. ROSS B. WITMER, LAMPETER, PA. Member Lanc. Hampshire Breeders' Co-operative Association.

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Everything sold. Booking orders for gilts bred for fall farrow, and pigs for Pig Club work only. DEPEW HEAD, MARION, OHIO

VIEWMONT FARM, MAINVILLE, PA. offers choice O. I. C. Oct. pigs, 100 to 120 lbs., from Schoolmaster boar and Callaway Edd sows. (Crandell's Champion boars). Good enough to ship anywhere C. O. D.

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Both sexes, all ages. Reasonable prices. G. NORMAN ACKER, West Chester, Pa. R. 2.

BELROSE DUROCS— EXPRESS PAID Boars and Bred Sows, bred and open gilts all sizes. Prices right. BELROSE FARMS, RICHFORD, N. Y.

Selected Grade Pigs 1 to 6 weeks old. Mostly O. I. C. and Chester Whites. Satisfaction guaranteed. Price $7.00. THE OAKS DAIRY FARM, Wyalusing, Pa.

Some of America's Best Durocs. 40 head bred and open gilts and service boars at Public Sale, December 2, 1920. SLATY RIDGE FARM, Palmyra, Pa., Box 5.

REG. BERKSHIRES Longfellow, Masterpiece, King Louis and Delchester Artful Lady blood lines. Special offerings, bred gilts. Fall pigs. Priced right. Nearby Stock Farm, J. A. McMahan, Pottsgrove, Pa.

REG. BIG TYPE POLAND CHINAS. Special price on Oct. pigs this month; also spring pigs. Giant Buster and Blue Valley Blood. Prices reasonable. C. E. SECHLER, Markleton, Pa., Somerset Co.

O. I. C. Pigs, either sex. We ship on approval and register free. L. B. COFFMAN & CO., Palmyra, Pa., R. 2.

Large Type Duroc. Boars and Fall Gilts. Also some fine Spring pigs. Guaranteed to please or money refunded. B. H. SAGER, BASIL, OHIO

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FINE THRIFTY REGISTERED CHESTER WHITE, 6 weeks pigs, either sex, $15 each. L. D. GARRIGUES, THORNTON, PA.

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Berkshires [illegible] registered [illegible] Both sex. Prices reasonable. R. H. OLMSTEAD, FAIRDALE, PA.

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Large Berkshire Swine Registered. High Grade. Prices reasonable. Write HOME FARM, Center Valley, Pa

FAMOUS O. I. C.'s
The world's grand champion herd—Home of two grand champion boars, one grand champion sow. Write for illustrated catalog. It is free. Stock of all ages for sale.
CRANDELL'S PRIZE HOGS.
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Hampshires Eastern Quality Herd, National Swine Show and State Fair winners. Also Guernsey cattle. Free Cir. Locust Lawn Farm, Bird-in-Hand, Box 2, Lanc. Co., Pa.

Blue Hogs. Shipments desired the coming summer should be booked at once. Now shipping Spring orders. These hogs are actually Blue in color. They are the largest, growthiest and most prolific breeders on earth. Write for information. Mention this paper. THE BLUE HOG BREEDING CO., WILMINGTON, MASS.

REGISTERED DUROC-JERSEY PIGS
$18 each while they last, all from imported Southern stock, none better. Bargains in bred gilts, service boars, brood sows and spring pigs. C. W. Ellis, Jr., Maple Lawn Farm, Cortland, N. Y.

Reg. Duroc-Jersey Pigs Orion, Kellys Pilot Wonder and Cherry King breeding. Shipped C. O. D. and guaranteed to please. Prices reasonable. ORANGEDALE FARM, Orangeville, Pa.

Registered Durocs Best blood lines. Sold out at present. Will book orders for spring pigs. Northumberland County Duroc-Jersey Breeders' Association. J. M. FRY, Corresponding Secretary, Sunbury, Pa.

Large Type Reg. Berkshires of all ages for sale. Select a breeder from a large litter. Pay when you see stock. No cash in advance. DAVID WIANT, HUNTINGTON MILLS, PA.

REG. DUROCS Large size, heavy bone, best blood lines, prices reasonable. Satisfaction guaranteed. JOHN W. COX & SON, New Wilmington, Pa.

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Quality Growthiness Prolificacy
We guarantee satisfaction.
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Reg. Berkshire Pigs, 8 weeks old. Bred sows and gilts. Also 50 grade pigs for feeders, for immediate shipment. I. R. TANGER, YORK SPRINGS, PA.

Berkshire Pigs, sired by States Majestic, one of the best boars ever bred by Penna. State College. Also two extra good boars ready for service. A. B. Kirsch, Nicktown, Pa.

Chester Whites Boars and Sow Pigs. Bred Sows. Collie dogs. ARCADIA FARM, BOX D, BALLY, PA.

DUROCS. Sept. boars ready for service. Also 2 Spring boars. Sept. Gilts bred for Sept. Spring pigs not akin. All im. I. D. Jackson, R 10, Van Wert, Ohio

LARGE ENGLISH YORKSHIRES, purebred. The bacon hog. Good feeders, gentle and prolific. J. Homer Reams, Luthersburg, Pa.

Registered Berkshires Spring Pigs $17.50 each. Bred sows $[illegible] to $75. L. C. TOMKINS, Ellenton, Lyc. Co., Pa

Reg. Big Type SPOTTED POLAND-CHINA Pigs, bred from a son of O. K.'s Pride No. 30, also 5 Reg. Holstein Bulls. H. C. Kymer, R 4, Shippensburg, Pa.

Buy Big Berkshires of quality. Special offer on spring pigs. M. J. KELLY, Honesdale, Pa., R. 1.

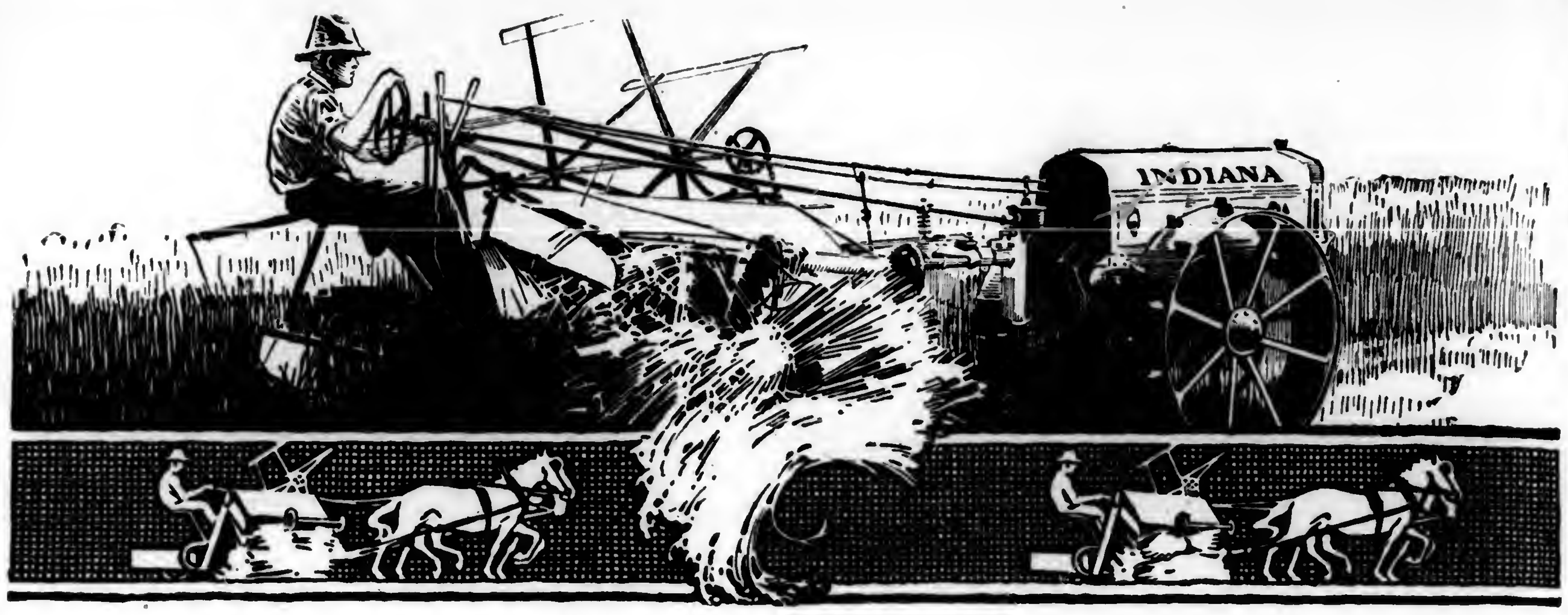
Reg. O. I. C.'s Booking orders for Spring pigs Silver strain breeding. BRUBAKER BROS., Star R, Cocolamus Pa

CHESHIRES.—The high quality home-market and home table breed. Our type pleases. Pigs and service boars. Morningside Farm, Sylvania Pa

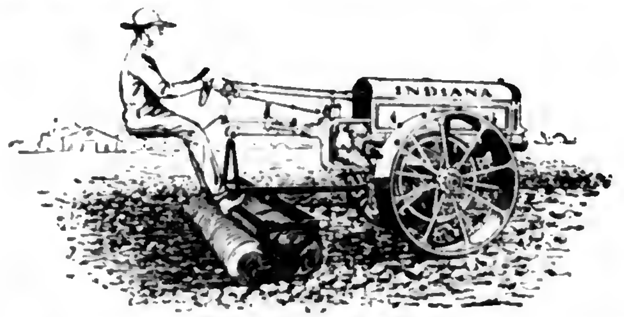
REG. O. I. C.'S ALL AGES. Booking orders for September, October and November pigs. BLACK DIAMOND MINORCA FARM, MT. BETHEL, PA

Chester White Hogs, All Ages
Shorthorn Bulls. R. L. MUNCE, Canonsburg, Pa

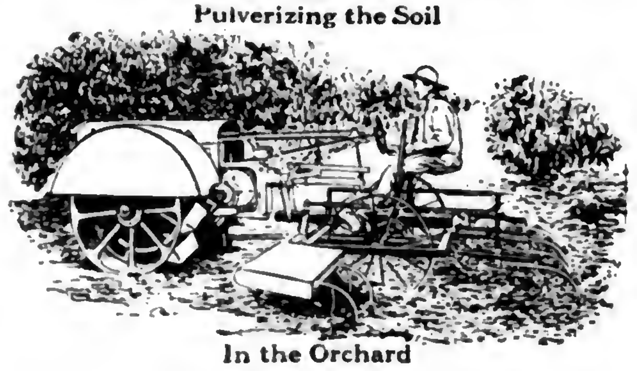
BIG BLACK BERKSHIRES
Write for prices or [illegible] sows ready for breeding in [illegible] bred gilts are part of [illegible]
CRESTMONT FARM, SUNBURY, PA



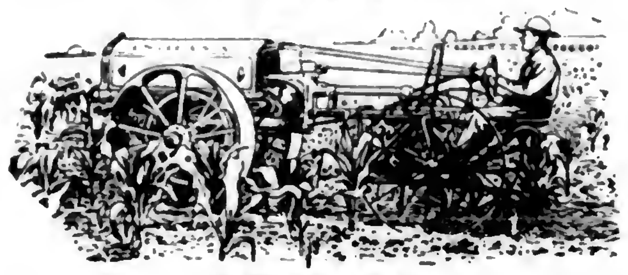
Get rid of four horses and one man!



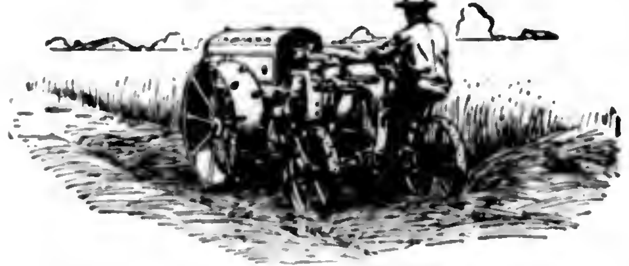
Pulverizing the Soil



In the Orchard



Cultivating Corn



Cutting Hay

ARE your horses "eating you out of house and home" in these days of high priced feed? Are they working for you or are you working for them?

You can find use for one team the year around, but extra horses work only 90 to 100 days during the crop season. You spend one-twelfth of your time—an hour a day, a month a year, taking care of them. You spend weeks raising the crops they eat. You work for them about as much as they work for you.

One man and an Indiana will do the work of four horses and two men. It will do every kind of work that teams do. It takes the place of the extra horses, and the cost of gasoline and oil will be $400 a year less than the cost of the feed the horses eat. The price of four horses and the cost of keeping them a year will more than pay for an Indiana.

Plowing is but 15 per cent of the work a tractor must do to replace horses. The Indiana plows with disc or mold-board and is light enough to go on the ground as soon as horses should go on it. It also operates all makes of harrows, discs, planters, and one and two row cultivators, mowers, grain binders, corn binders, rollers, drills, cultipackers, potato diggers, and all orchard and vineyard tools.

The implements you already have are the only practical size for row cultivation, and you can use them all with the Indiana without expensive hitches. The driver rides the implement and has the work in front of him. The Indiana is the all-round, single unit, one-man tractor.

John H. Porterfield, of Dodge County, Wisconsin, says: "The Indiana Tractor does all that is catalogued for it and then some, easily developing 7 H. P. on the draw-bar and 14 on the belt. It actually replaces four horses on any farm. Its mechanism is perfect and operation simple. My tractor certainly gives entire satisfaction and I am glad to recommend it."

Charles H. Staples, of Plymouth County, Mass., says: "I have had splendid success with the tractor you sent me and would have nothing else. I do not use a horse on the place and as things look now I do not think we will get one as the tractor is more than satisfactory and it does the work so much faster and better. I use it for pulling all farm tools and running power tools."

Hundreds of users are as satisfied with their Indianas as the two we have quoted. It has been in successful use for four years. And for almost twenty years the Indiana Silo and Tractor Company has been known for dependable products and square dealing. The experience of over 75,000 Indiana silo owners should be sufficient.

Mail coupon for book of pictures showing the Indiana doing all the work that horses do; and book of letters from users.

If you need a silo, we have one for you. We are the largest silo manufacturers in the world.

DEALERS: This tractor can be used more on more farms than any other. It's the biggest dealer proposition in the field.

THE INDIANA SILO & TRACTOR COMPANY

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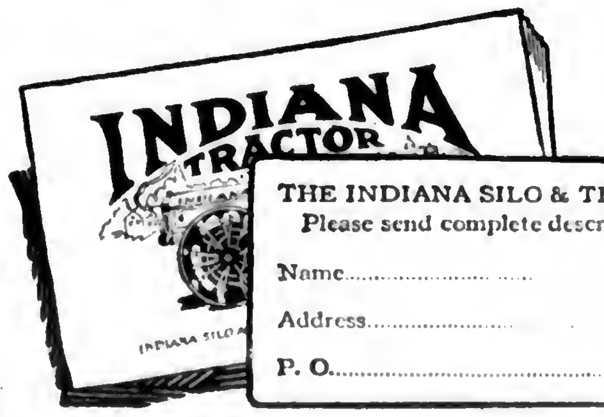
ALL-ROUND
TRACTOR
"The World's Tractor"



THE INDIANA SILO & TRACTOR CO.
Please send complete descriptive matter on the Indiana Tractor, and letters from users.

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P. O...State.............................

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PENNSYLVANIA FARMER

AGRICULTURE
THE KEYSTONE OF
NATIONAL PROSPERITY

ESTABLISHED 1880

PUBLISHED WEEKLY

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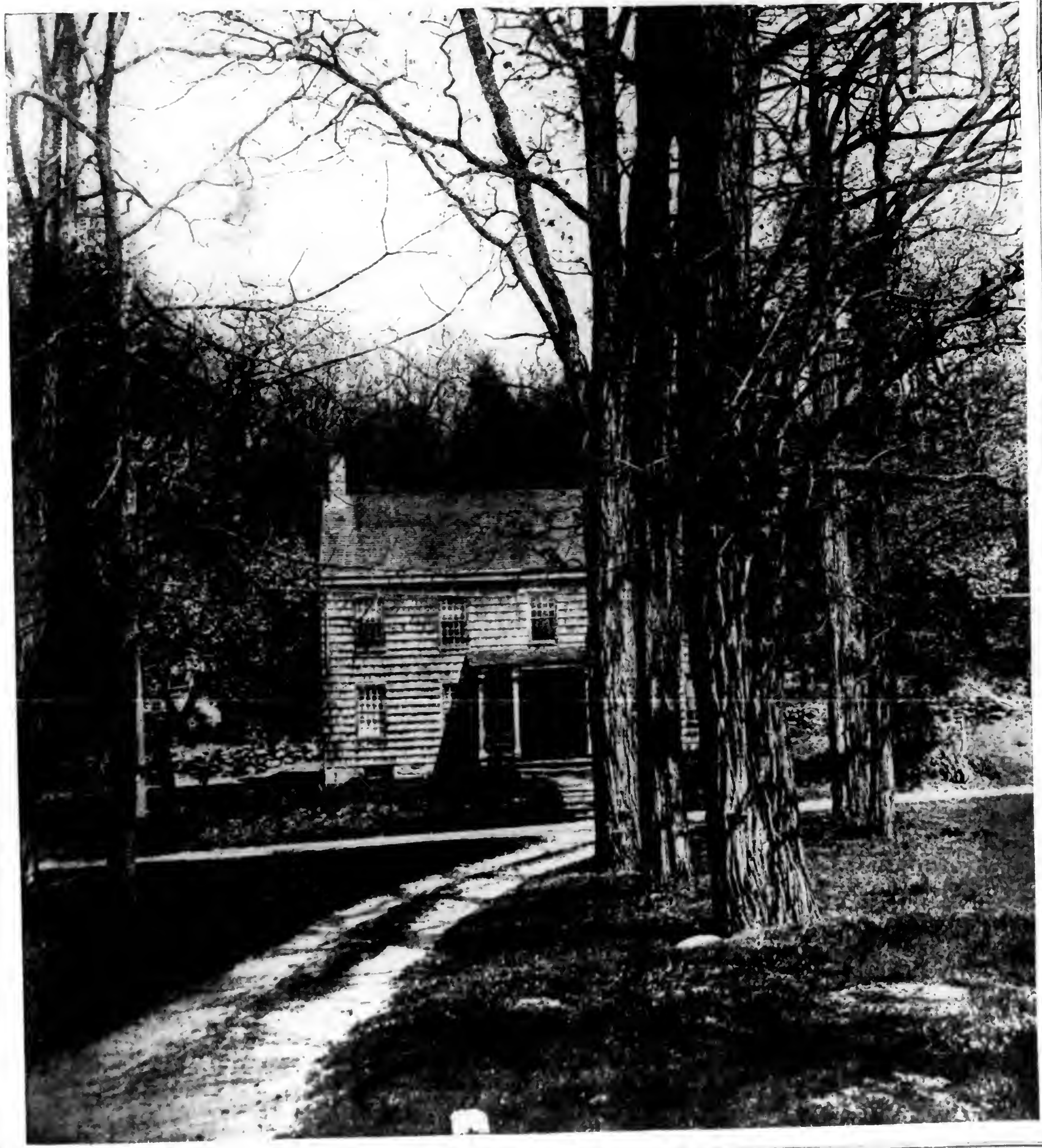

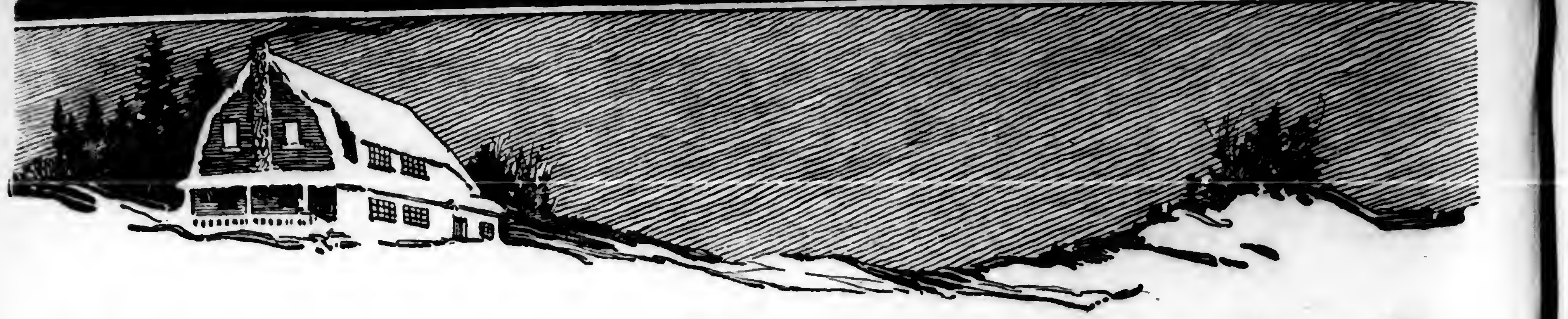

When frost fingers clutched at the cracks and keyholes

THAT'S when cold winter was with us. Not so very long ago, either. And not so very long ago you were suffering all the inconvenience and discomforts of a poorly heated house.

You can't forget it. Even the good warm sunlight these June days, when the sky and sun are one glory of blue and gold, can't make you forget those bitter nights of wind and frost that brought a chill you couldn't keep out of the house. How you had to hug the fire! How the fuel burned up just like throwing money away!

Are you going through all that again next winter? Do you know that there is absolutely no need of it? Do you know that you can avoid it?

Make up your mind right now that you are done with all that forever. You CAN have a warm house all winter long. An Andes One Pipe will keep you as warm as toast in the coldest of winter weather.

Now is the time to have an Andes installed. Then you needn't worry about next winter. And it's so easy—can be installed complete in just one day with practically no expense. And every day next winter and for many winters to come it will save fuel money for you, while it gives you back the warmth of summer sunshine. We always guarantee that if the Andes is not perfectly satisfactory it will be taken out and the full purchase price refunded.

Write for our free book that tells all about this wonderful furnace. Send us the coupon today.

PHILLIPS & CLARK STOVE CO., Inc.
DEPT. P **GENEVA, NEW YORK**
Manufacturers also of the famous Andes Stoves and Ranges

One of 50 houses in which F. E. & F. W. Wells, of Greenfield, Mass., installed Andes One Pipes. They write, "The houses have kept very warm, even at 20 and 30 degrees below zero, besides using very little coal."

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I am interested in saving [illegible] money. Please send me your free, illustrated booklet called, "Better Heating for Less Money."

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PENNSYLVANIA FARMER
AGRICULTURE THE KEYSTONE OF NATIONAL PROSPERITY
ESTABLISHED 1880 PUBLISHED WEEKLY

The Lawrence
Publishing Company
Philadelphia

Marketing Dairy Products

Education and Publicity of the Food Value of Milk Needed to Absorb Surplus.

P. B. Bennetch
Trenton, New Jersey

Farmers as a class, engaged in the production of the essentials of life, have in the past given much thought to the improvement of the efficiency of production. They have increased the acre production of practically every crop grown in spite of the decrease in the native fertility of the soil, they have improved the quality and efficiency of farm live stock a hundred and more fold, and in the face of a rapid increase in the cost of farm labor and an accompanying scarcity they have increased production during the war by the increased use of more labor saving machinery such as tractors, milking machines and all sorts of farm equipment until today the American farmer, as a class is without a peer in all the world as a food producer. This efficiency of the food producer has made it possible during the last few years to increase exports of food stuffs to the millions in Europe who would otherwise have starved in spite of the fact that imports of food into this country were cut down to almost nothing.

Only during the past few years has any constructive thought been given by food producers as a class to a more efficient system of marketing the increased output of his products. Many producers of food have long realized that the channel which their food takes in reaching the ultimate consumer should be shortened, that the difference between the price which the producer received and the consumer paid was too great in many cases, in short that wastes in marketing and distribution should be decreased. Today there are groups of food producers all over the country who within the past few years have made great strides in increasing the efficiency of marketing. The most notable of these are the organizations of milk producers who are organized from Maine to California, the fruit growers organizations of California and many other similar marketing associations of producers which have accomplished much in a cooperative way with a great deal more still remaining to be done.

With the exception of a few of these associations little or nothing has been done towards widening the market for food products thru continued, persistent publicity such as is now considered essential in the selling of practically every other commodity. The dairy industry today furnishes probably the very best example of the great need for this kind of work right now to expand the home market for dairy products, because of the very critical market situation which confronts the industry.

The higher prices received for dairy products during the war period were made possible largely by the great need of Europe for these food products the production of which was greatly curtailed in all European countries by the ravages of war and all that that means. In 1914 we exported 1,257,996 pounds more condensed milk than was imported while in 1919 the surplus exported amounted to 708,556,886 pounds. In 1914 we imported 62,000,000 pounds more cheese than was exported, while in 1919 exports exceeded imports by 16,352,547 pounds. Imports of butter exceeded exports in 1914 by 4,094,793 pounds while in 1919 exports exceeded imports by 29,608,491 pounds. This foreign demand during 1919 was made possible because of an estimated reduction of Europe's prewar cow population of about 20% thru slaughter, disease and other factors. Europe has not recuperated and will not for some time to come, at least not so far as those countries are concerned which were in the war area, and they are right now in absolute need of all the dairy products which we can send to them, but the credit of practically all European countries is impaired to such an extent that they are not able to purchase our food products in sufficient quantity to satisfy their needs.

To further complicate the situation Canada, Argentine, Denmark and other countries are sending large quantities of dairy products into this country, which are in direct competition with our own. Denmark, whose cow production decreased from 1913 to 1918 from 6,050 pounds of milk to 4,442 pounds, due largely to shortage of feed is finding our market more profitable than those of the European countries where exchange has depreciated. The butter which they are sending over here is of such fine grade that it sells in the New York market in direct competition with some of our best. While these receipts of Danish and Argentine butter have not been large they have already had a depressing effect on the market.

At the same time we have a surplus of dairy products in storage. According to the United States Bureau of Markets we had 38,480,392 pounds creamery butter in storage February 1, 1920 as against 36,776,517 pounds February 1, 1919, an increase of 4.5 percent. We have 44,401,676 pounds of American cheese in storage February, 1920, as against 15,485,519 pounds February 1, 1919, an increase of 186.7 percent. Of case condensed milk we had in storage 21,370,000 pounds January 1, 1920 against about 14,000,000 pounds January 1, 1919. Holdings of case evaporated in 121 factories and several public warehouses were about 96,000,000 pounds January 1, 1920 against 53,200,000 pounds January 1, 1919. While a part of these products are being held for export and represent goods sold or contracted for, it is nevertheless true that the surplus over present domestic demand is large.

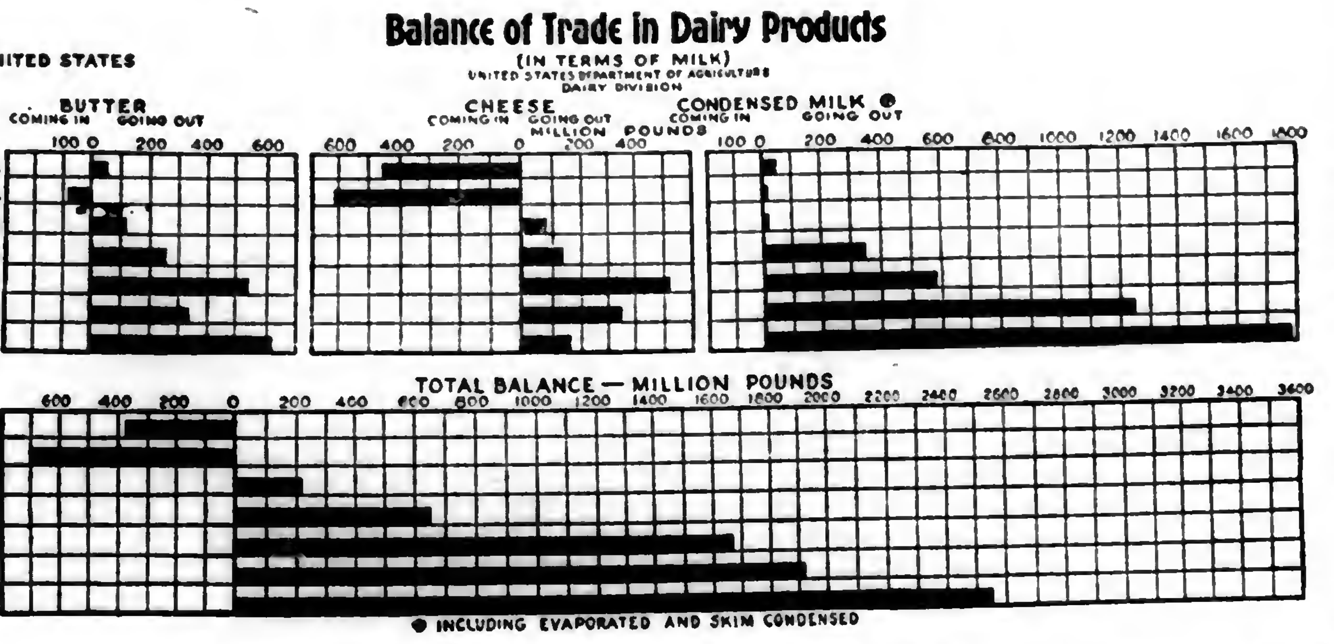
Production during 1919 increased over 1918 for cheese 10.32 percent, case sweetened condensed milk 22.08 percent, case unsweetened evaporated 3.14 percent. Cow population in this country increased during the war from 20,625,000 to 23,467,000 according to the U. S. Department of Agriculture. Production of dairy products has been stimulated by a high level of prices during the war.

To sum up the situation we have stimulated production during the war to meet foreign demand which demand has now just about collapsed because of depreciation of foreign exchange, and we are facing competition right here at home of foreign products with a surplus of manufactured dairy products in storage and a curtailed demand for practically all dairy products because of high prices.

What is the remedy? Unless something is done we are likely to be faced with much reduced prices for dairy products which will result in curtailment of production. Production at the present rate cannot be continued unless an outlet is found for the products. Recovery of European exchange would again open the market for our dairy products as well as other food products but the prospect is that recovery will only be gradual as production of all products abroad increases and their surplus which may be exported grows. We cannot wait for this as a remedy when already our markets are attracting butter from Canada, Denmark, Holland and South America, cheese from Canada, Argentine and several other European countries, and condensed and powdered milk from Holland.

Producers can eliminate low yielding cows from their herds many of which are unprofitable at present costs of production. This is a slow process however, and will not relieve the situation very soon or permanently. The best remedy and the one which should receive the immediate attention of the entire dairy industry is a permanent campaign of education and publicity among consumers to increase consumption of all dairy products. Consumption is too low now for

(Continued on Page 8)



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PHILADELPHIA, PA., JUNE 5, 1920

VOLUME 4 NUMBER 23

Our job is to serve our readers. Whenever and wherever we can help you, write us.—The Editors

Optomism Needed

IT WOULD seem from what one hears and reads that most people have fallen into the chronic habit of "hoping for the best while expecting the worst," with more expectation than hope. We became so accustomed to using superlatives during the war that nothing in the ordinary satisfies. It is possible that the present discussion about a possible food shortage and other matters relating to farm and labor conditions should be considered in the light of this understanding. There never was a more appropriate time for the optomist to get in his work than now. It will help some to expect the best as well as to hope for it.

Is the Primary Worth While?

THE THEORY upon which the primary election was established is good. It is in keeping with democratic principles. It is perfectly consistent and just that voters of the respective parties should select the candidates who are to compete with candidates of other parties at the general election, instead of having them set up by a few bosses or self-appointed leaders. But the presidential primaries this year are far from satisfactory, and so far as definite results are concerned they seem hardly worth the cost and effort. Only a fraction of the voters take the trouble to attend the election so that the results cannot be said to reflect definitely the popular will. Here, again, is shown one of the great weaknesses of popular government—the carelessness of voters about performing their duty at elections.

Another undesirable feature, brought to light by the Senate investigation into campaign funds, is the immense amount of money being spent by the backers of the different candidates. No charge is made that money is being used unlawfully, but in certain cases the amount spent for "publicity" purposes is so great as to make a burlesque of the idea that all men have an equal chance for the presidency in this country. Popularity established by the ability to make a big noise is not a sufficient recommendation for the presidency.

Still another point for criticism in some states is the fact that the voters had no opportunity to express their choice for president at the primary election. The "leaders" decided that the delegates should be left free to act as they saw fit at the convention, and all the voters had to do was to ratify the selection of the hand-picked delegates. In these states the "preferential primary" was a farce pure and simple.

We are not ready to urge the repeal of the primary election law, because it is right in principle, but there must be some change in methods of conducting it and in the privileges allowed candidates before it; also, there must be a greater degree of responsibility felt by the rank and file of voters before it will become anything really worth while.

Public School Crisis

THE REPORT of the educational conference recently held in Washington, D. C., as found in our Washington Letter, is worthy of careful reading. It does not relieve the real situation to say, as some may be inclined, that these are but the professional utterances of professional people, or that the speakers do not have a practical knowledge of rural affairs. Such criticism would be beside the mark. All observing people know that the situation in regard to rural schools is deplorable at the present time and that something must be done. We cannot dismiss the subject by saying that it is financially impossible to remedy the matter. It is largely a matter of more money. If a revision of the state tax laws is necessary to raise the funds, even this can be done if people are sufficiently in earnest.

Declining Exports

THE FIGURES showing the foreign trade for April show that the decline in exports still continues. The value of agricultural products exported in April was $86,637,000 less than April 1919. The decrease would be still more if it were not that the price of cotton this year is about 90 percent higher than last year. The heaviest decline in value of products exported was in breadstuffs, meats and dairy products. This partially explains the tendency to lower prices in these commodities in this country. Europe is getting back more rapidly in the business of food production than in industrial production. A significant note that should not be overlooked by American statesmen is that the governments of Europe are making plans to foster agriculture in the future as they have not done in the past. Their plight during the war was largely due to the fact that they had for years placed undue stress upon the development of their industrial life to the neglect of agriculture. Americans should stick a pin right there.

Let Critics Be Fair

UNDER the above caption an esteemed contemporary voices the following sentiments which we deem to be true in spirit and in word:

"Most people who find fault with country life do not take into account the progress made during recent years. Some of these critics assume that conditions are what they were 10 years ago; that country people have not improved their methods of farm management, nor raised their standards of home life. They are deploring country life and sympathizing with country people who lived 10 years ago and these critics do not know and cannot understand those who live on farms in the best rural communities today.

"The facts are that much progress has been made in methods of farming and standards of living during recent years. The country has prospered as a result. From whence has come the wealth of the cities and towns? Where did the managers of great business come from? The farms of this country have contributed mightily to these forces.

"Country life is not what it should be today. It is not what it will be a few years hence. Country people themselves are more concerned about higher standards of country life; greater farm incomes; better citizenship, than their critics realize.

"Let the critics be fair. Let them give country people full credit for what they have done and what they are doing to advance the interest of this nation and the civilization of the world. Has any other class of citizens done better? What class has done more?"

Our Washington Letter

Many school officials and teachers from all parts of the country attended the recent national citizen's conference on education held in Washington. The leading topic for discussion was the rural school situation which was described as "a national menace." Speaker after speaker told of the deplorable condition of education in the open country, of the thousands of children who were not receiving any school education, and of the scarcity and inefficiency of rural teachers.

In opening the conference, United States Commissioner of Education P. P. Claxton said "the American public must decide and that quickly whether it wants universal education or not." Latest figures obtained by the Federal Bureau of Education show that between 300,000 and 400,000 children in the United States last year were without schooling. Approximately 70 percent of the people of the United States left school at fourteen years of age. Speaking of the after war conditions and the vast debt that has accumulated, Dr. Claxton said that these debts must be paid by the wealth of the people, and wealth depends upon the people's education. Deploring the shortage of trained teachers, Dr. Claxton said that "next year there will be needed 120,000 new teachers for the elementary schools. The total number of graduates of normal schools and colleges giving professional training for elementary teachers will not exceed 30,000, which leaves a shortage of 90,000 positions in the elementary schools to be filled by persons who have not had this kind of training." Approximately thirty-thousand teachers will be needed by the high schools, and the total number of graduates trained for teaching in these schools will not exceed 10,000, leaving 20,000 high school positions to be filled by persons who have less education than the minimum which was set by the educational authorities a good many years ago. In January of this year, according to Dr. Claxton, reports to the Bureau of Education indicated that between 18,000 and 20,000 schools were without teachers, and 45,000 schools were supplied with temporary makeshift teachers, whose qualifications were below state requirements. More than 300,000 teachers are now teaching with less than the minimum standard of qualifications.

Colonel Leonard P. Ayres, director of education, Russell Sage Foundation, said the public schools of this country had doubled in efficiency in fifty years, and they are now only half as efficient as they should be. He presented figures showing that there are seventy-six boys in high school for every one hundred girls.

Dr. W. C. Bagley of Columbia University advocated the slogan, "For every American child a competent teacher." While sixty percent of all our boys and girls are enrolled in the country schools, these schools have the larger proportion of poorly prepared teachers, and of every six illiterates in the United States, five live in the open country. Dr. Bagley declared that the school situation could not be solved by the consolidated school plan, because at least two-fifths of the districts schools were not adapable to consolidation, and no state should proceed in a high-handed method in readjusting the school system.

"We have gone after wealth and neglected the spiritual side of life," said Senator Ramsdell, of Louisiana, in discussing the relation of education to material wealth and national defense.

The school system of England was described by Sir Auckland Geddes, British ambassador, who said that while much attention was given to the fitting of boys and girls to earn a living, the schools are more and more directing the students to a complete preparation for life. The teachers of England are mostly young men who are looking more to present and future conditions than to the past.

Representative Horace M. Towner of Iowa advocated the establishment of a new department of education, and its secretary a member of the president's cabinet. Congressman Towner urged Federal appropriations for public schools, asking if it is of more interest to the nation that we should eliminate hog cholera than illiteracy. He stated that 250,000 out of every million young men in the draft could not read and write, and had to be sent to school before they were fit to be soldiers.

Governor R. A. Cooper, of South Carolina, whose subject was "The Rural Schools," said the people of the South were beginning to realize that it cost less to support schools than to support illiterates. He declared that "the men who are leaving the rural communities are doing what they ought to do, until the states provide their children with educational facilities as good as they find in the cities."

* * *

The Nolan land tax bill, H. R. 12,397, is much in the pubic mind just now because of the publicity given it by the recent referendum conducted by the American Federation of Farm Bureaus, which showed that the farmers everywhere are practically unanimous in opposition to it.

According to the text of the Nolan bill it "provides for the raising of public revenues by a tax upon the privileges of the use and enjoyment of lands of large value." All persons, firms, associations and corporations owning land in value in excess of $10,000, not including improvements whether in possession or leased to others, would be subject to an excise tax upon such excess at the rate of one percent if this bill should become

a law. Where land is leased and the value of the lease is in excess of $10,000 such value shall be deducted from consideration in determining the tax to be assessed against the owner, and shall be charged against the lessee. It shall also be the duty of every owner of any interests in land, the value of the fee or lease of which is in excess of $10,000, to report his interests therein before March 1 of each year to the Commissioner of Internal Revenue on blanks prepared by him. It is required that the owner shall give such information in regard to the purchase price, sale value, and the like, as will enable the Commissioner of Internal Revenue to determine therefrom, and from such other data as he may obtain, the true value of the land holdings of the taxpayer. It shall further be the duty of the tax payer in the event of a sale of all or any part of the land of which he has reported himself as the owner, to report to the Commissioner of Internal Revenue the price at which said sale was made. In the event that the payment is not made as directed by this bill, the taxpayer will be subject to an additional payment of five percent and an additional payment of one percent for each month it is delayed, and no conveyance made by him shall be admitted to record of date on or after July 1 of any year, unless he shall have first procured from the Commissioner of Internal Revenue and exhibited to the recording officer a certificate that all taxes under this act are paid.

One significant fact in regard to the Nolan bill is that both union labor and large manufacturing interests are united in its support. The bill was drafted by an attorney for the American Federation of Labor, and Congressman Nolan is an avowed labor leader, while its financial backing is said to come from a large group of manufacturers in the Middle West.

It is not believed that the Nolan bill will be seriously considered in Congress, at least this session. It was referred to the committee on Ways and Means and ordered printed on February 7, 1920, and there it will probably remain unless brought up by special order. The Washington representatives of the National Grange and the American Federation of Farm Bureaus are keeping a close line on this bill, knowing that there is always needs for alertness as long as Congress is in session, and as there are possibilities that it may form the basis of future attempts to place the Federal taxes on the land.

If the agricultural interests were dependent entirely upon members of Congress coming from districts in which the farmers compose a majority of the voters, to secure legislation in their favor or to defeat harmful legislation, their case would be hopeless. In making a careful survey of rural and urban population in the Congressional districts, I have classified 125 as purely urban, 108 as largely urban, and 200 which are usually classed as rural districts.

While these figures may make it appear that there are more rural congressmen than those coming from the cities, the facts remain that more than two-thirds of the voters live in places of more than five thousand population, while less than one-fourth of the others are actually engaged in farming. In the strictly agricultural states, the villages are dependents upon agriculture, yet even in these states more than one-half of the people live in villages and towns.—**Elmer E. Reynolds.**

HARRISBURG LETTER

Straightening Fence Laws.—Secretary of Agriculture Fred Rasmussen has started out to get the laws of Pennsylvania relative to fences codified so that persons compelled to refer to the books for guidance and information as to their rights and liabilities in boundary matters may be able to proceed without getting lost. The Pennsylvania law is one of the most amazing structures in the United States, composed of acts passed in provincial times, modified and even superseded, set aside or interpreted by the courts or made obsolete by advance of time and change of custom without any effort being made to strike useless provisions from the books. When the codification movement began in the days of the School Code discussion there were cries raised that important matters would be disturbed, but to the credit of John K. Tener, the governor, half a dozen code propositions were put thru and the idea provided so popular that many statutes were codified and a man can now go fishing or drive an automobile without having to take a lawyer along and it may be possible with the progress of time and the conferring of the franchise upon women for folks to vote without a law book under their arms. In looking up the fence laws it was discovered at the Department of Agriculture that they dated from 1842 with possibly a few further back and that is far as provisions go they had the well known "snake fence" a very simple proposition. The secretary found codifying of various laws had been authorized by commissions in other years, but the governor decided fence laws could be straightened out and sent to the legislature for approval without expenditure of extra money and by use of the brains the state government possessed without special counsel. The farmers of the new fence law code will not only take the "live" law in Pennsylvania, but the provisions of other states and prepare something upon which the legislature can intelligently act.

The Local Tax Laws.—In this connection it is interesting to note the State commission to revise the taxation laws began its work here a few days ago and decided to get the systems of collection, which most nearly affect the people, into some kind of harmony. This commission will attempt to simplify the tax laws relative to county, borough, township, city, school and poor districts and provide some general plan for valuation, assessment and collection. It has wisely decided to consult the people active in the various municipal associations. The chances are it will evolve something useful. The commissions in charge of codification of the banking, insurance and other laws and state officers handling road, poor and other codes will likely give the legislature something which may keep its mind off the squabbles of contending leaders in the cities of the state.

More Rural Patrols.—The State Police Department will establish probably a dozen new rural patrols as soon as the second motor cycle squad is trained. A system of giving warning of need by means of discs and signals is being arranged so that officers may be stopped while patrolling. — Hamilton. Harrisburg, May 31.

NEW YORK LETTER

Fabulous Prices For Holsteins. — At the big Abbott-Clarke sale of purebred cattle near Cortland last week Katie Paul Burke, a world's record 44-lb. cow sold for $7,500, while four of her family brought $17,500. A six months calf brought $6,000. A Newark Valley, N. Y. buyer paid $14,000 for seven head. At three big sales near Cortland on four succeeding days of last week 321 head of purebreds sold for not far from $300,000.

Salary Increase For Teachers.—New York City teachers, under the new salary bill just signed by the Governor get a $600 increase. Those of Buffalo and Rochester get $500 increase. Of Albany, Schenectady, Binghamton, Utica, Troy, Syracuse and Yonkers, $450. Cities of the third class, $350; union free school districts with a teaching and supervising staff population 4,500, $350, other union free districts, $300; rural school districts, $250.

Parcel Post Shipments.—Recent enforced shipments by parcel post of eggs, butter and other foods brings out the fact of unwillingness of clerks to handle such goods and actual destructiveness by clerks in handling shipments. But back of these facts is the fact that such clerks are not properly paid by the government.

New Course. — About 35 home demonstration agents are to take a month's course in home making adjustments at New York Teachers' College to fit them for giving work in city nutrition clinics. Several up-state agents are to take the course so as to be able to help in the new milk publicity campaigns designed to increase the use of milk.

Nitrate For Farmers.—The department of Farms and Markets advises farm bureaus that government nitrate from Mount Union, Pa., may be had at $88.90 per ton, f. o. b. at shipping point. All purchases may not be for less than one ton or more than 100 tons. Three New York City firms will distribute the nitrate.

Forest Fires.—Six bad fires raged last week in the Adirondacks burning over 36,000 acres. The rain checked its spread.

Veto Power.—The Governor recently vetoed six anti-sedition bills, which were aimed at socialism, anarchy and Bolshevism. One would require a loyalty test of all public school teachers. It is found that nine tenth of the waiting list for positions in New York schools are foreigners, and such a measure was deemed of great importance. He also engendered the lasting ire of farmers by vetoing the repeal of the daylight saving law, despite the personal appeal of a very big delegation of farm leaders who freely prophesied food riots before next year's harvest is secured.

More Cattle Sold.—Hobart buyers near the Catskills bought four carloads of milk cows near Syracuse last week, one car going to the Sheffield Farms Company, leading milk distributors.

Premium for Rural Teachers.—At the national education conference at Washington last week, Dr. Finegan, head of Pennsylvania's State Education Department, lately head of New York's Department, said that instead of employing the poorest trained and the poorest paid teachers in rural schools the best should be secured and they should be paid a premium for going into country schools.—F.

NEW JERSEY NEWS

Farm Labor Shortage Acute.—That the shortage of farm labor in various parts of New Jersey is acute is the declaration of many farmers, and owing to this condition, many have not put in their normal crops this year, feeling that they would be unable to harvest them when the season arrived. The present price of seed has also been a factor, making it almost impossible for many to take care of their acreage as heretofore. This will no doubt curtail food production in the state. Secretary Meredith, of the Department of Agriculture, has called the situation to the attention of business men and students in the schools, while he has requested them to devote their summer holidays to assisting on the farms and thus aid in combatting the high cost of living.

Renew Food Garden Work.—The Trenton Chamber of Commerce, heeding the declaration of the United States Department of Agriculture that food gardens are as necessary this year as they were last year has started the renewing of food garden operations in this city, which lapsed because the Trenton Food Garden Commission disbanded last fall. The chamber, thru its agricultural committee, has opened garden headquarters in its offices in the Broad Street Band Building. The records of the garden commission have been turned over to the trade body, and they will be utilized in the work.

Wheat Crop Only Fair.—The winter wheat crop in New Jersey is only fair, according to the crop and weather report of the United States Department of Agriculture for the state Corn planting is progressing in the Northern section of New Jersey where some seed already planted is rotting. Oats and rye are doing well. Sweet potatoes and peppers are being set. The report also stated that indications pointed to a good berry crop in the state. Brown rot continues in peaches.

Department Appeals. — A strong appeal to every interest connected with food production in New Jersey is made in a very attractive booklet issued by the State Department of Conservation and Development, bearing the title "New Jersey For Progressive Farmers."—Kelly.

COMING EVENTS

Farmers' Field Meeting, Farm of Hon. Jos. S. Frelinghuysen, Raritan, N. J., Saturday, June 5.

Annual Meeting of the National Ayrshire Breeders' Association, Hotel Kimball, Springfield, Mass., Wednesday, June 9.

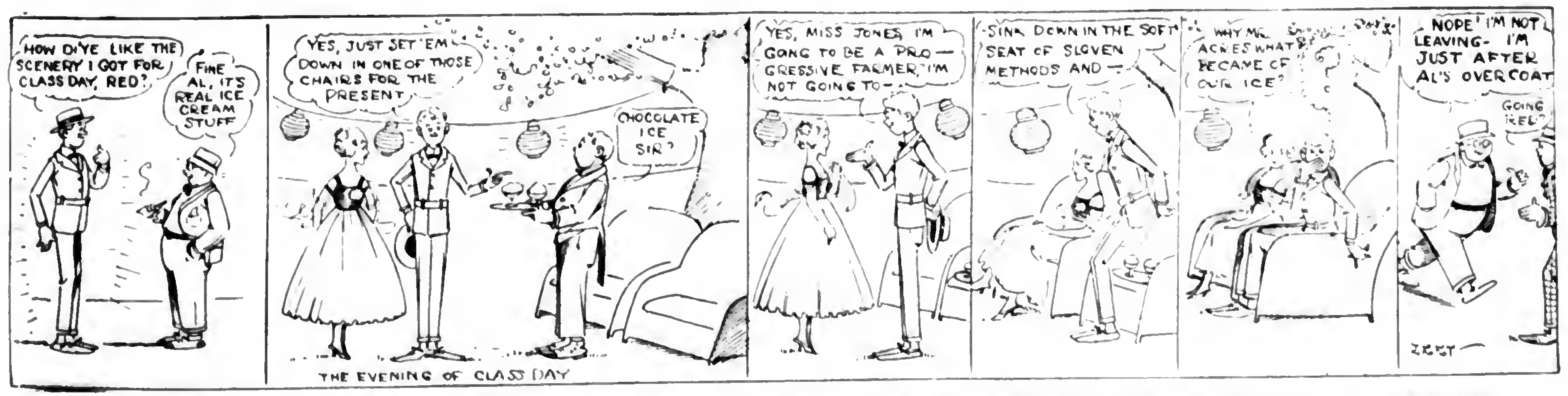
Summer meeting of New Jersey bee-keepers at apairy of A. S. Lupton, Shilo, Thursday, June 3, from 10 A. M. to 3 P. M. Demonstration by E. G. Carr., Bee Inspector.

Farmers' Week at Pennsylvania State College, June 22-25.

Farmers' Field Days at Cornell University, June 30, July 1, 2.

Annual Summer Field Meeting at College Farm, New Brunswick, N. J., June 16-19.

Based upon observations of cutover timber lands it can truthfully be said that if we wish to continue to have timber it will be necessary to practice forestry. Nature produced the former crop, but she did not have civilized man to contend with. Nature unaided by man will not produce another crop worth while.


HOW D'YE LIKE THE SCENERY I GOT FOR CLASS DAY, RED?
FINE AL, IT'S REAL ICE CREAM STUFF
YES, JUST SET 'EM DOWN IN ONE OF THOSE CHAIRS FOR THE PRESENT
CHOCOLATE ICE SIR?
THE EVENING OF CLASS DAY
YES, MISS JONES, I'M GOING TO BE A PROGRESSIVE FARMER, I'M NOT GOING TO—
SINK DOWN IN THE SOFT SEAT OF SLOVEN METHODS AND—
WHY MR. ACRES WHAT BECAME OF OUR ICE?
NOPE! I'M NOT LEAVING - I'M JUST AFTER AL'S OVERCOAT
GOING RED?
ZECK

AL ACRE'S Graduation and New Suit Inspires Him With High Ideals. But, Like Others, He Still Finds it Necessary To Cover Mistakes.

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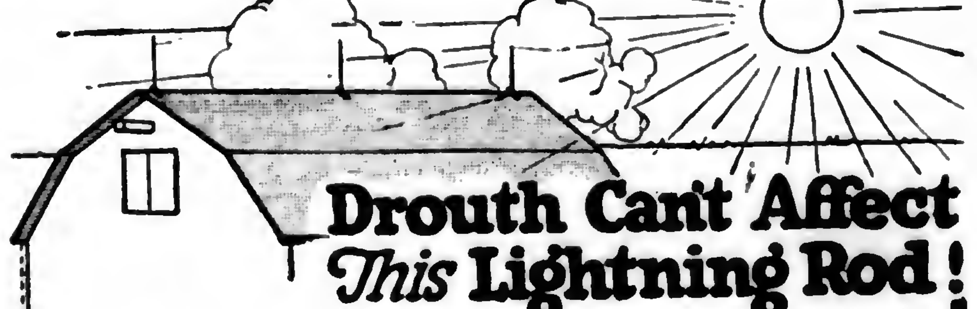

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No matter how hard the soil bakes, there is always moist earth around the Security ground rod, which insures the high conductivity necessary for sure protection from lightning. This is due to a patented feature found only in

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WATER GROUND LIGHTNING CONDUCTORS

The rod is grounded in a water-filled copper tube. Overflow from this tube moistens the soil and keeps it moist. You never have to pour water on ground rod and you always know the Security will give you protection. Security cable is 99.8% pure and guaranteed free from corroding acids. Security Lightning Conductors are backed by 28 years' experience and endorsed by the National Board of Fire Underwriters and many State Insurance Exchanges.

The Security Lightning Rod Company
503 Pine Street Send postal for free book and name of nearest dealer Burlington, Wis.

Idle Acres on the Farm

Pennsylvania Department of Forestry will assist you to Plant the "boarder" acre to trees.

Steep slopes, eroded banks, gullies, abandoned fields, worn out pastures, unused corners etc., on your farm are valuable. The idle acre is like the "boarder" in the dairy herd; you have the expense without any return. You pay taxes for every acre on your farm and you should get a return from each. Has your farm been raised to that point of efficiency where every acre of non-agricultural land is producing its maximum? If not, let the Pennsylvania Department of Forestry help you.

The 1920 spring planting season has just closed and 2,760,000 forest tree seedlings have been distributed free of charge to farmers and others for reforesting waste lands. Many requests continue to come in, but the planting season is so far advanced that it is not advisable to send out the trees. The best time to plant is in the spring after the frost has come out of the ground and before the trees begin to grow. Trees have been planted successfully at other seasons, but more care is required to get good results.

Forest tree planting is an established fact in Pennsylvania. Thirty-four millions of trees have been set out on State Forests since 1899 and twelve millions have been supplied, free of charge, to private owners. The total area planted is approximately 24,000 acres. Numerous letters have been received from planters which show that from 80 percent to 96 percent of their trees are growing nicely.

The fear of loss thru forest fires has discouraged many prospective planters. On the State Forests we have had but 124 acres of plantation burned over in 21 years. This is one-half of one percent of the total area planted and farmers should not have so great a loss because of the more favorable location of their planting sites.

The days of cheap wood are gone forever in our states. We are now importing $50,000,000 worth of lumber annually and the quality is getting poorer as the prices soar. If it is bad policy for a farmer to buy his corn and potatoes, is it not equally bad for him to buy wood fuel and lumber? The product of the woodlot is just as much a crop as his grain, and it deserves more attention than it has been receiving. You may expect returns from the woodlot in proportion to the care you give it; just as in other crops.

If your woodlot is not properly stocked, or if you have idle acres on your farm, make your plans now to plant trees. These idle acres are valuable. The Pennsylvania Department of Forestry, Harrisburg, Pa., will give you technical assistance and planting stock free of charge.—John W. Keller, Dept. of Forestry, Harrisburg, Pa.

EXPERIENCES WITH SWEET CLOVER

I have been raising sweet clover for seven years, but I have not had success every time I sowed it. At first I had a number of partial failures because I got a few scattered stalks which inoculated the ground and proved its value to the next seeding which so far has always been a success.

I have sowed it on old pasture sod without any lime or inoculation and failure was the result, but I expect to try it again and I will lime, inoculate, and possibly use a little acid phosphate.

I like to sow it in a light tracking snow any time during the latter part of winter or spring on wheat. I think it is better before the freezing weather is over. After freezing weather I would wait until the ground dries enough to harrow it in lightly. With a weeder or spike-tooth harrow, I have had good success on wheat.

I often sow my oats ground when I sow the oats. If I do not get my oats ground plowed in the fall or winter I do not plow it at all, I simply harrow it thoroly, as soon as the ground is dry enough in the spring and then about every ten days until sowing time.

By this method of sowing with oats I have gotten excellent results. I have never sown it on fresh plowed ground, but some to whom I sold seed last year, sowed it with oats on fresh plowed gound with fair results.

On our soil it will grow on the poorest we have if we simply have lime and inoculation and a firm seed bed. To compare it with alfalfa I would put alfalfa first for hay or hog pasture.

For pasture for cattle, sheep or horses I place sweet clover first because they will not bloat on it as they will on alfalfa or other clovers. As a fertilizer or soil improver I place it in the lead, because it will grow rank on soil that is too thin for other clovers to make much growth therefore it will put more humus in the soil which is one of the most necessary things that is needed in a thin soil as well as nitrogen.

As a rotation I am using it exclusively in preference to other clovers. I sow about one half bushel to the acre of unhulled seed. I have sowed some hulled seed but accidentally thru trying to get some information I have learned that most of the American grown seed is sold in the hull, and I prefer American grown seed to foreign seed.—G. A. C., Bedford Co., Pa.

GROWING SORGHUM AND MAKING SYRUP

In these days of sugar shortage as at no other time, farmers should consider growing sorghum.

The writer lived many years in Illinois and Wisconsin, and the barrel of sorghum molasses was as regular a part of the year's stored supplies as potatoes, and no more trouble.

The ground was prepared each spring for corn, and after the corn was drilled in the drill kept on over the additional acre or less desired, dropping sorghum seed. Thereafter it was all "cover field" until fall, all treated alike. At maturity the cane was cut and hauled to the crusher, and the expressed sap boiled down to the required consistency in an open kettle or a sap pan if on a larger scale. That's all there was to it. The seed made excellent poultry grain, and the bagasse—the crushed fibre—was fed to stock.

The favorite variety was Imphee, or black African cane, blue green in color, with almost black tassel.

Every farm had its crusher, three heavy iron rolls geared together and driven by horse power.

Like butter, there are as many grades of sorghum molasses as there are makers. I have eaten some that would compare favorably in transparency and delicacy of flavor with any of the table syrups sold in our stores today; and I have had set before me stuff that corroded all the way down. Clean handling determined the color, and quick and continuous motion from the stump to the boiler settled the flavor. For cane juice begins to ferment and develop acids as soon as cut and these give the "sharp" taste. Cane cut and piled one day, run thru the crusher the next, and boiled down on the third made only average molasses.

I have seen and tasted sugar made from the sorghum cane—a yellow brown crystalline product with fine cane flavor, needing only refining to equal in every way the best on the market. But expensive plants and machinery are required and a large acreage of cane close by, and in ordinary times overhead cost would bar it from commercial possibility. A ton of cane has been made to yield 35 pounds of sugar and ten tons have been grown to the acre.

A ton of cane yields 50 percent of juice—1,000 pounds, counting nine pounds to the gallon, 112 gallons. If all the juice could be extracted the yield woud be 1600 pounds or 178 gallons of sap. Boiled down to thick syrup that would yield roughly 20 to 25 gallons.

Sorghum should be planted after corn, never before. It needs just that little warmer conditions. Its cultivation is identical. It is ready to harvest when the seeds get ripe and hard. It will stand drought that corn will give up under and keep on growing.

The only investment absolutely needed is the crusher, and neighbors can combine on that. The hog kettle will boil the sap until one gets eager to handle larger quantities.—Charles H. Darlington, Montgomery Co., Pa.

NEW CANADIAN WHEAT PRICES

The Canadian Wheat Board increased the price of wheat from British Columbia, Ontario, and Quebec by 25 cents per bushel. The following prices became effective on January 31: $2.80 per bushel, basis No. 1 Manitoba Northern and No. 1 Alberta Red Winter in store public terminal elevators, Fort William or Port Arthur; $2.70 per bushel, basis No. 1 Durum, in store public terminal elevators, Fort William or Port Arthur; $2.58 per bushel, basis No. 1, Spring wheat, No. 1 White Winter, and No. 1 Red Winter wheat in store Montreal; $2.56 per bushel, basis No. 1 Mixed Ontario and Quebec wheat in store Montreal; $2.49 per bushel, basis No. 1 commercial grade wheat in store Montreal; $2.50½ per bushel, basis No. 1 British Columbia wheat in store Canadian Government elevator Vancouver. The foregoing prices include 5 cents per bushel carrying charges.

The maximum wholesale prices of flour also have been increased, effective January 31, as follows: Government standard spring-wheat flour, $13.15 per barrel, basis 98 pounds net, jute bags. Government standard winter-wheat flour, $11.25 per barrel, basis 98 pounds net, jute bags.

Quality oils last longer so it's easy to tell them

Lubricants are used to overcome heat—but they never wholly succeed.

They use themselves up in the effort, for slowly but surely champion heat breaks them down into useless carbon.

A good oil, like a good fighter, will last longer against the champion than a poor one—and that is the one sure test of its quality.

Note the mileage you get from your next oil-filling—then test Crew Levick lubricants the same way, and see for yourself whether our long standing claim for quality is justified.

Don't be surprised by the comparison, for the difference in some lubricants on this score is really startling. Wherever you see the Crew Levick trade-mark you can buy these Crew Levick products

Motor Oil **Special Gear Compound**
Cup Grease **Auto Soap**
Gasoline

Crew Levick Company
New York Boston Philadelphia Syracuse Chicago
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MOTOR OIL
CREW LEVICK

One of the Country's largest producers and refiners of oil

For Every Farm use

Plowing, Disking, Pulverizing and Harrowing Miscellaneous Belt work, Shelling, Shredding, Feed Grinding, Hauling, Harvesting, Threshing, Binding, Baling, Planting and Seeding, Stump Pulling, Sawing Wood, Ensilage Cutting and Silo Filling.

FRICK WILL DO THE TRICK
SAVES LABOR AND TIME
Is Durable and Efficient
Write For Catalogue
FRICK COMPANY, Inc.
347 West Main Street
WAYNESBORO, PENNA.

Great Opportunites in Canada's Maritime Provinces

—the historic scene of early settlement in what are now the Provinces of Nova Scotia, New Brunswick, and Prince Edward Island—may today be the land of opportunity for which you have been looking. Lying out into the Atlantic, close to the biggest markets in America, nearer to Europe than any port in the U.S. they

Offer Special Advantages to the Farmer

fruit raiser, dairyman and market gardener. Land of great natural fertility, in many cases with substantial improvements, may be bought at very reasonable prices from farmers who are retiring to enjoy the reward of their foresight and industry. The apple, potato, and fodder crops of these Provinces are world famous, and modest capital will here start you on the highway to success. Industrial cities and towns afford a ready market for produce of the farm, and near at hand are ocean ports awaiting your shipments to the great centers of the world. If your present conditions do not assure you of the success you desire, investigate what these Provinces can do for you. For illustrated literature, maps, etc., write Department of Immigration, Ottawa, Canada, or

F. A. HARRISON
200 N. Second Street Harrisburg, Pa.
Canadian Government Agent.

New Jersey Farms all sizes and kinds, in Burlington, Monmouth, Ocean and Mercer Counties. Mild winters, long growing seasons. Good roads, schools, and home markets. Close to summer resorts. Write me what kind of a farm you are looking for.
C. J. LAME FARM AGENCY, Burlington, N. J.

Tomato and Cabbage Plants. Fine field grown, strong and stocky. Leading varieties: 300, $1.25; 500, $2; 1,000, $3 postpaid. Express 10,000, $20. Sweet potato plants, leading varieties 500, $1.50; 1,000, $2.50; 10,000, $24 mail or express collect. Well packed, shipped safely anywhere. Cash please. TIDEWATER PLANT CO., Franklin, Va.

Tomato and Cabbage Plants by prepaid mail. Lord Baltimore and Bonnie Best tomato, Jersey and Chas. cabbage. 300, $1.00; 500, $1.75; 1000, $3.00.
COLEMAN PLANT CO., TIFTON, GA.

More Beautiful Woodwork

BARE, polished floors need not be of hardwood. Neither need they be expensive. A North Carolina Pine floor takes a high polish with either wax or oil and is thoroughly durable. It is so manufactured that it will cover 10% more area than most other lumber. North Carolina Pine takes stains and enamels with beautiful effects. For paneled walls, beamed ceilings, built-in cabinets and other such woodwork, it has no superior at any price.

Write for our 160 page Farm and Building Book. Worth $1.00—but costs you nothing.

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NORTH CAROLINA PINE
Better Farm Buildings at Lower Costs
North Carolina Pine Ass'n
Farm and Building Book

Give 'Em a Chance to Increase Their Milk Flow

Give your herd a real chance to prove their worth this summer. Even a prize-winning cow will not do justice to herself if her ration does not contain the ingredients which build her tissues and make milk. Special Dairy Feed is what your cows need this summer in addition to natural pasturage. Cows fed on pasturage alone are underfed and enter the winter out of condition and with milk flows diminished. To to make each cow in your herd a good milker next winter put your herd on a ration this summer of

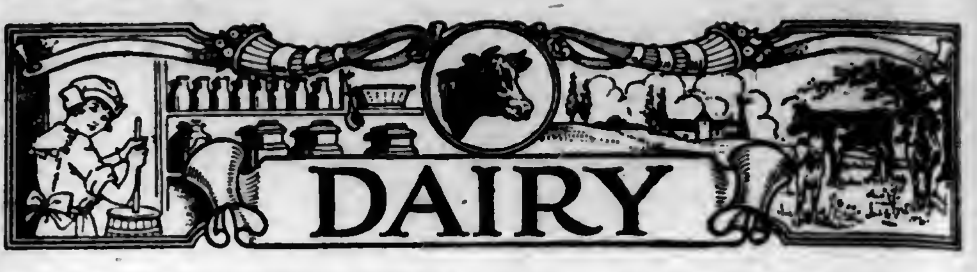
International Special Dairy Feed

More milk—more milk—more milk; that is the Special Dairy story in a nutshell. It is a medium-priced dairy feed that can't be beat. You can't start too soon feeding this unusual ration. For more certain and bigger milk profits next winter, feed your cows International Special Dairy Feed this summer. If your dealer can't supply you, write to us. We also make the following popular dairy feeds:

International Diamond Dairy Feed—Guaranteed analysis 24% protein, 5% fat, 42% carbohydrates.

International Ready Ration Dairy Feed—Guaranteed analysis, 20% protein, 5% fat, 45% carbohydrates.

International Sugar Feed Co.
MINNEAPOLIS MINNESOTA
MILLS AT MINNEAPOLIS AND MEMPHIS
Live Salesmen Wanted



DAIRY

CLEAN BARNS COMBAT WHITE SCOURS

In the late spring white scours in calves is far more prevalent than at any other time, and is now causing material loss. It is very noticeable that as soon as the weather becomes agreeable and the calves can be born at pasture the disease subsides, which indicates that the infection is resident around the barns and corrals. The inference from this is that if the barns could be kept as free from infection as the pastures, the trouble would be reduced to the minimum. This points to the conclusion that not only ordinary but extra care is essential if the loss is to be reduced. All litter should be removed from the sheds and barns, and the whole should be sprayed with a five per cent solution of crude carbolic acid. Especial attention should be given to a maternity stall, and on every farm there should be such a place. Fresh bedding should be put into this stall daily and the old cleaned out. Cows that are about to calve should be placed in this stall and kept there until the calf is at least a week old.

A serum has been prepared by manufacturing houses which has some curative value, but is not very reliable.

A Well Equipped, Business Dairy Barn

DIAMOND STATE COW TESTING ASSOCIATION

There were 308 cows on test during the month of April, 33 of which made better than 51 pounds of fat for the 30 days. Brookwood Farm takes the lead this month with a record that is hard to beat, 2694 pounds of milk and 104.3 pounds butterfat. Rosealia Jewel Pietertje is the name of the cow which made this fine record and, at the time that the association tester visited the farm she was being run on a 7-day official test. Her 7-day record which has since been completed is the highest ever made in Delaware if we fail to consider Winterthur Farms. Six hundred and sixty pounds milk and 30.9 pounds butterfat in the 7-day period with a high milking of 105 pounds in 24 hours.

The scarcity of bran as well as the high price of other feeds has caused a great many of the farmers to turn out on grass much earlier than usual. The lateness of the spring has not helped the grass much and prospects of a long pasture season are therefore not very promising. Many farmers have completely run out of roughage and the majority are curtailing their daily consumation in order to make it last.

Symptoms of flat foot are pain along the instep or even in the calves of the legs, knees, thighs, hips or back, often mistaken for rheumatism or other troubles. The person stands with feet well apart and toes turned outward. The ankle bends inward and the weight falls on the inner side of the foot so that the entire sole rests flat on the ground.

MARKETING DAIRY PRODUCTS

(Continued from Page 3.)

all dairy products. Milk consumption is not over ¼ pint to the person. Cheese consumption is less than four pounds to each person annually according to the U. S. Department of Agriculture, less than in most of the countries from which statistics are available. Butter consumption is lower than in Denmark, the United Kingdom, New Zealand and Australia and has always been depressed by high prices.

The National Dairy Council which has started an excellent campaign of advertising shows that the expenditure for milk and its products now is twenty percent of the total expenditure for all food and that it should be forty-four percent for the sake of economy and the best health of the Nation. Dr. McCollum and other scientists have given the dairy industry the best foundation of facts for pushing the sale of the product that any industry in the world possesses but little use has been made of them. Dairy products are essential to the health of people and it is the duty of the dairy industry to carry this message to the consumers.

The imperative need of the dairy industry is a larger demand and if it is not forthcoming from abroad it must be developed at home. The cost would not be great if every branch of the industry bore its proportionate share of the burden. The California Dairy Council for instance in asking twenty cents a cow a year from producers and an equivalent sum from milk dealers and manufacturers of milk products. If the owners of two million cows spent twenty cents a year a cow to advertise the product which they produce and market, a small sum for each cow owner, $400,000 would be contributed by producers alone and the balance of the dairy industry would do its share, the effect on consumption would soon be noticeable. Such an educational campaign can well be put on a humanitarian basis because an increase in consumption of dairy products will be reflected directly in a higher standard of health, so that the motives behind such a movement are not selfish. The dairy industry is fundamental to the health of the nation.

How about the various butter subsitutes masquerading under various names which are now receiving such prominent publicity at the hands of their manufacturers? Their consumption is being rapidly increased as a result of this advertising and the difference in the price at which they sell as compared to butter. The most discouraging fact is that oleo in one of its forms is used in place of butter on many dairy farms. In the best dairy county of this state one groceryman in January, 1920, sold ninety pounds of butter and nine hundred pounds of oleo, and there are other similar instances which illustrate the seriousness of this phase of the situation. Too many dairymen consider only the difference in price and forget that anything which decrease the consumption of butter will sooner or later lower the price of the very product which they produce. They are helping to undermine their own industry, and this applies to the market milk producer as well as to the dairy man whose milk is manufactured into butter, cheese or other milk products. In 1914 one pound of oleo was sold to five and one-half pounds of creamery butter. In 1918 one pound of oleo was sold to two pounds and four ounces of creamery butter and much of this is sold to the producer. What is the farmer going to do about it? Charity begins at home and we must use our own products before we can conscientiously tell our city cousins to use more.

A number of state dairy councils have been organized for the purpose of stimulating consumption of all dairy products. The National Dairy Council is doing good work, but it has just commenced. The entire dairy industry must act and act soon if domestic consumption is to be increased in time to avoid the serious results which will follow the depressing influences and losses of a large surplus. The New Jersey Bureau of Markets has assisted the dairy industry in this state in laying the ground work for a state Dairy Council, but the financial and moral support of the entire industry, — producers, dealers, manufacturers of dairy products, manufacturers and dealers of machinery and feed and all other interests is needed right now to help push the work with our more than two million consumers.

The market can be stablized by increasing domestic consumption and this must be done if production is to be maintained at its present level. Production costs cannot be decreased very soon and there are only two things which will stimulate home consumption sufficiently to maintain present price levels, a lower price to the consumer and the right kind of educational and publicity work. A lower price level to the consumer is hardly possible now because of high production costs so the only other alternative available is publicity and education.

GREEN MOUNTAIN SILOS

The Green Mountain silo with the new hip roof does credit to any group of farm buildings, no matter how pretentious. With its nut-brown creosoted staves and bright red cedar shingled roof, it is a beauty.

Just as good as it is good looking, too. Each part that has to stand a strain and in a silo that means almost every part—is built extra staunch and heavy.

Green Mountain staves are of extra-heavy, clean, well-fitted lumber—creosoted to weather-proof and preserve the wood. The hoops are of extra-heavy steel with easy-fitting, rolled (not cut) threads.

The safe-like Green Mountain door is a patented feature that insures sweet silage.

The Green Mountain anchorage system prevents warping and blowing over and holds rigid against unusual strains.

No iron parts on the Green Mountain ladder to frost your hands or pull off your mittens in winter.

There's a real reason for every Green Mountain feature. Write for free 1920 literature and get the whole story. Special discounts on early orders.

CREAMERY PACKAGE MFG., CO.
345 West St. Rutland, Vt.
Green Mountain Silos
Note the Safe-like Doors
Wooden Ladder No Frosting
Hoops and Lugs Extra Heavy

GLOBE SILOS

Have a FULL Silo

Silos with ordinary roofs can only be filled with blower cutters within 3 or 4 feet of the top. When silage settles it means a loss of 5 or 6 feet of silo capacity.

Globe Silos (the first to be offered with the famous Globe extension roof) assure a silo full to capacity. The straight side walls of this extension roof permit a full silo, level at the top, avoiding unnecessary spoilage. Globe silage is kept prime from top to bottom.

Other exclusive features of Globe Silos fully illustrated and explained in the Globe catalog. Send for your copy today.

Liberal cash discounts on all orders placed for early shipment.

GLOBE SILO CO.
3-13 Willow St., Sidney, N. Y.

ECONOMY SILOS

A PERMANENT SILO

Every Economy Silo is equipped with the Storm Proof anchoring system that makes it absolutely permanent. Ensilage is always fresh and sweet—it can't spoil in an Economy Silo. Perfect fitting doors make the Silo perfectly air-tight. Hoops form easy ladder. Built of long leaf Yellow Pine or Oregon Fir. Headquarters for all sizes of water tanks. Our motto is quality through and through. Factories at Frederick, Md., and Roanoke, Va. Write for catalog.

ECONOMY SILO & MFG. CO., Dept. 8, Frederick, Md.

and WATER TANKS

PAINT BARN PAINT $1.32 PER GALLON

Get Factory Prices on all Paints. We guarantee quality. We Pay the Freight.

FRANKLIN COLOR WORKS, DEPT. P.
FRANKLIN, IND.

You May Not Wisely Delay Ordering Your 1920

DE LAVAL CREAM SEPARATOR

There are a dozen reasons why this is so.

For three years it has not been possible to make enough De Laval machines to meet the demand. More than ever are being made this year, but the demand is still greater.

Cream Separators have advanced less in price than anything else used or produced by the farmer during the war years. If labor and material costs continue to advanee so must separator prices.

Such an advance must very soon come from increased freight rates, if from no other cause.

Freights are still slow and uncertain. There may be unvoidable delay in getting a machine when you badly need it from this reason.

The flush of milk and hot weather are near at hand, when a De Laval saves most and an infer or or half-worn-out separator wastes most.

There are still other reasons, which a De Laval best demonstrates for itself. You will have no difficulty in observing them.

Every local De Laval agent will be glad to afford you the opportunity to do so.

If you don't know the nearest agent simply address the nearest main office, as below.

The De Laval Separator Co.

165 Broadway, NEW YORK
29 E. Madison St. CHICAGO
61 Beale St. SAN FRANCISCO

50,000 Branches and Local Agencies the World Over

Shoo-Fly THE ANIMALS' FRIEND

For keeping Flies, Gnats and many other insects off animals. Used and endorsed since 1885 by leading dairymen. Cows give 25 per cent to 35 per cent more milk during fly season if sprayed with Shoo-Fly.

$1.50 WORTH SAVES $20

In milk and flesh alone on each cow in a single season. Excellent for galls. Allays itching. Aids in healing cuts and sores. Excellent for lice and mites in poultry houses.

Send $1.50 for enough Shoo-Fly to protect 10 cows 2 weeks, also our 3-tube gravity sprayer. Money back if not satisfactory. Name Express Office. Booklet FREE.

SHOO-FLY MFG. CO., 1342 N. 10th St., Phila.

Rider Agents Wanted

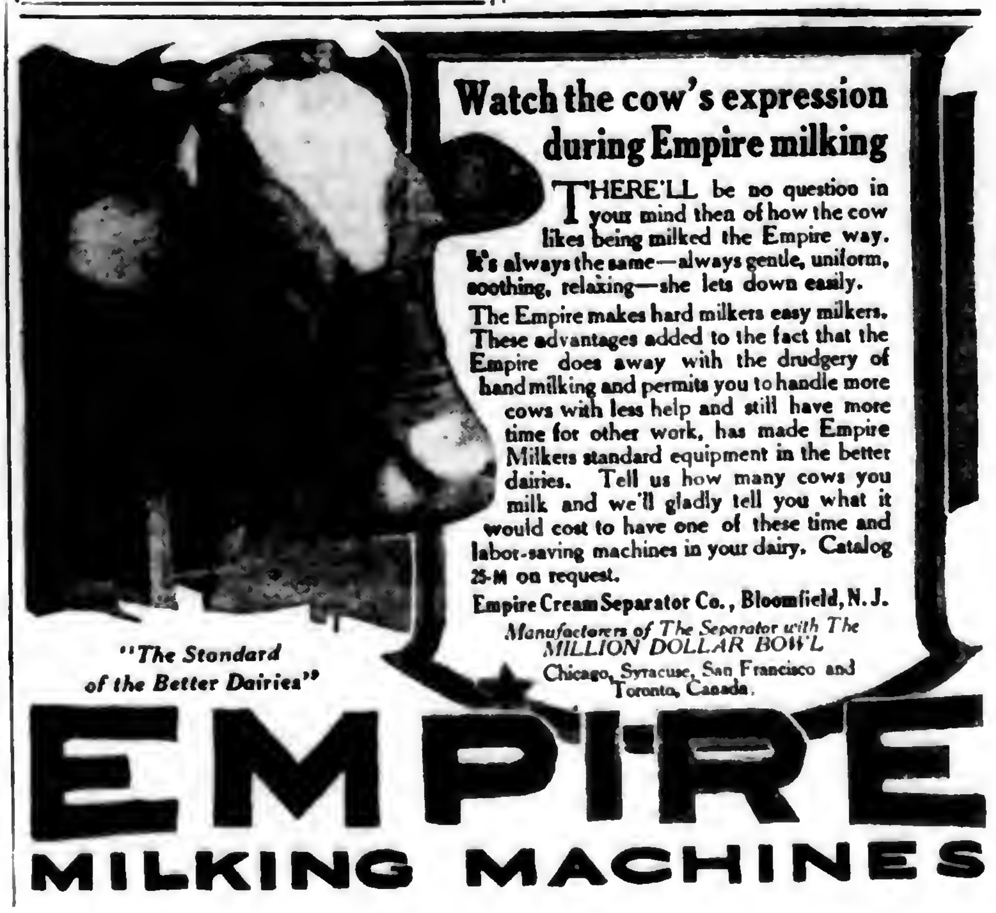
Everywhere to ride and exhibit the new Ranger "Motorbike" completely equipped with electric light and horn, carrier, stand, tool tank, coaster-brake, mud guards and anti-skid tires. Choice of 44 other styles, colors and sizes in the "Ranger" line of bicycles.

EASY PAYMENTS if desired at a small advance over our Special wholesale cash prices.

DELIVERED FREE on approval and 30 DAYS TRIAL.

TIRES Lamps, Wheels, Sundries, and parts—at half usual prices. SEND NO MONEY but tell us exactly what you need. Do not buy until you get our prices, terms and the big FREE catalog.

MEAD CYCLE COMPANY Dept. T-78, Chicago


Watch the cow's expression during Empire milking

THERE'LL be no question in your mind then of how the cow likes being milked the Empire way. It's always the same—always gentle, uniform, soothing, relaxing—she lets down easily.

The Empire makes hard milkers easy milkers. These advantages added to the fact that the Empire does away with the drudgery of hand milking and permits you to handle more cows with less help and still have more time for other work, has made Empire Milkers standard equipment in the better dairies. Tell us how many cows you milk and we'll gladly tell you what it would cost to have one of these time and labor-saving machines in your dairy. Catalog 25-M on request.

Empire Cream Separator Co., Bloomfield, N. J.

Manufacturers of The Separator with The MILLION DOLLAR BOWL

Chicago, Syracuse, San Francisco and Toronto, Canada.

"The Standard of the Better Dairies"

EMPIRE MILKING MACHINES

LOOK AROUND---INVESTIGATE BEFORE BUYING A TRUCK

Don't be convinced too quickly about any truck. Talk to truck users---get their experience in upkeep cost, service, etc.--particularly of the truck you have in mind. Benefit by what they have learned.

Pick out any ACME owner---especially a farmer. Ask him all about his experience with an ACME. That's the sort of test every farmer, thinking of buying a truck, should use. It's the sort of test we like because we know that every user of an ACME will sell another ACME.

Write us for list of Farmers Owning Acme Trucks and Illustrated Booklet

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Cleaner than Dirt
Cheaper than Lumber

CELERY PROFITS ARE TWICE AS LARGE

when you blanch with Areanddee. Professional growers say that for cheapness and convenience there's nothing like it. Boards cost too much to leave any profit to you; dirt can't keep celery clean.

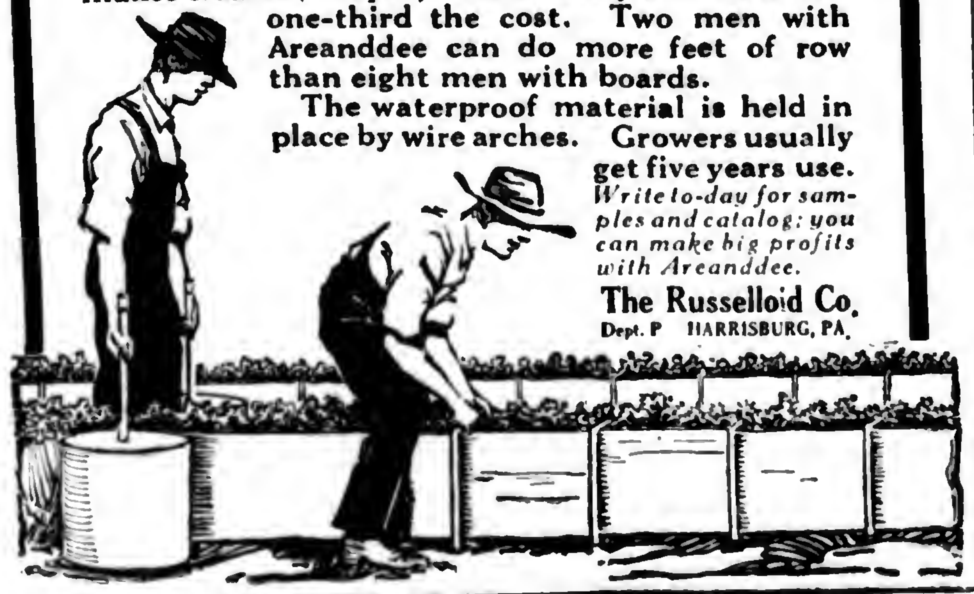
THE AREANDDEE CELERY BLEACHER

makes cleaner, crisper, whiter celery and does it at one-third the cost. Two men with Areanddee can do more feet of row than eight men with boards.

The waterproof material is held in place by wire arches. Growers usually get five years use.

Write to-day for samples and catalog; you can make big profits with Areanddee.

The Russelloid Co.
Dept. P HARRISBURG, PA.



Corn Harvester

That Beats them all. One horse cuts two rows. Carries to the shock. Worked by 1, 2 or 3 men. No danger. No twine. Free trial. We also make Stump Pullers and Tile Ditchers. Catalog free. Agents wanted. H. P. BENNETT & CO., Westerville, O.

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A selected list, including Everbearers. We have a fine lot to offer at wholesale prices.

VEGETABLE PLANTS

All kinds grown from selected seed. Get our prices on plants sent by Parcels Post prepaid. Catalog free. C. H. FIELD, SEWELL, N. J.

HORTICULTURE

FERTILIZING THE ORCHARD

By J. P. STEWART

There has been a big bloom this year on most all kinds of fruit, and also reasonably good weather for pollination, altho it has been unduly cold. This is likely to give a good set of fruit, if not too much of a set, but what about the chances for next year's crop? It is just such years as the present, if it keeps on going as it has started, which throw the average orchard into pronounced alternate bearing, unless the proper means are taken to correct it.

For the benefit of those who may not be fully aware of what these "proper means" are, we would say that the principal ones, in our opinion, are adequate thinning and proper fertilization after the bloom. We are aware of the fact that thinning has not always shown as much influence in evening up the crops of successive years as might be expected, and that there is undoubtedly much still to be learned about this subject, particularly with reference to the best time and extent of the thinning done. The same may also be said of the fertilization. We have seen too many important examples of the marked effect of both fertilization and thinning on the crop of the following year, however, to be lead astray on the idea that neither of these measures is likely to have any important influence on the next year's crop.

Fertility Lengthens Growing Season. Left—Unfertilized; 25 Bushels. Right—Fertilized; 762 Bushels.

The Off-Year Not Necessary

There is also no inherent need of any apple tree, any orchard, or any general fruit section developing any pronounced habit of full and 'off years, altho all of these are frequent occurrences. We used to think that there was some subtle and general sectional influence which had brought about and was maintaining the generally full year in Michigan, New York and New England on the even-numbered years, while that in Southern Pennsylvania and adjacent sections was fortunately coming on the odd-numbered years. This, however, proved to be a myth. The general effect was evident, without any doubt, but there is no definite sectional influence which controls the full or off year in any orchard in bearing in a single orchard on adjacent plots of the same variety and age of trees within a very few years. In other words, we have developed full and off years, beginning with the even-numbered years on certain plots, the same thing beginning on the odd-numbered years on adjacent plots, and relatively uniform and increasing yields on still other plots of the same variety in the same orchards. This moreover was all accomplished directly as a result of differences in fertilization.

How the Off-Years Are Started

In general, the way this came about was as follows: we went into orchards with moderate to light sets of fruit at the time, and fertilized some of the trees with rather heavy applications of quick-acting nitrogenous fertilizers, while others were treated with manure, and still others received more moderate applications of the quick-acting materials or more nearly complete fertilizers in some cases. As a result, the first group of trees responded the very next year with an enormous crop, which amounted to eight or 900 bushels to the acre even after extensive thinning. The manured trees showed very little gain the first year after the application, but they came along the second year with a very similar large crop. The third group showed a fairly large gain the first year after the application, but not so large that it could not both mature that crop and prepare for another one at the same time.

In the first two cases, the unduly large crops were regularly followed by practically off years, the second of them coming a year after the first however, and these in turn were similarly followed by repetitions of the excessive yields shown their first big years, unless interfered with by severe frosts or similar serious obstacles.

The third group, however, gradually increased their yields, with only minor recessions, until they were running regularly from 400 to 700 bushels to the acre, and these limits were not exceeded in some cases during a seven-year period, while the most violent fluctuations were taking place in the yields of the adjacent plots which had been thrown at once into relatively excessive yields by the particular fertilization used. The latter effect, moreover, was obtained on such supposedly confirmed bi-ennial bearers as Baldwin and York Imperial.

The deductions from these results should be plain. First, that the off-year is not a necessary evil. Second that it develops usually as a result of especially favorable conditions in some one year which bring about an excessive yield for that year. Third, that it can best be avoided by preventing the excessive yields, either thru thinning or by avoiding too liberal application of quick-acting fertilizers in the year of light crop. Fourth, that one of the most effective times for the use of such liberal applications is during the season that the large crop is maturing.

Present Season Likely to Offer Special Opportunities

If these deductions are sound, and the present indications for a large set of fruit are borne out, it is evident that the present season is likely to offer unusual opportunities for the wise and effective fertilization. Assuming that such is the case, a few simple directions may be of interest.

In the first place, we may say that the most effective period for this application is probably some time between the setting of the fruit and the middle of July as the extreme limit. Possibly about the middle of this period may be as good as any time, altho one of the best responses that we ever obtained from fertilization in orchards came from an application made on the 8th of July. It is usually within this period that the rudiments of the fruit buds for the following year's crop are formed. It is also then that the most active twig-growth occurs, and the natural supply of soluble nutrients in the soil is lowest. The needs of the tree are therefore likely to be most acute at that time. The amount of the application can also be varied at that time somewhat in proportion to the amount of fruit set on the tree, which is likely to be of considerable importance in seeking to avoid a total failure of fruit the following year.

Best Materials and Rates of Application

The materials for this application should be relatively rich in soluble nitrogen, unless one has positive evidence that something else is needed. The old idea that nitrogen is primarily a stimulant to growth and not to fruiting has been thoroly exploded, so far as the orchard is concerned. Probably about equal parts of nitrate of soda and acid phosphate or one part of the former to two parts at the most of the latter, is as good a general application as can be suggested at present. In many orchards, the nitrate alone has been sufficient. Enough of the mixture to give about 5 to 8 pounds of the nitrate to the tree, should be ample for an apple tree in full bearing. Younger or smaller or less heavily loaded trees should receive proportionately less. When potash becomes more readily obtained, it may be added at the rate of around two to five pounds to the tree, unless there is evidence that none is needed. The lumps should be broken up fine in any or all of these materials before using, and a screen of about quarter-inch mesh, or the size of the average galvanized wire screen commonly used for lining corncribs, is very helpful in this connection.

(Continued on Page 16.)

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The only way to tell what is really in a tire is by wearing it out. So far as it's performance goes you are really buying in the dark. You must accept the product on faith in the reputation of the maker and dealer.

The BRAENDER dealer knows what is back of BRAENDER TIRES. He knows that they are the product—not merely of machinery and equipment common to all tire makers—but of a sense of responsibility which will not permit a tire to pass inspection unless it is *right.*

By the time you have worn out a few BRAENDER TIRES you'll know too what is in them. It is good material and workmanship *plus* the BRAENDER sense of responsibility.

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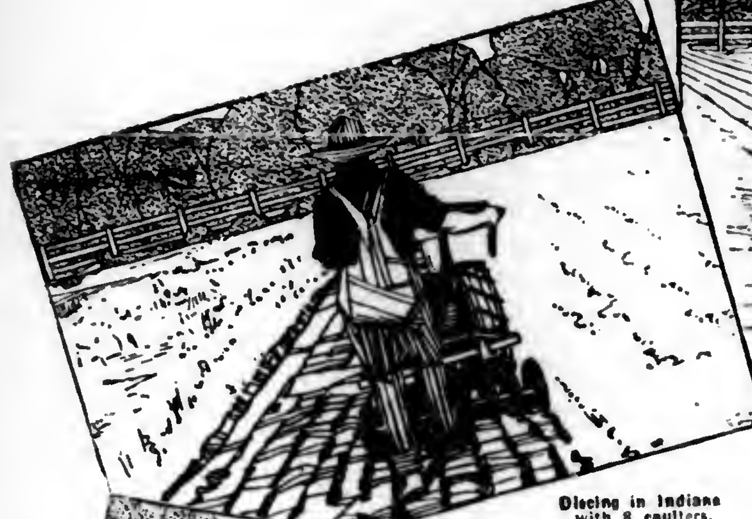
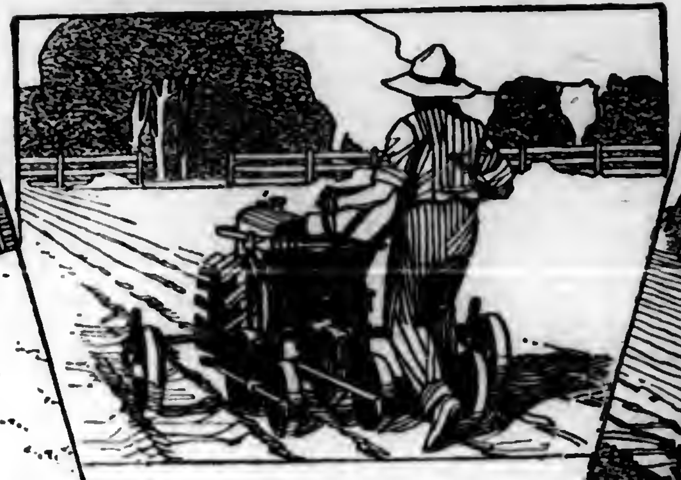
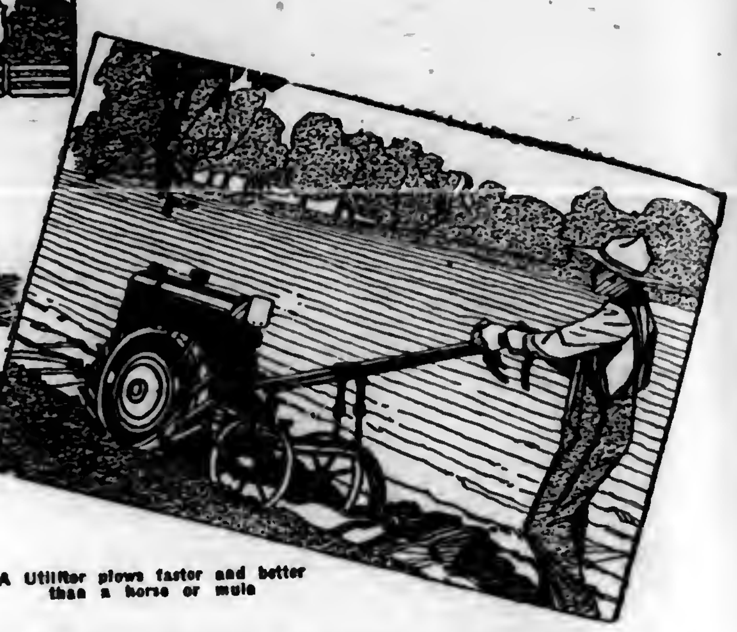
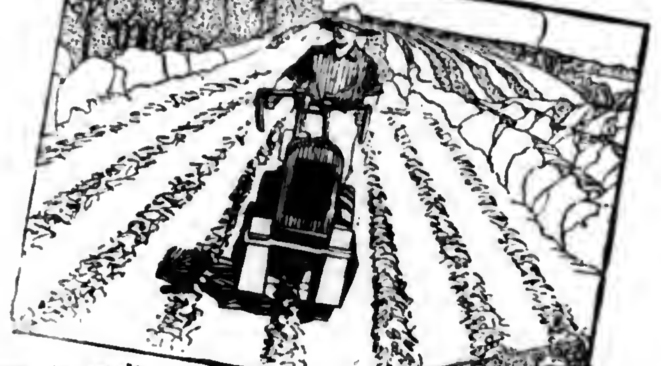
IF YOU WANT A CATCH of ALFALFA, CLOVER, TIMOTHY—USE A CAR OF MY HARDWOOD ASHES. George Stevens, Peterborn, Ont., Canada

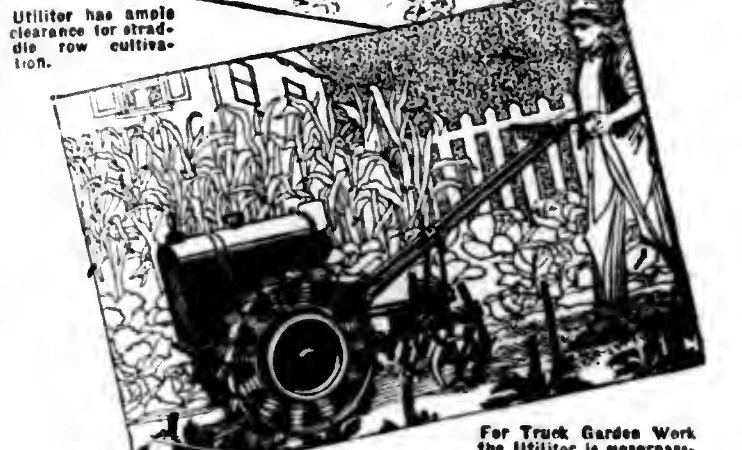
SOY BEANS!
Extra Fine Stock of Brown or Early Ohio 9035
Grown here, 1919 Crop, High Germination
$7.50 PER BUSHEL (Seamless Sacks 65 cents each)
SEED POTATOES
Main Grown, Pure Stock
Cobblers, Green Mountain, Rural New Yorker, Sir Walter Raleigh, American Giant, Prize, Quick Lunch, Early Rose
Special $12.00 Per Sack (2¾ Bushel)
WALTER S. SCHELL QUALITY SEEDS
1307 MARKET ST., HARRISBURG, PA.

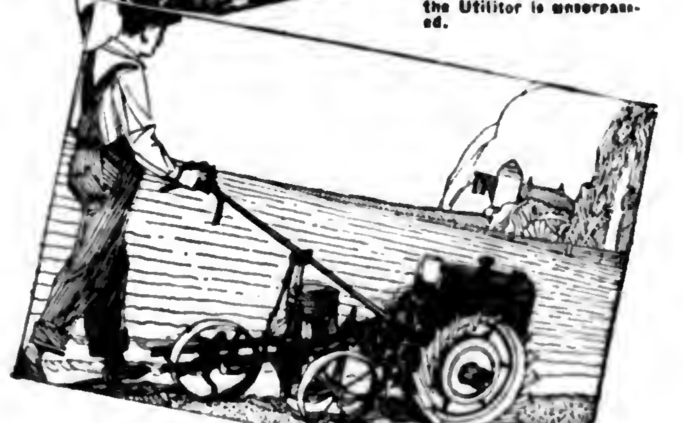

Discing in Indiana with 8 coulters.

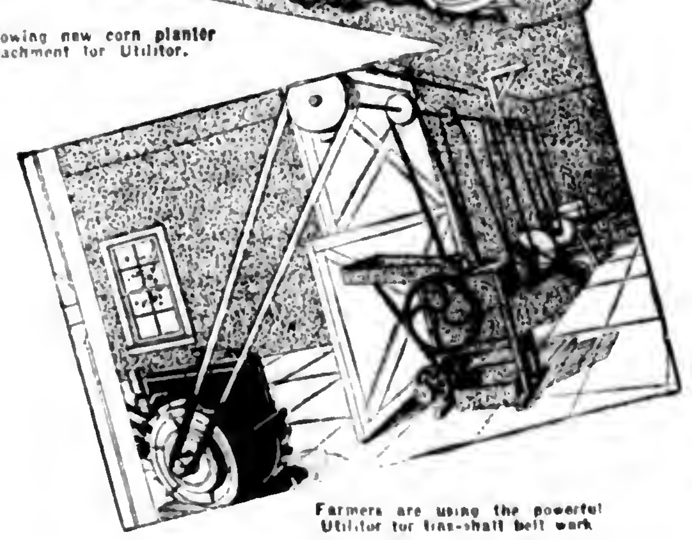

Utilitor operating 3 row, gang seeder.


A Utilitor plows faster and better than a horse or mule


Utilitor has ample clearance for straddle row cultivation.


For Truck Garden Work the Utilitor is unsurpassed.


Showing new corn planter attachment for Utilitor.


Farmers are using the powerful Utilitor for line-shaft belt work

MIDWEST UTILITOR

DEPENDABLE POWER

The Men Who Sell it Wanted to Know So they Used 4000 Acres to Find Out

Your protection in buying a Utilitor lies in the fact that this machine has been forced to prove its own dependability and usefulness before any man would attempt to sell it to you.

Long before we attempted to establish a selling organization for the Utilitor, we sent our engineers and agricultural experts over the country and told them to stay until they had proved beyond the shadow of a doubt that the Utilitor would perform satisfactorily under the conditions placed upon it.

They tried the Utilitor in all kinds of soil breaking, cultivating, seeding, truck garden work, nursery work, fruit cultivation and last but not least they conducted an exhaustive test of the Utilitor on belt work from running a grindstone to cutting wood.

We found that in certain parts of the country for field work special rims were necessary; in other parts of the country we found that guards on the machine to protect the plants were necessary. In fact we found many things to correct and several things that the Utilitor could not do, such as working on steep hill sides and in swampy lands.

But we proved above all else that with the adoption of the changes found necessary as a result of the many gruelling tests, that the Utilitor was unquestionably a power farming utility that would appeal to the practical farmer and food raiser as a cost-cutting, profit-building piece of machinery. * * * * *

We then told the selling field that we were ready to do business with them. Now here is where all this begins to concern you.

These hard-headed keen merchandisers had no trouble in seeing the necessity for such a machine as the Utilitor, but they were not content to accept our word *alone* for what the Utilitor would do—how it would hold up—how well it would work.

They readily saw that the resources and experience of the Midwest Engine Company were behind every Utilitor in the form of the most comprehensive service system to owners which they had ever seen instituted

Still they were not satisfied. They wanted to know first hand what the Utilitor would do in usage because THEY were the men who had to show YOU what the Utilitor WOULD DO.

So they conducted their OWN tests. It has been estimated conservatively that the Utilitor has undergone tests in the hands of salesmen and dealers involving practically every possible use—some 4000 ACRES having been used to PROVE to these men that the Utilitor IS BUILT RIGHT, STAYS RIGHT and is applicable to the work for which it is intended.

What happened is this—the Utilitor sold itself to the men who would SELL IT TO YOU.

Can you ask for a better, a safer method of investigating the Utilitor than to KNOW FIRST that the man who sells it knows that it thoroughly lives up to the expectations of EVERY man who sells it.

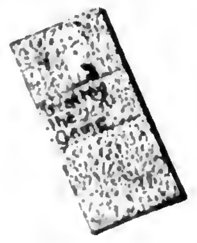
But Regardless of All This, Here is What We Want You to Do When You are Ready

Don't accept anybody's word for the Utilitor's performance but your OWN. Let all that we have told you simply be an incentive to want to know more about this machine for YOURSELF.

Any Utilitor dealer in your vicinity will give you a demonstration of the Utilitor doing the sort of work done on your place. You can rest assured that he will tell you very frankly if the Utilitor WON'T do your work. You will be under no obligation to buy a Utilitor if you are not completely satisfied with the Utilitor in every respect—mechanically, economically and otherwise.

If you don't know the Utilitor dealer in your locality, fill out the coupon and mail it to us and we will send you his name. We will be glad to send you any additional information on the Utilitor which you may require.

MIDWEST ENGINE CO., Indianapolis, U. S. A.



MIDWEST ENGINE CO.
126 MARTINDALE AVE.
INDIANAPOLIS, U.S. A.

Cut around the dotted line and paste this address on a post card if you do not care to send coupon

Gentlemen—Please send me without obligation on my part your booklet "BEATING THE GAME" and the name of your nearest dealer.

I am giving you the following information so that you can show me how I can use the Utilitor profitably on my place.

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My soil is .... I produced last year ....
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City ....
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Dependable Power

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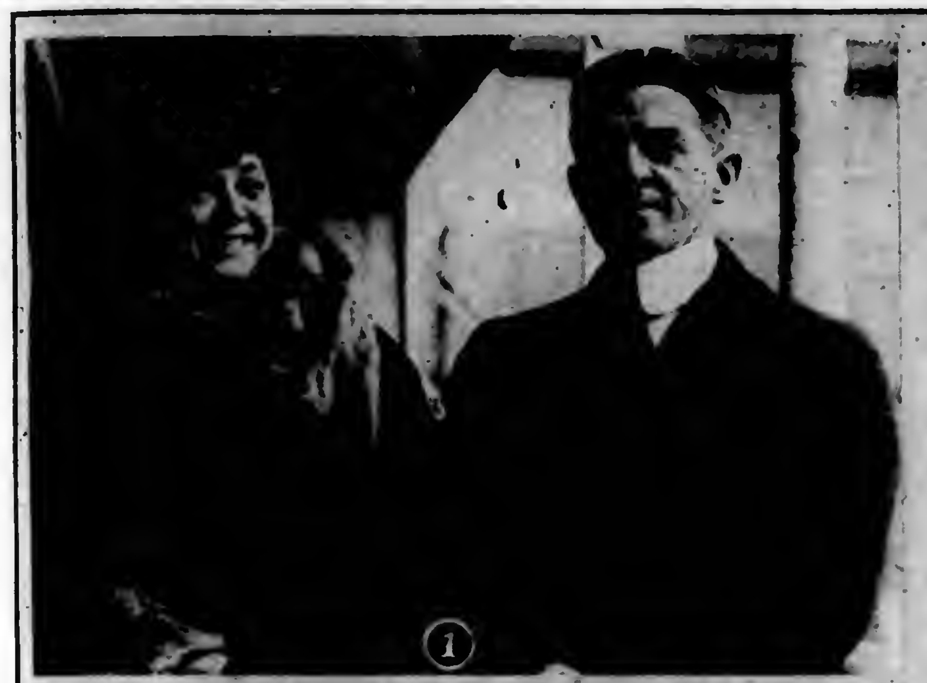
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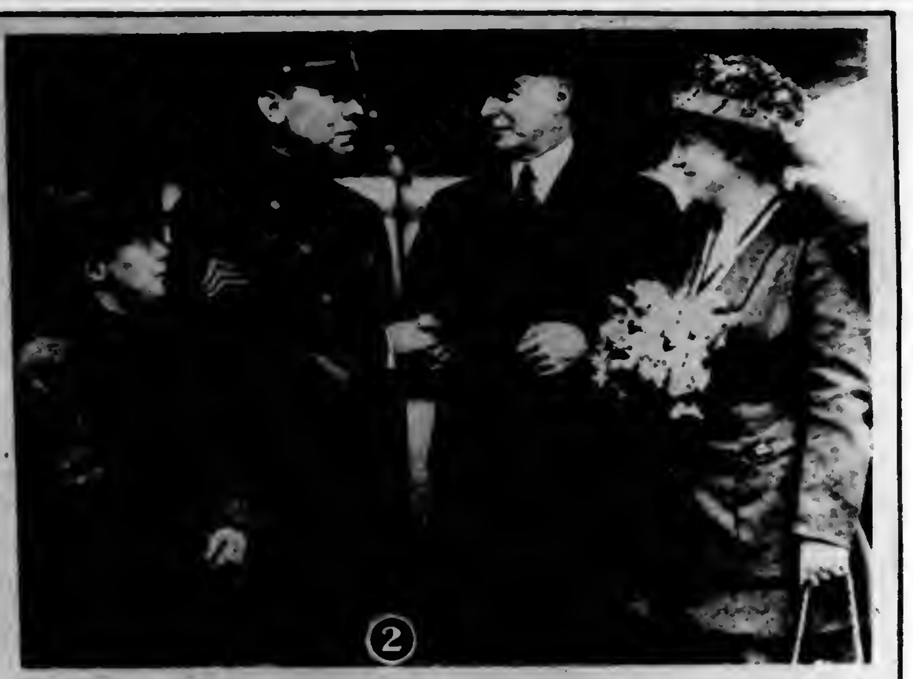
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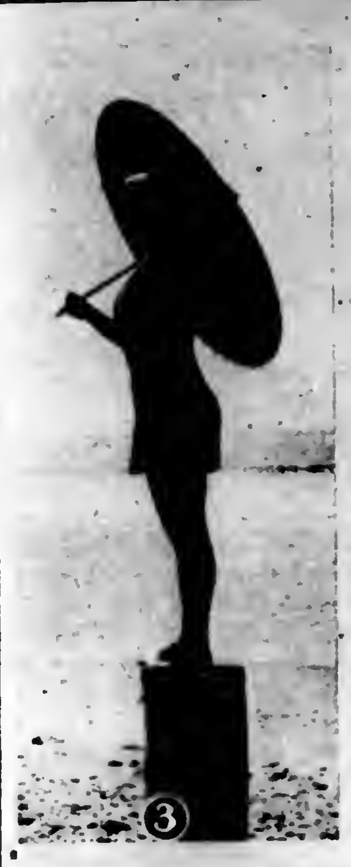
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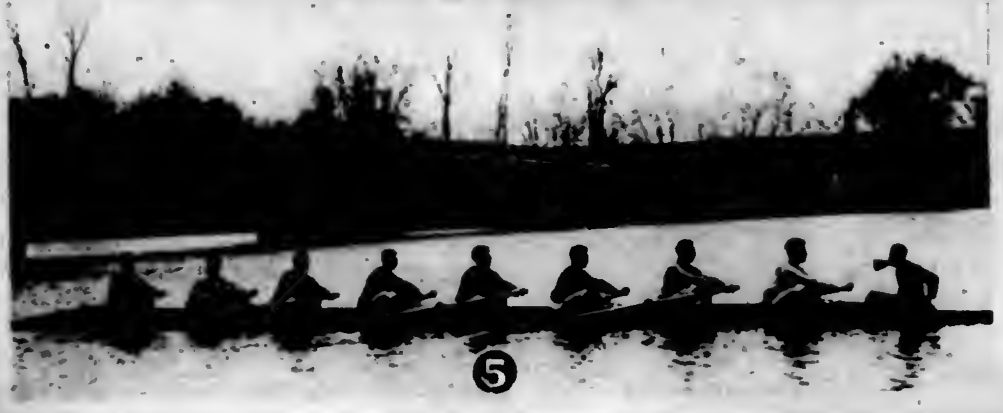
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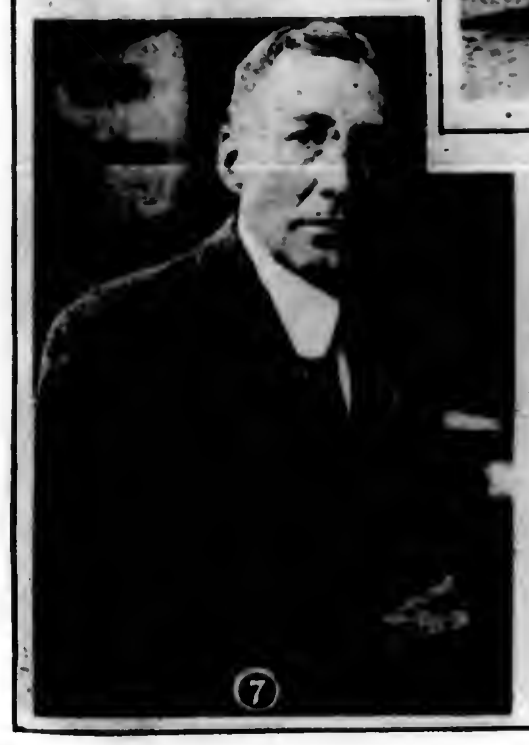
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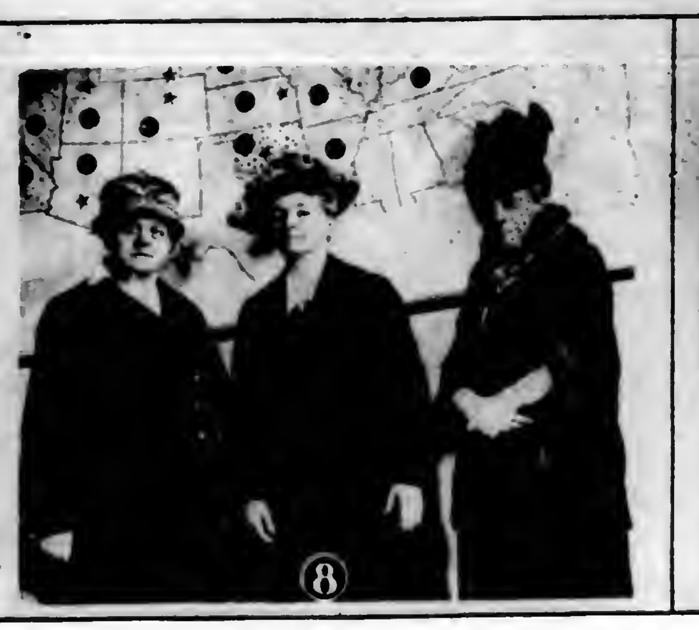
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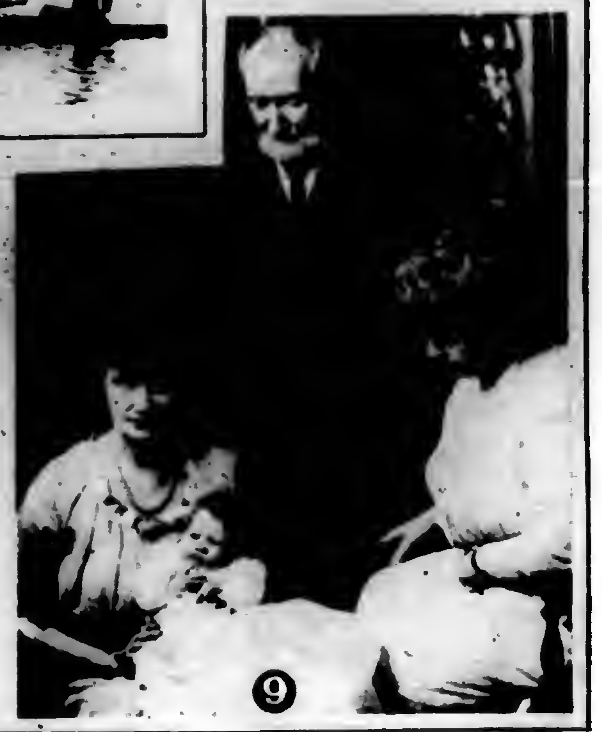
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(Photo Copyright by Underwood & Underwood)

1.—Mr. Hampson Gary, New Minister to Switzerland with his wife before sailing.

2.—Health Officer Copeland, of New York goes to study conditions in Germany.

3.—Annette Kellerman, famous swimmer and "Movie" Star Ready for a Dip.

4.—Certainly the dogs mean no harm but Pussy doesn't know it.

5.—Princeton's new Varsity crew in training on Carnegie Lake.

6.—These Douglas Firs growing in British Columbia bear sugar worth $66 a pound.

7.—Dr. Hugh S. Cumming, Surgeon General of the U. S. Public Health Service.

8.—Prominent Suffragettes present Woman's Platform to Republican Committee.

9.—Four Generations of Cannon's. "Uncle" Joe is now a Great-Grandfather.

Leader *waterfys* your farm for a lifetime

Buy the water supply system for your home and farm just as you do your farm machinery. Be sure to get the system that delivers water as unfailingly as a city water supply system. Such a system will save you time, labor and money.

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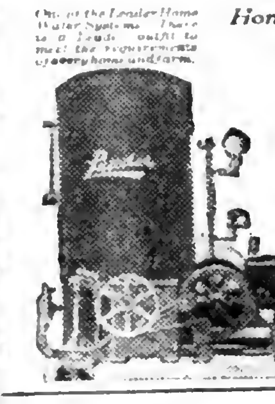
Home Water Systems—Leaders in fame as well as in name



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We have investigated all home water supply systems but have never found anything to equal the Leader in reliability and year-in-and-year-out economy. It is the only home water system made complete in one great factory and to insure reliability is equipped with the world's standard power—Wagner Motors or Stover Good Gasoline Engines.

The installation is tested as a complete unit instead of a piece-meal job. See the Leader dealer in your locality today. If you don't know him, write us.

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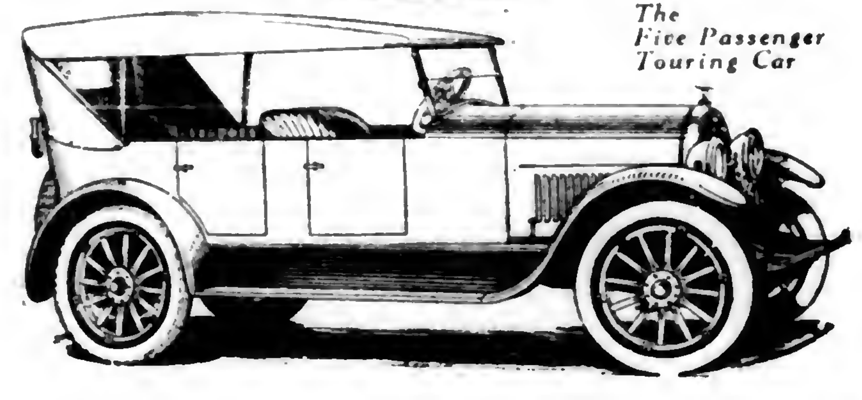
Established 1903 **Leader** Tanks, Pumps and Power Equipment

DAVIS

The Five Passenger Touring Car



This is a car built for hard service *through a long term of years*—every item of its specifications standard in the best type of American cars: 7R Continental "Red Seal" 6-cylinder motor—a great surplus of power—silent and smooth, even at 60 miles per hour; Timken bearings; Delco starting, lighting, ignition; Rockwell-Mayo airplane type radiator; Stromberg carburetor; Hotchkiss drive; Stewart Vacuum System; 56-inch rear springs; 6-inch frame. Exceptional roominess in driving and passenger seats. Beautiful bodies in exquisite finish.

IMMEDIATE DELIVERIES

Murray Motor Sales Company
833 North Broad Street, Philadelphia

Cabbage Plants, 100,000 June and July delivery. Ball Head other leading varieties. Parcel Post, prepaid 100 50c; 500, $1.60; 1,000, $2.75; 5,000, $12.50 Cauliflower, 100, 75c. Every plant a good one.
W. I. MYERS, R. 2, MASSILLON, OHIO

LIGHTNING RODS
BIG PROFITS AND QUICK SALES TO LIVE DEALERS SELLING "DIDDIE'S UNIVERSAL RODS." Our copper tests 99.96% pure. Prices are right. Get our agency. L. L. Diddie Co., Marshfield, Wis.

The Voice of the People

This department is reserved for the use of our readers to discuss all problems and matters of general interest. Write your views and comments briefly on any question of social, economic or educational importance and thus share them with others. It will be necessary to limit such articles to 200 or 300 words. Publication of an article in this department does not signify editorial endorsement.

PROPOSED CONSTITUTIONAL ARTICLE ON EDUCATION

The Pennsylvania Constitutional Revision Commission, after giving deliberate consideration to the proposed amendments on education adopted the following article:

ARTICLE X
Education

"Section 1.—The General Assembly shall provide for the operation and maintenance of an educational system for the Commonwealth. This shall include free elementary, secondary and vocational education for all the children of the Commonwealth and for persons mentally and physically handicapped, free education for adults in American citizenship, schools for the training of teachers, a system of public libraries, one or more State Universities and such other educational institutions and agencies as it may determine to be wise and necessary for the improvement of the citizenship of the Commonwealth.

Section 2.—There is hereby created a State Council of Education to be composed of such citizens of the Commonwealth as may be appointed by the Governor pursuant to an act of the General Assembly.

Section 3.—The State Council of Education shall elect as their chief executive officer a State Commissioner of Education and shall have such other powers and duties in relation to the educational system of the Commonwealth as the general assembly may prescribe.

Section 4.—It shall be the duty of the general assembly by appropriation and thru general or special forms of taxation to make adequate provision for the effective and equitable support of the educational system of the Commonwealth.

Section 5.—No money raised for the support of the educational system of the Commonwealth, or any part of said system, shall be appropriated to or used for the support of any sectarian school or institution.

Section 6.—All funds derived from receipts of state forest reservation, from escheated estates in the Commonwealth, and from all other property or money which shall in any way accrue, whether by act of assembly, devise, gift, or otherwise, and any other funds as may be provided by act of assembly, shall be maintained in perpetuity and designated as the State School Fund of Pennsylvania.

Section 7.—The instruction in all public and private elementary schools shall be given in the English language and from English texts."

SEND FARMER IMMIGRANTS TO FARMING DISTRICTS

A large majority of the immigrants who land on our shores were farmers before they left home. Their fathers and forefathers for generations were farmers and yet they are directed to the cities when they arrive in this country. This is a gross mistake. Accustomed only to farm work, it does not require much of an imagination to follow these workers in their efforts to make a living in the cities. Is it a wonder that so many eventually land in sweat shops or in places where the work is exceedingly hard and unprofitable? What is the result? Deprived of good fresh air, many become ill, others, despondent, and still others, rebels against society in general.

The homes, too, of these unfortunate peoples reflect only too truly their success in the workshops and add but to their distress and create a menace to their more fortunate neighbors. Millions of these poor foreigners have borne untold hardships in the past which were unnecessary. Each person as he arrives should be cared for and directed into that part of the country where he can best find work for which he is fitted, where he may have the best chance of finding and holding a job. If he was a farmer he should go into a farming district.

During the great war, the army authorities wisely tried to place each soldier in the unit best suited to him. The results were gratifying. Why is it then that no effort is made to bring order out of our immigration chaos. Already far too many people reside in cities. Why not direct the immigrant to the farms where they would fit in well and where they are badly needed?

WHAT ARE THE SIGNS OF THE TIMES?

One cannot but wonder just what significance, if any, attaches to the extraordinary quiet of the present winter. Wherever farmers congregate much comment is accorded this phase of rural life—the winter has been unusually severe, to be sure, but we have had many others no less strenuous and on every previous occasion the loads of milk have been delivered very nearly as usual, mail has generally been delivered, church services have been held, and all the business and social activities of the community have progressed almost on schedule time.

Horses by the dozen have been killed delivering milk and many a day we have taken the mail from the box with the regretful thought that we had much rather have gone without it than remember what it cost the over-tired horse to bring it. This year we have a most excellent carrier, one of the finest we have ever had and out of a vast variety we never have had but one poor one, yet the roads haven't been opened and we have had lots of "mailless" days. People used to think the road must be opened for the mail and the milk but this year no one seems to get in the least excited about doing it for any purpose whatsoever.—A.

A temper preserves! When measuring that half cup of shortening, fill the cup half full of water, then put in the shortening until the water reaches the top of the cup. It's easier than packing the shortening into the cup. Makes it easier to clean the cup, too.

The most profitable, the most interesting study for women is the home, for in it centers all the interests of life.

Haul on Pneumatics

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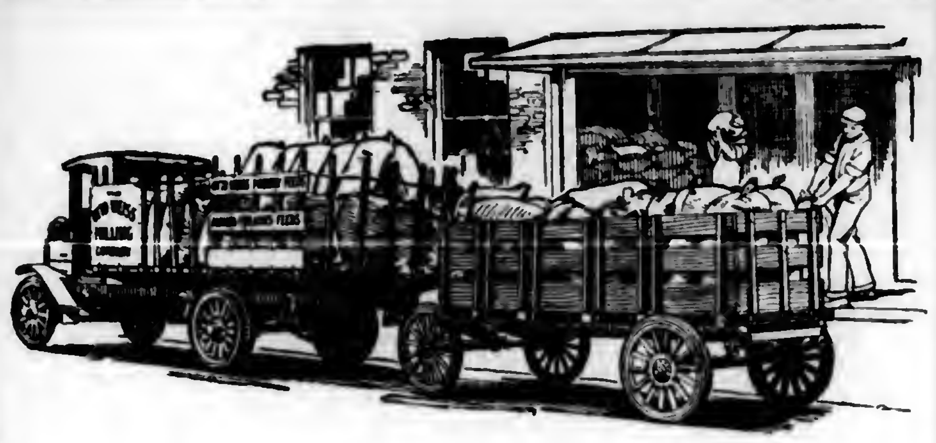

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FERTILIZING THE ORCHARD

(Continued from Page 11.)

The fertilizer can be effectively applied by hand,—sowing it around the tree as if one were sowing grass seed. By walking close to the trunk and sowing the material outward with a good strong swing, the distribution can be made to correspond more closely with that of the feeding roots. It should reach well beyond the spread of the branches as a rule. Where readily soluble materials are used, the material can either be left on top of the ground to be carried into the soil by the rains, or it may be lightly cultivated into the soil. We have obtained practically equally good results both way.

Intercropping of the younger orchards is not harmful when the crops are properly chosen; and are accompanied by proper fertilization. Corn, potatoes, beans, peas and cabbage have been so used without any appreciable harm.

The common practice of removing all fruit on young trees is also unnecessary, if acompanied by proper fertilization. It is based on the erroneous assumption that growth and fruiting are antagonistic. In our experiments, extending over eleven years, the best growing plots were nearly always the best in fruiting also. In all cases, it is best to thin the fruit sufficiently to avoid breakage, and then give the tree enough extra care and feeding to enable it to handle both fruiting and growth. In most cases, the earlier the bearing habit can be established, the better.

SPRAY DESTROYS CURRANT WORM

Do worms destroy your currant and gooseberry crops? The pests may be contolled by the application of an arsenical spray applied when the largest currants and gooseberries are about the size of half-grown peas. It consists of Bordeaux mixture, to which has been added three pounds of arsenate of lead paste or one and a half pounds of the powder to 50 gallons of the solution.

The arsenate of lead is applied to destroy the currant worms; the Bordeaux spray prevents the development of leaf spot and mildew on the foliage of the currant and gooseberries.

FEED THE APPLE TREES

Apples like other crops must be cultivated and fed, otherwise there is sure to be disappointing returns when the crop is harvested. With few exceptions apple trees given clean cultivation will give better returns than trees grown in sod, so give the orchard clean cultivation until about the middle of July then sow a cover crop of crimson, mammoth or other clover, hairy vetch, or a little later in the season rye, rape, or cow-horn turnips. The legumes give better results as they add more nitrogen to the soil than what they use.

The best way to tear up the sod in an orchard that has not been cultivated for a number of years is with a disc harrow. Do it when the ground is soft. Weight the harrow so it will sink in even if it is necessary to hitch an extra horse or two to it in order to pull it. A disc harrow is better than a plow because the harrow will roll over the roots doing little or no damage. A plow, unless set very shallow to turn a furrow only three or four inches deep, will get under the larger roots and break them off. Orchards are frequently irreparably damaged by deep plowing by a careless plowman.

To fertilize the orchard apply stable manure, if available, at the rate of 500 pounds per tree, broadcasting it over all the ground. If not available then use commercial fertilizers. To a tree fifteen years old or older apply two and one-half pounds of nitrate of soda, three and one-half pounds of dried blood and ten pounds of fourteen prcent acid phosphate. Broadcast this over the ground and work it in with the harrow. The nitrate of soda is for immediate use of the trees, the dried blood is more slowly available and so will be used by the trees later in the summer.

HOW TO USE NITRATE OF SODA ON GARDENS

The increasing scarcity of manure, especially in the cities, is causing gardeners to look for a substitute and much has been written about the use of nitrate of soda for garden crops.

One statement very commonly made is to the effect that nitrogen is the chief element in producing the rapid growth desired in most garden crops, but careful experiment has shown that this is a half truth which may lead to serious disappointment.

In the farm crops grown in a 5-year rotation at the Ohio Experiment Station, nitrate of soda used alone has increased the total weight of crops by 19 per cent., while acid phosphate used alone has increased the weight by 31 per cent.

When the two applications of nitrate of soda and acid phosphate have been combined the yield has been increased by 60 percent.

To use nitrate of soda or sulphate of ammonia without also using some carrier of phosphorus is to lose a large part of the potential value of the nitrogen carrier.

The Ohio Station's experiments have shown conclusively that where rapid growth and early maturity are desired it is not nitrogen, but phosphorus that should receive chief attention in the fertilizer.

CHERRY BROWN ROT SPRAY

Brown rot, which destroys much of the fruit on cherry trees just at picking time, may be controlled by a spray applied just previous to the time the cherries begin to color.

The spray is known as self-boiled lime-sulphur, having the formula 8-8-50. It is made by slaking eight pounds of stone lime in water and at the same time pouring in eight pounds of flowers of sulphur. The slaking of the lime causes the solution to boil, and when completed it is diluted to 50 gallons with water.

To this solution three pounds of arsenate of lead paste, or a pound and a half of the powder, is added to the 50 gallons of self-boiled lime-sulphur to control insects, such as curculio, aphids and the cherry slug.

A complete spraying program for brown rot in cherries consists in the application of this spray just as soon as the petals of the bloom fall; a second application should be applied from 3 to 5 weeks later, or just before the cherries begin to ripen. The second spray is regarded as quite necessary in controlling brown rot.

Never scrape aluminum with knife for this scratches off the bard finish that the makers put on it to protect the softer metal inside, and to make it easier to clean. Use wooden spoons for scraping aluminum.

POULTRY

METHODS OF FILLING THE GAPS OF THE WEAK HATCH

Is there any way in which the ill effects of a poor hatch in late season may be offset? It is impossible to suggest remedies for every condition which may exist. However, there are three or four possible ways in which a farmer may "get even" with a poor hatch or hard luck with his breeders. Let us suppose that a man loses several of his male birds, so that the number he has left is insufficient to fertilize all the eggs produced by the flock. If this condition arises, during the breeding season, the farmer will be at a loss to know what to do. It is a difficult matter to buy good breeding males at this season of the year.

Hatching Eggs.

One thing is to buy hatching eggs from some reliable poultryman. It may be impossible to obtain hatching eggs from the breeder you want on such short notice because his hatching egg orders may be booked up weeks in advance, but there is always a chance of obtaining some. It may be necessary to call upon several large poultry keepers before any can be obtained. A few are better than none. Such a procedure would probably be followed, also, if a hatch had been spoiled in the incubator.

As another alternative, it would be a good idea to buy day-old chicks. The advantage of buying baby chicks can be easily seen; there is no bother with incubation; consequently there is no loss due to faulty incubation methods or inexperience, and the time which would be spent in caring for incubators can be used to advantage in some other work.

Squab Pullets.

Purchasing squab pullets is a method of adding to one's flock which has been followed very little up to the present time. It is becoming more popular from year to year. Squab pullets, from eight to ten weeks of age, are able to do without heat and are ready for a period of growth on range. This way of buying young stock eliminates the danger of losses and close watch over them is not required. The initial investment is rather heavy. Stock at this age generally sells at one dollar apiece. In reality it is not so expensive. Not only is this a good way of replenishing the flock or of making up for a poor hatch, but is also an excellent way to start in the business and establish a flock.

There is still one more chance for the owner of a poor hatch to recuperate from its ill effects. That is by buying full grown pullets in the late summer or early fall. This, of course, requires more outlay since such pullets are worth from $2.00 to $3.00 apiece, depending upon their condition, age, and breeding. Undoubtedly, this is the "surest bet" because all the labor in brooding and rearing is eliminated as well as losses which are bound to occur. The chances of getting such stock on such short notice are good because the commercial poultryman or breeder is willing to sell surplus stock at this time. Prior to this time, he is very apt to hold all stock until he is sure to have enough for himself.

It is not a good plan, in my estimation, to replace the old stock each year by purchasing either hatching eggs, baby chicks, squab pullets, or full grown pullets. By that I mean replenishing the old stock year after year by buying new stock. Such a practice tends to do away with individual breeding efforts for increased egg production. It should be the aim of the farmer who keeps the farm flock to select and breed from prolific layers and from males whose mothers were prolific layers. This is the only way in which a high producing flock can be produced and maintained and the standard of poultry keeping raised. Replenishing the entire stock each year by buying new does not admit of this because the source and previous records of the purchased stock is not always known. Nevertheless, accidents are bound to happen.—R. R. H., New Jersey.

RAISING TOULOUSE GEESE

The large, gray Toulouse geese are proving profitable on farms, especially where there is plenty of pasture or possibly some low land where they can gather plenty of green food. Some start their flocks of geese by purchasing eggs but we believe it is best to buy a trio of purebred adult breeders before the holidays when there is a surplus for sale. After the holiday season it is more difficult to obtain good breeding stock as the goose is the great Christmas bird and only the best breeders needed for the home flock are usually retained on the farm after that date.

Modern Colony System at Vineland, N. J.

Old breeders are a better investment than young stock as the progeny will be of greater vitality. The purchase of purebred geese is the most profitable as it gives the farmer a chance to sell breeding stock and hatching eggs and the cost of feeding is no greater than for mongrels. The weights for the Toulouse goose are 26 pounds for old ganders and 20 pounds for young ganders. The old goose should weigh 20 pounds and the young goose 16 pounds.

Most farmers prefer to hatch goose eggs with hens in preference to the incubator. However, they are batched successfully in incubators by sprinkling the eggs after the first week and running the machine about 101½ degrees instead of the 103 degrees used for hen's eggs. The eggs hatch in 28 to 30 days and because of this long period it means quite a period of watchfulness of the machine and the hens seem to cause less worry. Use old hens that have had experience in raising a brood rather than pullets which may prove unreliable and leave the eggs.

Geese are fine grazers and some farmers raise them to the fattening age without any grain ration. A special ration is desirable during the laying season. Equal parts of bran and cornmeal plus ten per cent of beef scrap can be fed in the morning. A good feeding of whole corn is needed at night. The breeder wishes to obtain most of the geese early in the season so the goslings can feed on the grass which is tender and abundant at that season. It is the least expensive way to obtain a long season of growth and plenty of well-grown vigorous birds to fatten in the fall.

Goslings after six weeks of age will fatten on a mash of equal parts cornmeal and bran three times each day. Geese about four months old need nothing but cornmeal for about a month in order to take on plenty of fat. Old geese usually fatten very readily when they are given all the corn they can eat.

A few geese in the farm flock can usually be housed in a small open shed. Often a satisfactory shelter can be made of scrap lumber. The geese can stand a great deal of cold but the house should be on a well-drained location and kept fairly clean. Poultry colony houses are suitable for housing geese.—Kirby.

GOOD-BYE, MR. ROOSTER

The rooster is a very necessary part of the flock during the hatching season, but as soon as the last setting has been made his usefulness is ended and it is time to bid him good-bye. Roosters eat considerable feed during the summer and lay no eggs. This puts them in the same class as the cull hens and they should be given the same treatment.

Not only is the rooster a nonlayer during the summer but he is an actual destroyer of valuable property. He is responsible for a large percentage of the eggs which go bad during hot weather. A large per cent of this loss would be prevented if all roosters were separated from the laying flocks by May 15.

Only the exceptional rooster is worth saving for next year's breeding pen. Yearling males are more active and give better fertility than older birds and are to be preferred.

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HOUSEHOLD

SIMPLE SASHES FOR SUMMER WEAR

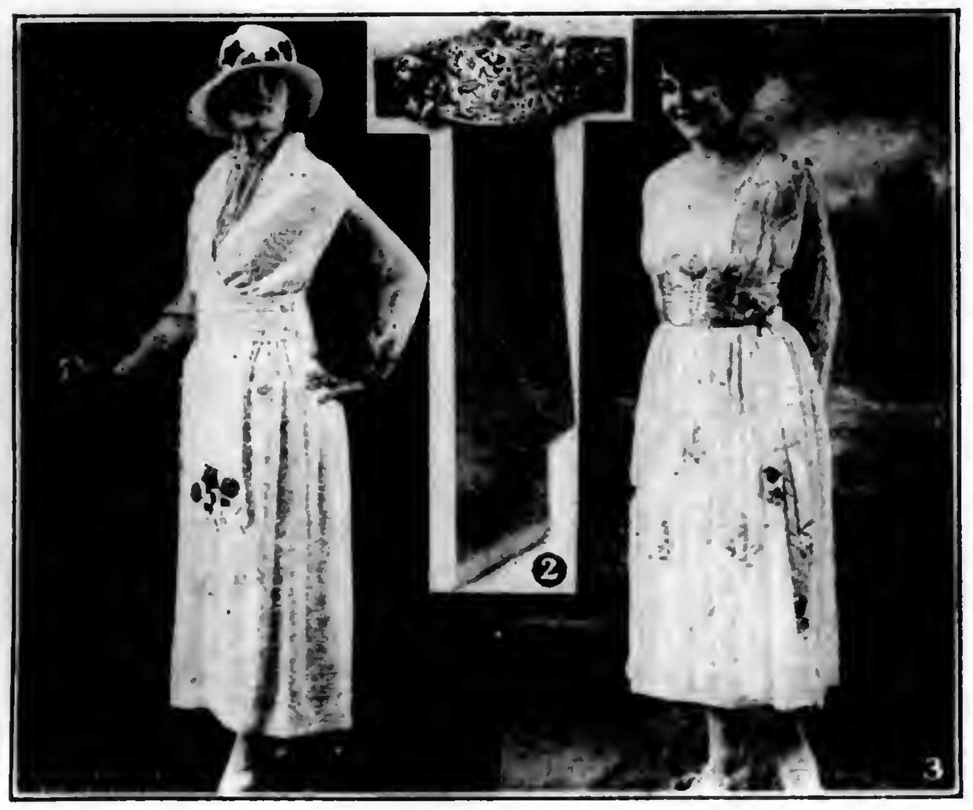
One of the daintiest little sash girdles may be made of three-fourths yard of wide robin-egg blue satin ribbon, or of two widths. Have the girdle wide enough to shirr and bone in the center front, as pictured. Two yards of three-inch ribbon to match may be used for ends. And a two-yard length of pink satin will make the pink roses that give the Frenchy color touch to the girdle. These roses are simple to make; just double the ribbon and sew it round and round on a piece of canvas to make the rosette. Then add green centers of fringed-out pieces of green ribbon. Some old bits will answer for making the centers.

A very charming garniture can be devised from white satin ribbon in bretelle effect. For this purpose four yards will be required of the wide, with enough of the same in narrow ribbon to make three ribbon flowers. The bretelles are brought over the shoulder on each side of the front, and end front and back about half way to the waist line. In the back long streamers are held to the waist by a flower. The latter may be made to simulate a daisy, with the center of the palest yellow, or it may be all white. This same effect may be varied by using in place of the pure white a delicate pink with a Dresden rose holding each loop, or a pale blue with a cluster of blue forget-me-nots. The high draping in the back suggests the Empire lines, which are so well adapted to slender girlish figures.

The same Empire idea is carried out in a graceful sash of five-inch ribbon passed around the body at the bust line, and caught under a rosette or ribbon flower on the left side of the front at the bust line. The rosette may be made of the sash ribbon or of soft satin to match in color. From beneath it hang the long sash ends.

To match the new showy, sheeny Japanese silks so popular this summer are sashes with long ends front and back, and a flower design in silk appliqued on the ends of the sash, as illustrated in the photo shown herewith. The sashes are held in place, front and back, under the skirt girdle. A hat to match, made of this same serviceable silk, also has silk flowers padded and appliqued on it, as illustrated.

The third photo shows a sash and girdle made partly of odds and ends from the silk scrap bag—some wide satin ribbon for the sash ends, a bit of brocade and a ribbon flower for each side of the brocade make-believe buckle. One of the prettiest ones which I have seen was made of black velvet ribbon for the girdle and sash ends. This girdle was bound at the top with robin's-egg blue satin ribbon. A piece of similarly colored blue brocade made the buckle, and roses made of the blue ribbon finished the sides of the buckle.—Louise E. Dew, New York.



1.—Sashes of Japanese Kumsi-Kumsa Silk to match Skirt and Hat Go Over Shoulder and are Held in Place by Skirt Belt.
2.—Sash and Girdle of Black Velvet Ribbon, Imitation Buckle of Blue Brocade.
3.—Sash and Girdle of Robin's-Egg Blue Ribbon, With Pink Rose of Narrow Ribbon.

TO CLEAN SILVER EASILY

Are you one of those behind-the-times women who still spend a lot of time cleaning their silver with a silver polish powder and a rag and a lot of rubbing, even to find that they have not got all the crevices of the decorations brightened up. Don't do it this way; it takes too long, and besides it wears the silver uselessly. Instead use this method, which is really a sort of re-plating method: Put a piece of aluminum—an old aluminum spoon will answer—in a graniteware kettle big enough to hold your silver pieces. Put in enough water to cover all the silver that you will want to clean, then dissolve therein sal soda and common salt in proportion of three to one tablespoonfuls, put in the sil so that it is all under the water, and so that some of the pieces are lying on the aluminum. Then boil it for a few minutes, lift out and wipe off with a soft cloth, and it will shine like new. And you do not have to get into the crevices to get out the tarnish. The chemical action of the alkali and the aluminum has turned the tarnish back into silver. Actual measurements of the loss to the silver have shown that this process really restores the silver, whereas polishing with the powder rubs it off. When you first lift the silver out of the soda bath it will have a soft satiny sheen, and the wiping with the soft cloth instantly makes it shine. It is really a most interesting operation. You can thus clean a lot of silver in a few minutes. The aluminum will turn black, so do not use any aluminum that you care about keeping nice and smooth. You can brighten the aluminum in an oralic acid bath, or rhubarb will do it, for there is oralic acid in rhubarb.

SUGAR SAVING RECIPES

The following recipes are some of our favorites just now because of the sugar shortage.

Rye Drop Cakes

Mix together ⅔ cup white flour, 2½ teaspoons baking powder, and ½ teaspoon salt. Then add gradually ½ cup sweet milk, then 2 tablespoons molasses and 1 well beaten egg. Drop from a spoon into hot fat, and fry like doughnuts. They are delicious.

Fruit or Raisins Dumpings

Mix together 1 pint flour, 1 teaspoon salt and 2 teaspoons baking powder, and rub in 1 teaspoon lard. Add 1 cup seeded raisins, then mix in ½ pint sweet milk, to make a stiff batter. Have ready 2 quarts salted water, drop in the dumplings from a spoon, cover tightly and boil twenty minutes. We eat them with milk and syrup. Or for a change we open a can of huckleberries or any favorite fruit, set it to heat on the stove, and when it comes to a boil, drop in the dumplings. When you do this, omit the raisins. We think this fine.

Old-Fashioned Molasses Cake

Boil together 1½ cups molasses and 1 tablespoon lard or butter a few minutes, cool and add 1 teaspoon ginger, ½ teaspoon salt, 1 teaspoon soda 1 well beaten egg, 1 cup hot water, 2½ cups flour. Bake in shallow pan in quick oven.

Poverty Cake

Stir 1 cup molasses into 1½ cups of flour, add the yolks of 2 eggs, 1 teaspoon soda in ½ cup water, 1 teaspoon each of cinnamon and ground cloves. Bake in a loaf in a moderate oven.

Oatmeal Cookies

Mix 2 cups oatmeal with 1 cup shortening, 1 cup corn syrup and 1 cup chopped nuts or raisins. Add 1 teaspoon cinnamon, 1 teaspoon vanilla, 5 tablespoons sweet milk, and 2 well-beaten eggs. Drop from spoon onto a greased baking pan, and bake in a moderate oven.

Piecrust That We Like

We make it with 2 cups white flour, 1 cup rye flour, 1 teaspoon salt and 1 cup shortening. We mix the two flours well together, then add the salt and the shortening well rubbed in, and lastly enough cold water to make a soft dough. This crust is darker than all-white flour crust, but it is tender and sweet.

A Favorite Omelet

An omelet that we like very much is made thus: We blend together 2 tablespoons milk and 3 rounded tablespoons cottage cheese, add the beaten yolks of 2 eggs, ½ teaspoon salt, 1 tablespoon chopped onion, or pimento peppers, or some minced ham, then the stiffly beaten whites

of the eggs. Then we melt ½ tablespoon butter in the frying pan and pour in the omelet, and cook slowly until set, when we put it in the oven to finish cooking To serve, we fold it over, and slide onto a hot platter. —Mrs. E. A. K., Lackawanna Co., Pa.

LAUNDERING CURTAINS

I have heard a number of women complain this spring about the tediousness of laundering their curtains. To me this is really one of the pleasantest tasks of house cleaning. The way I do it does not take long. One day I washed and stretched eight pair, and another day six, along with my other work.

I do not boil my curtains. If they are badly soiled I soak them in cold water over night; otherwise for only two or three hours. I use soap flakes, and make a stiff lather with boiling hot water. Into this I put the soaked curtains.

A suction washer is ideal for washing curtains. Lacking one, you can work the curtains around with a stick until the water is cool enough to put your hands into it. Squeeze the suds thru the curtains thoroly, run the curtains thru the wringer and rinse in hot water. Then rinse in two more waters, having each lukewarm, starch and stretch. Blueing should be added to the last water.

When I wash ecru curtains and those having a border in colors, I do not put them into boiling hot water. I add cold water to make it lukewarm, then wash the same as I do the white ones. Madras curtains can be made to keep their original color a long time by adding some very strong coffee to the rinse water. Sometimes I prefer to use instead the commercial tan soap. If sash or door curtains are laundered, I starch them a little, roll up in a cloth, let them stand an hour or two, then iron.

The secret in having your curtains hang well in is stretching them exactly straight, so that the corners will not droop. This is accomplished by measuring the length and width of the curtains before you wet them, then setting the stretching frames acocrdingly.

When I put the curtains into the frames, I fasten all four corners first, then I fasten at the center of the top, then at the center of each side. Next I fasten the bottom in the middle, then go back and finish the top fastening, then the bottom, and work up on each side from the bottom. Thus, if there is any fullness, it will be worked up to the top, where it will not be so evident.

Thus, curtains on which there is lace or crochet edge can be dried so that their points will all stand out neat as new.

I prefer to have my curtains just long enough to have the bottom edges come just to the edge of the baseboard under the window. If one has long expensive lace curtains, and does not wish to cut them off, a nice way is to lay the curtains so that there will be one or two large tucks hanging downward from the top. If these are measured and laid carefully, one or two will take up the excess length. They, as well as the casing for the top, can be merely run up by hand.

Sometimes long curtains will have enough excess length so that sash or bathroom curtains can be made therewith.

As pretty curtains as I have seen were made of figured calico. The background is a light green, over which are small black and white figures. Cotton fringe finishes the bottom.

Another pretty pair of curtains was made by appliqueing hollyhocks cut from pink and green material onto the inside edges of curtains of plain material—unbleached muslin or cream cheesecloth is pretty. Some of the leaves and green stems should also be used. Applique the decorations on with bottonhole stitch. These curtains were hemstitched along the inside edge and the bottom. —Mrs Escoe Ervin.

ECONOMIZING ON SHOES

Trying to cut the high cost of clothing I purchased a pair of shoes for $6, instead of paying $9 to get the same grade of shoe I used to buy for $4. The new ones were made of good leather, with cloth tops, but were not as stylish as others with higher tops and made of poorer material. But when I came to wear them I found the soles and the entire shoes so stiff it was torture to wear them any length of time, and I feared they were no saving after all. Then I remembered that a dealer in leather had once told me how to soften leather with hen oil.

So I dressed a fat hen, tried out some of the leaf fat and poured it into an empty cold cream jar. Then I took a basin of hot water and with a sponge applied the water to the soles of the shoes and the part across the toes. As the water soaked in I wet it again till real damp, then applied the hen oil and let it remain a while. It was soon absorbed, then more was applied; this was repeated four or five times, bending the soles back and forth to limber them up. Then I put them away to dry. The next day they were as pliable as the high-priced shoes and perfectly comfortable.

This same process is splendid to use on harness and other leather. You must remember that all leather should be thoroly soaked with warm water before any oil is applied to soften it.—Viola M. Lee.

HOMEMADE MOTH-PROOF BAGS

With only a few minutes work you can have as many moth-proof bags as are needed to cover the winter clothing when put away for the summer.

For the small size to cover children's clothes or short coats take 3 thicknesses of newspaper, spread out the full size, place them together and turn over two inches on one end for a hem at the top. Stitch the hem on the machine, with long stitches. Make two of these sections, place them together and stitch around 3 sides, thus forming a bag with the hemmed edges for the top. Put the garment on a hanger and slide it in to the bag, then fold the top over slanting towards the outer edge of the bag and pin. If you are careful to pin it closely to the hanger as well as all along the turned over part you will have a good moth-proof bag.

For overcoats and cloaks sew two sections of paper together lengthwise and it will make a bag large enough for any garment. Newspapers are better than other paper, as moths seem to dislike printers' ink, and will not trouble anything wrapped closely in this way.—Viola M. Lee, Broome Co., N. Y.

Most of us do not relish a mouthful of oil paper mixed in with our dates. So take the dates from the cardboard box and place them in the oven a few minutes, and you will find that the oil paper will peel off quite easily.

Special
Charles William Stores
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No wonder she's interested!

SHE has just received the Mid-Summer Sale Book of The Charles William Stores, and has found the low prices—so much lower than she expected to have to pay for her new summer frock.

For example, a beautiful Voile dress in a dainty figured pattern is shown on page 4 for only $3.69.

And this is only one of hundreds upon hundreds of items of merchandise that we have reduced during this Midsummer sale—reduced to far below present-day prices.

Waists and Blouses are priced at from $1.69 to $5.98. (Pages 5 and 6.) Millinery prices range from 89c to $4.98. (Page 9.)

Sheetings, Muslins, Toweling, Flannels, Percales, all low prices—all high quality. (Pages 19 to 32.) Unusual bargains in shoes for Mother, for Dad and for the children. For work, play or dress wear. (Pages 35 to 41.)

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If you have not received your Sale Book, write to The Charles William Stores, 571 Stores Bldg., N. Y. City, and we will send it to you promptly.

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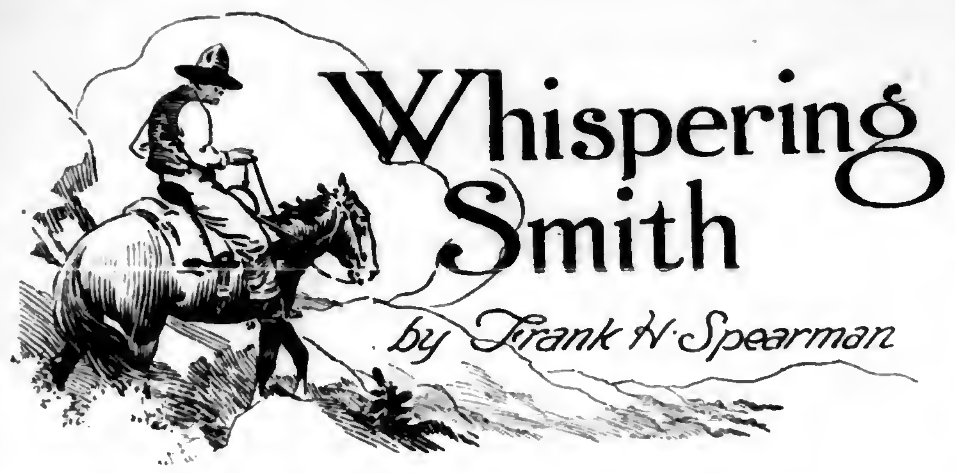


Whispering Smith

by Frank H. Spearman

SYNOPSIS OF PREVIOUS CHAPTERS

The wrecking of a heavy freight train at Smoky Creek had piled up dozens of box cars loaded with merchandise. The wrecking crew, lead by Sinclair the foreman, was at work clearing the tracks when McCloud, the superintendent, arrived. It had been the custom of Sinclair and his crew to appropriate whatever their fancy suggested from the goods carried by a wrecked train. They were now loading up a wagon when McCloud arrived and stopped the pilfering. At this, Sinclair became angry and because they would not agree to stop looting were discharged. Sinclair afterwards told Whispering Smith that his mistake was in not then killing McCloud. The only one injured in the wreck was a tramp who called for help and water but Sinclair would give neither.

In all the group of young men then on the mountain division, obscure and unknown at the time, but destined within so few years to be scattered far and wide as constructionists with records made in the rebuilding operations thru the Rocky Mountains, none was less likely to attract attention than McCloud. Bucks, who, indeed, could hardly be reckoned so much of the company as its head, was a man of commanding proportions physically. Like Glover, Bucks was a giant in stature, and the two men, when together, could nowhere escape notice; they looked, in a word, their part, fitted to cope with the tremendous undertakings that had fallen to their lot. Callahan, the chess-player on the Overland lines, the man who could hold large combinations of traffic movement constantly in his head and by intuition reach the result of a given problem before other men could work it out, was, like Morris Blood, the master of tonnage, of middle age. But McCloud, when he went to the mountain division, in youthfulness of features was boyish, and when he left he was still a boy, bronzed, but young of face in spite of a lifetime's pressure and worry crowded into three years. He himself counted this physical make-up as a disadvantage. "It has embroiled me in no end of trouble, because I couldn't convince men I was in earnest until I made good in some hard way," he complained once to Whispering Smith. "I never could acquire even a successful habit of swearing, so I had to learn to fight."

When, one day in Boney Street in Medicine Bend, he threw open the door of Marion Sinclair's shop, flung his hat sailing along the show-case with his war-cry, and called to her in the back rooms, she thought he had merely run in to say he was in town.

"How do you do? What do you think? You're going to have an old boarder back," he cried. "I'm coming to Medicine Bend, superintendent of the division!"

"Mr. McCloud!" Marion Sinclair clasped her hands and dropped into a chair. "Have they made you superintendent already?"

"Well, I like that! Do you want them to wait till I'm gray-headed?"

Marion threw her hands to her own head. "Oh, don't say anything about gray hairs. My head won't bear inspection. But I can't get over this promotion coming so soon—this whole big division! Well, I congratulate you very sincerely——"

"Oh, but that isn't it! I suppose anybody will congratulate me. But where am I to board? Have you a cook? You know how I went from bad to worse after you left Cold Springs. May I have my meals here with you as I used to there?"

"Why, I suppose you can, yes, if you can stand the cooking. I have an apprentice, Mr. Dancing's daughter, who does pretty well. She lives here with me, and is learning the business. But I sha'n't take as much as you used to pay me, for I'm doing so much better down here."

"Let me run that end of it, will you? I shall be doing better down here myself."

They laughed as they bantered. Marion Sinclair wore gold spectacles, but the did not hide the delightful good-nature in her eyes. On the third finger of her slender left hand she wore, too, a gold band that explained the gray in her hair at twenty-six.

This was the wife of Murray Sinclair, whom he had brought to the mountains from her far-away Wisconsin home. Within a year he had broken her heart so far as it lay in him to do it, but he could not break her charm nor her spirit. She was too proud to go back, when forced to leave him, and had set about earning her own living in the country to which she had come as a bride. She put on spectacles, she mutilated her heavy brown hair and to escape notice and secure the obscurity that she craved, her name, Marion, became, over the door of her millinery shop and in her business, only "M. Sinclair."

Cold Springs, where Sinclair had first brought her when he had headquarters there as foreman of bridges, had proved a hopeless place for the millinery business—at least, in the way that Marion ran it. The women that had husbands had no money to buy hats with, and the women without husbands wore gaudy headgear, and were of the kind that made Marion's heart creep when they opened the shop door. What was worse, they were inclined to joke with her, as if there must be a community of interest between a deserted woman and women who had deserted womanhood. To this business Marion would not cater, and in consequence her millinery affairs sometimes approached collapse. She could, however, cook extraordinarily well, and, with the aid of a servant-maid, could always provide for a boarder or two—perhaps a railroad man or a mine superintendent to whom she could serve meals, and who, like all mountain men, were more than generous in their accounting with women. Among these standbys of hers was McCloud. McCloud had always been her friend, and when she left Cold Springs and moved to Medicine Bend to set up her little shop in Boney Street near Fort, she had lost him. Yet somehow, to compensate Marion for other cruel things in the mountains, Providence seemed to raise up a new friend for her wherever she went. In Medicine Bend she did not know a soul, but almost the first customer that walked into her shop—and she was a customer worth while—was Dicksie Dunning of the Crawling Stone.

CHAPTER V.

The Crawling Stone.

Where the mountain chains of North America have been flung up into a continental divide, the country in many of its aspects is still terrible. In extent alone this mountain empire is grandiose. The swiftest transcontinental trains approaching its boundaries at night find night falling again before they have fairly penetrated it. Geologically severe, this region in geological store is the richest of the continent; physically forbidding beyond all other stretches of North America, the Barren Land alone excepted, in this region lie its gentlest valleys. Here the desert is most grotesque, and here are pastoral retreats the most secluded. It is the home of the Archean granite, and its basins are of a fathomless dust. Under its sagebrush wastes the skeletons of earth's hugest mammals lie beside behemoth and the monsters of the deep. The eternal snow, the granite peak, the sandstone butte, the lava-bed, the gray desert, the far horizon are familiar here. With the sunniest and bluest of skies, this is the range of the deadliest storms, and its delightful summers contrast with the dreadest cold.

Here the desert of death stimulates a field of cooling snow, green hills lie black in the dazzling light of day, limpid waters run green over arsenic stone, and sunset betricks the fantastic rock with column and capital and dome. Cloudsburst here above arid wastes, and where dew is precious the skies are most prodigal in their downpour. If the torrent bed is dry, distrust it.

This vast mountain shed parts rivers whose waters find two oceans, and their valleys are the natural highways up which railroads wind to the crest of the continent. To the mountain engineer the waterway is the sphinx that holds in its silence the riddle of his success; with him lies the problem of providing a railway across ranges which often defy the hoofs of a horse.

The construction engineer studies the course of the mountain water. The water is both his ally and his enemy—ally because it alone has made possible his undertakings; enemy because it fights to destroy his puny work, just as it fights to level the barriers that oppose him. Like acid spread on copperplate, water etches the canyons in the mountain slopes and spreads wide the valleys through the plains. Among these scarcely known ranges of the Rocky Mountain chain the Western rivers have their beginnings. When white men crowded the Indian from the plains he retreated to the mountains, and in their valleys made his final stand against the aggressor. The scroll of this invasion of the mountain West by the white man has been unrolled, read, and put away within a hundred years, and of the agencies that made possible the swiftness of the story transportation overshadows all others. The first railroad put across those mountains cost twenty-five thousand miles of reconnoissances and fifteen thousand miles of instrument surveys. Since the day of that undertaking a generation of men has passed, and in the interval the wilderness that those men penetrated has been transformed. The Indian no longer extorts terms from his foe: he is not.

Where the tepee stood the rodman drives his stakes, and the country of the great Indian rivers, save one, has been opened for years to the railroad. That one is the Crawling Stone. The valley of Crawling Stone River marked for more than a decade the dead line between the Overland Route of the white man and the last country of the Sioux. It was long after the building of the first line before even an engineer's reconnoissance was made in the Crawling Stone country. Then, within ten years, three surveys were made, two on the north side of the river and one on the south side, by interests seeking a coast outlet. Three reports made in this way gave varying estimates of the expense of putting a line up the valley, but the three coincided in this, that the cost would be prohibitive. Engineers of reputation had in this respect agreed, but Glover, who looked after such work for Bucks, remained unconvinced, and before McCloud was put into the operating department on the Short Line he was asked by Glover to run a preliminary up Crawling Stone Valley. Before the date of his report the conclusions reached by other engineers had stood unchallenged.

The valley was not unknown to McCloud. His first year in the mountains, in which, fitted as thoroughly as he could fit himself for his profession, he had come West and found himself unable to get work, had been spent hunting, fishing, and wandering, often cold and often hungry, in the upper Crawling Stone country. The valley in itself offers to a constructionist no insuperable obstacles; the difficulty is presented in the canyon where the river bursts through the Elbow Mountains. South of this canyon McCloud, one day on a hunting trip, found himself with two Indians pocketed in the rough country, and was planning how to escape passing a night away from camp when his companions led him past a vertical wall of rock a thousand feet high, split into a narrow defile down which they rode, as it broadened out, for miles. They emerged upon an open country that led without a break into the valley of the Crawling Stone below the canyon. Afterward, when he had become a railroad man, McCloud, sitting at a camp-fire with Glover and Morris Blood, heard them discussing the coveted and impossible line up the valley. He had been taken into the circle of constructionists and was told of the earlier reports against the line. He thought he knew something about the Elbow Mountains, and disputed the findings, offering in two days' ride to take the men before him to the pass called by the Indians The Box, and to take them through it. Glover called it a find, and a big one, and though more immediate matters in the strategy of territorial control then came before him, the preliminary was ordered and McCloud's findings were approved. McCloud himself was soon afterward engrossed in the problems of operating the mountain division; but the dream of his life was to build the Crawling Stone Line with a maximum grade of eight tenths through The Box.

The prettiest stretch of Crawling Stone Valley lies within twenty miles of Medicine Bend. There it lies widest, and has the pick of water and grass between Medicine Bend and the Mission Mountains. Cattlemen went into the Crawling Stone country before the Indians had wholly left it. The first house in the valley was the Stone Ranch, built by Richard Dunning, and it still stands overlooking the town of Dunning at the junction of the Frenchman Creek with the Crawling Stone. The Frenchman is fed by unfailing springs, and when by summer sun and wind every smaller stream in the middle basin has been licked dry, the Frenchman runs cold and swift between its russet hills. Richard Dunning, being on the border of the Indian country, built for his ranch-house a rambling stone fortress. He had chosen, it afterward proved, the choice spot in the valley, and he stocked it with cattle when yearlings could be picked up in Medicine Bend at ten dollars a head. He got together a great body of valley land when it could be had for the asking, and became the rich man of the Long Range.

The Dunnings were Kentuckians. Richard was a bridge engineer and builder, and under Brodie built some of the first bridges on the mountain division, notably the great wooden bridge at Smoky Creek. Richard brought out his nephew, Lance Dunning. He taught Lance bridge-building, and Murray Sinclair, who began as a cowboy on the Stone Ranch, learned bridge-building from Richard Dunning. The Dunnings both came West, though at different times, as young men and unmarried, and, as far as Western women were concerned, might always have remained so. But a Kentucky cousin, Betty, one of the Fairfield Dunnings, related to Richard within the sixth or eighth degree, came to the mountains for her health. Betty's mother had brought Richard up as a boy, and Betty, when he left Fairfield, was a baby. But Dick—as they knew him at home—and the mother wrote back and forth, and he persuaded her to send Betty out for a trip, promising he would send her back in a year a well woman.

Betty came with only her colored maid, old Puss Dunning, who had taken her from the nurse's arms when she was born and taken care of her ever since. The two—the tall Kentucky girl and the bent mammy—arrived at the Stone Ranch one day in June, and Richard, done then with bridges and looking after his ranch interests, had already fallen violently in love with Betty. She was delicate, but, if those in Medicine Bend who remembered her said true, a lovely creature. Remaining in the mountains was the last thing Betty had ever thought of, but no one, man or woman, could withstand Dick Dunning. She fell quite in love with him the first time she set eyes on him in Medicine Bend, for he was very handsome in the saddle, and Betty was fairly wild about horses. So Dick Dunning wooed a fond mistress and married her and buried her, and all within hardly more than a year.

But in that year they were very happy, never two happier, and when she slept away her suffering she left him, as a legacy, a tiny baby girl.

Puss brought the mite of a creature in its swaddling-clothes to the sick mother,—very, very sick then,—and poor Betty turned her dark eyes on it, kissed it, looked at her husband and whispered "Dicksie," and died. Dicksie had been Betty's pet name for her mountain lover, so the father said the child's name should be Dicksie and nothing else; and his heart broke and soon he died. Nothing else, storm or flood, death or disaster, had ever moved Dick Dunning; then a single blow killed him. He rode once in a while over the ranch, a great tract by that time of twenty thousand acres, all in one body, all under fence, up and down both sides of the big river, in part irrigated, swarming with cattle—none of it stirred Dick! and with little Dicksie in his arms he slept away his suffering.

So Dicksie was left, as her mother had been, to Puss, while Lance looked after the ranch, swore at the price of cattle, and played cards at Medicine Bend. At ten, Dicksie, as thoroughly spoiled as a pet baby could be by a fool mammy, a fond cousin, and a galaxy of devoted cowboys, was sent, in spite of crying and flinging, to a far-away convent—her father had planned everything—where in many tears she learned that there were other things in the world besides cattle and mountains and sunshine and tall, broad-hatted horsemen swinging from their stirrups and pick her hat from the ground—just to see little Dicksie laugh—when they loped past the house to the corral. When she came back from Kentucky, her grandmother dead and her schooldays finished, all the land she could see in the valley was hers, and all the living creatures in the hills. It seemed perfectly natural, because since childhood even the distant mountains and their snows had been Dicksie's.

CHAPTER VI.

The Final Appeal.

Sinclair's discharge was a matter of comment for the whole country, from the ranch-houses to the ranges. For a time Sinclair himself refused utterly to believe that McCloud could keep him off the division. His determination to get back led him to carry his appeal to the highest quarters, to Glover and to Bucks himself. But Sinclair, able as he was, had passed the limit of endurance and had long been marked for an accounting. He had been a railroad man to whom the West spelled license, and, while a valuable man, had long been a source of demoralization to the forces of the division. In the railroad life clearly defined plans are often too deeply laid to fathom, and it was impossible for even so astute a man as Sinclair to realize that he was not the victim of an accident, but that he must look to his own record for the real explanation of his undoing. He was not the only man to suffer in the shake-out that took place under the new superintendent; but he seemed the only one unable to realize that Bucks, patient and long-suffering, had put McCloud into the mountain saddle expressly to deal with cases such as his. In the West sympathy is quick but not always discerning. Medicine Bend took Sinclair's grievance as its own. No other man in the service had Sinclair's following, and within a week petitions were being circulated through the town not asking merely but calling for his reinstatement. The sporting element of the community to a man were behind Sinclair because he was a sport; the range men were with him because his growing ranch on the Frenchman made him one of them; his own men were with him because he was a far-seeing pirate and divided liberally. Among the railroad men, too, he had much sympathy. Sinclair had always been lavish with presents; brides were remembered by Sinclair, and babies were not forgotten. He could sit up all night with a railroad man that had been hurt, and he could play poker all night with one that was not afraid of getting hurt. In his way, he was a division autocrat, whose vices were varnished by virtues such as these. His hold on the people was so strong that they could not believe the company would not reinstate him. In spite of the appointment of his successor, Phil Hailey, a mountain boy and the son of an old-time bridge foreman, rumor assigned again and again definite dates for Sinclair's return to work; but the dates never materialized. The bridge machinery of the big division moved on in even rhythm. A final and determined appeal from the deposed autocrat for a hearing at last brought Glover and Morris Blood, the general manager, to Medicine Bend for a final conference. Callahan too was there with his pipe, and they talked quietly with Sinclair—reminded him of how often he had been warned, showed him how complete a record they had of his plundering, and Glover gave to him Bucks's final word that he could never again work on the mountain division.

A pride grown monstrous with prestige long undisputed broke under the final blow. The big fellow put his face in his hands and burst into tears, and the men before him sat confused and uncomfortable at his outburst of feeling. It was only for a moment. Sinclair raised his hand, shook his long hair, and swore an oath against the company and the men that curled the very smoke in Callahan's pipe. Callahan, outraged at the insolence, sprang to his feet, resenting Sinclair's fury. Choking with anger he warned him not to go too far. The two were ready to spring at each other's throat when Farrell Kennedy stepped between them. Sinclair, drunk with rage, called for McCloud; but he submitted quietly to Kennedy's reproof, and with a semblance of self-control begged that McCloud be sent for. Kennedy, without complying, gradually pushed Sinclair out of the room, and, without seeming officious, walked with him down the hall and quite out of the building.

CHAPTER VII.

In Marion's Shop.

In Boney Street, Medicine Bend, stands an early-day row of one-story buildings; they once made up a prosperous block, which has long since fallen into the decay of paintless days. There is in Boney Street a livery stable, a second-hand store, a laundry, a bakery, a moribund grocery, and a bicycle shop, and at the time of this story there was also Marion Sinclair's millinery shop; but the better class of Medicine Bend business, such as the gambling houses, saloons, pawnshops, restaurants, barber shops, and those sensitive, clean-shaven, and alert establishments known as "gent's stores," had deserted Boney Street for many years. Bats fly in the dark of Boney Street while Front Street at the same hour is a blaze of electricity and frontier hilarity. The millinery store stood next to the corner of Ford Street. The lot lay in an "L," and at the rear of the store the first owner had built a small connecting cottage to live in. This faced on Ford Street, so that Marion had her shop and living-rooms communienting, and yet apart. The store building is still pointed out as the former shop of Marion Sinclair, where George McCloud boarded when the Crawling Stone Line was built, where Whispering Smith might often have been seen, where Sinclair himself was last seen alive in Medicine Bend, where Dicksie Dunning's horse dragged her senseless one wild mountain night, and where, indeed, for a time the affairs of the whole mountain division seemed to tangle in very hard knots.

"The old farm home is mother's yet and mine;
And filled it is with plenty and to spare;
But we are lonely here in life's decline,
'Tho fortune smiles around us everywhere."

As to the millinery business, it was never, after Marion bought the shop, more than moderately successful. The demand that existed in Medicine Bend for red hats of the picture sort Marion declined to recognize. For customers who sought these she turned out hats of sombre coloring calculated to inspire gloom rather than revelry, and she naturally failed to hold what might be termed the miscellaneous business. But after Dicksie Dunning of the Stone Ranch, fresh from the convent, rode into the shop, or if not into it nearly so, and, gliding through the door, ordered a hat, out of hand, Marion always had some business. All Medicine Bend knew Dicksie Dunning, who dressed stunningly, rode famously, and was so winningly democratic that half the town never called her anything, at a distance, but Dicksie.

The first hat was a small affair but haughty. The materials were unheard of in Marion's stock and had to be sent for. Marion's arrangements with the jobbing houses always had a C. O. D. complexion; the jobbers maintained that this saved book-keeping, and Marion, who of course never knew any better, paid the double express charges like a lamb. She acted, too, as banker for the other impecunious tradespeople in the block, and as this included nearly all of them she was often pressed for funds herself. McCloud undertook sometimes to intervene and straighten out her millinery affairs. One evening he went so far as to attempt an inventory of her stock and some schedule of her accounts; but Marion, with the front-shop curtains drawn and McCloud perspiring on a step-ladder, inspecting boxes of feathers and asking stern questions, would look so pathetically sweet and helpless when she tried to recall what items cost that McCloud could not be angry with her; indeed, the pretty eyes behind the patient spectacles would disarm any one. In the end he took inventory on the basis of the retail prices, dividing it afterward by five, as Marion estimated the average profit in the business at five hundred per cent.—this being what the woman she bought out had told her.

How then, McCloud asked himself, could Marion be normally hard pressed for money. He talked to her learnedly about fixed charges, but even these seemed difficult to arrive at. There was no rent, because the building belonged to the railroad company, and when the real-estate and tax man came around and talked to McCloud about rent for the Boney Street property, McCloud told him to chase himself. There was no insurance, because no one would dream of insuring Marion's stock boxes; there were no bills payable, because no travelling man would advise a line of credit to an inexperienced and, what was worse, an unpractical milliner. Marion did her own trimming, so there were no salaries except to Katie Dancing. It puzzled McCloud to find the leak. How could he know that Marion was keeping nearly all the block supplied with funds? So McCloud continued to raise the price of his table board, and, though Marion insisted he was paying her too much, held that he must be eating her out of house and home.

In her dining-room, which connected through a curtained door with the shop, McCloud sat one day alone eating his dinner. Marion was in front serving a customer. McCloud heard voices in the shop, but gave no heed till a man walked through the curtained doorway and he saw Murray Sinclair standing before him. The stormy interview with Callahan and Blood at the Wickiup had taken place just a week before, and McCloud, after what Sinclair had then threatened, though not prepared, felt as he saw him that anything might occur. McCloud being in possession of the little room, however, the initiative fell on Sinclair who, looking his best, snatched his hat from his head, and bowed ironically. "My mistake," he said blandly.

"Come right in," returned McCloud, not knowing whether Marion had a possible hand in her husband's unexpected appearance. "Do you want to see me?"

"I don't," smiled Sinclair; "and to be perfectly frank," he added with studied consideration, "I wish to God I never had seen you. Well—you've thrown me, McCloud."

"You've thrown yourself, haven't you, Murray?"

"From your point of view, of course. But, McCloud, this is a small country for two points of view. Do you want to get out of it, or do you want me to?"

"The country suits me, Sinclair."

"No man that has ever played me dirt can stay here while I stay." Sinclair, with a hand on the portiere, was moving from the doorway into the room. McCloud in a leisurely way rose, though with a slightly flushed face, and at that juncture Marion ran into the room and spoke abruptly. "Here is the silk, Mr. Sinclair," she exclaimed, handing to him a package she had not finished wrapping. "I meant you to wait in the other room."

"It was an accidental intrusion," returned Sinclair, maintaining his irony. "I have apologized, and Mr. McCloud and I understand one another better than ever."

"Please say to Miss Dunning," continued Marion, nervous and insistent, "that the band for her riding-hat hasn't come yet, but it should be here tomorrow."

As she spoke McCloud leaned across the table, resolved to take advantage of the opening, if it cost him his life. "And by the way, Mr. Sinclair, Miss Dunning wished me to say to you that the lovely bay colt you sent her had sprung his shoulder badly, the hind shoulder, I think, but they are doing everything possible for it and they think it will make a great horse."

Sinclair's snort at the information was a marvel of indecision. Was he being made fun of? Should he draw and end it? But Marion faced him resolutely as he stood, and talking in the most business-like way she backed him out of the room and to the shop door. Balked of his opportunity, he retreated stubbornly but with the utmost politeness, and left with a grin, lashing his tail, so to speak.

Coming back, Marion tried to hide her uneasiness under even tones to McCloud. "I'm sorry he disturbed you. I was attending to a customer and had to ask him to wait a moment."

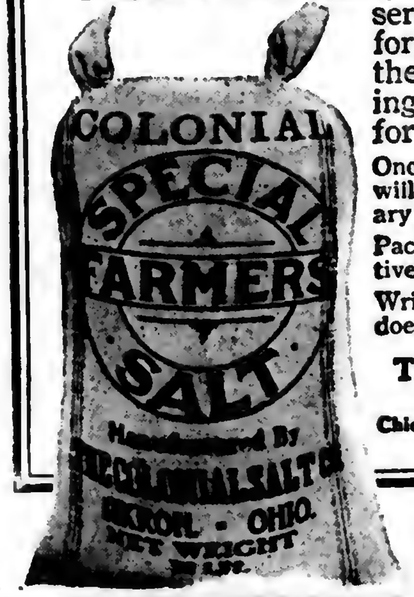
"Don't apologize for having a customer."

"He lives over beyond the Stone Ranch, you know, and is taking some things out for the Dunnings today. He likes an excuse to come in here because it annoys me. Finish your dinner, Mr. McCloud."

"Thank you, I'm done."

"But you haven't eaten anything. Isn't your steak right?"

"It's fine, but that man—well, you know how I like him and how he likes me. I'll content myself with digesting my temper."



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LIVE STOCK

STUDENTS' MOCK SALE AT PENN STATE

On Saturday, May first, the members of the Sirloin Club of the Penna. State College held their third annual mock livestock sale. Twenty seven lots of the finest horses, cattle, sheep and swine belonging to the Animal husbandry department were "sold" by auctioneer W. B. Connell. Bidding was limited to members of the club, tho the ampitheater was crowded to capacity with guests, a system was devised by which those over-bidding or under-bidding were heavily penalized when the award of prizes were made. The following students were given ribbons for judicious bidding. Horses, J. H. Long, L. W. Rothrock; cattle, Charles Czuleger, D. S. Bell; sheep, W. M. Sharp, J. P. McKnight; swine, McKnight, Czuleger; Grand championship for consistant bidding, McKnight. Valuation on the lots was made by Prof. W. H. Tomhave, the members of the A. H. Department acting as ring men.

Mock Auction of Livestock Staged by Penn State Students

Awards were made for fitting by P. C. McKenzie, livestock superintendent, who pronounced the animals admirably groomed and tied the ribbons as follows: Horses, H. P. Siglin, F. L. Broadhead; eattle, T. H. Wilson, C. H. Wensthoff; sheep, N. P. Tait, E. H. Fultan; swine, E. V. Kirsch, J. J. McGarcey, E. D. Derr. The championship ribbon went to N. P. Tait.

A Rhode Island Red hen "with egg at side" selling to defray the expense of the sale brought $26.00 in ten cent bids, the general public being permitted to bid.

LEADING A SOW

Ever try your best to take a sow from one pen to another or to another field and finally find she had decided to go another way? Of course you have, and I have, too. That's why I want to tell you a little scheme I worked on the stubbornest animal I ever tried to handle alone.

After monkeying around for a half hour or so I finally tied an ear of corn on a string about 12 feet long. Then I threw the corn just in front of her nose. She wanted it and moved up a little and I kept the ear of corn just a few feet away from her until she was in the pen where she was wanted.

When she saw me she was a little afraid but as long as she saw the corn and no man she went for it. That's about all the secret. Usually sows will handle all right but this one wouldn't. I never had a sow before that wouldn't go about where I wanted her to but when the stubborn time comes this little scheme may save a good deal of lost patience and considerable time. — Earl Rogers, Pemberville, O.

WOOL EXHIBITS AT STATE FAIR, 1920

The New York State Fair will offer $500 for the best exhibits of wool from New York State. Such exhibits may be made by individuals and by either a county wool growers' association or a county farm bureau. In the county exhibit classes one exhibit only from a county may be entered. Individuals contributing to the county exhibit may also exhibit in the open classes. All exhibits are restricted to actual growers of wool.

Six grades of wool are recognized. An exhibit of each grade of wool shall consist of three fleeces. An especially prepared place will be arranged for the proper display of these wool exhibits. Each county exhibit shall be grouped and properly designated. Each grade of wool in the exhibits shall be properly labeled showing the grade and the grower's name and address.

The exhibits shall be judged on the following basis:

Trueness to grade, quality and length of staple, cleanliness (free from dirt and seeds), weight.

MILKING SHORTHORNS

$2,000 was paid by O. E. Mason, Oregon, for the highest priced milking shorthorn sold at a sale in California recently. Oakleigh Stock Farm took the next highest at $1750. Six cattle sold for $1,000 or better. The average on the 42 cattle was $592, the 37 females bringing $590 average, and the five bulls bringing $627 average.

MILKING SHORTHORNS

Forty-one Milking Shorthorn cows made 1,000 pounds of milk or forty pounds of butterfat during the month of March, according to reports filled with the Milkin Shorthorn Society, Independence, Iowa. The butterfat test for the 41 cows averaged four percent Rosemary 2nd, of the R. G. Wood herd, Montgomery County, topped the list of 28 mature cows, with 1,473 pounds of milk and 63.5 pounds of butterfat.

Live Stock

DAUPHIN COUNTY HOG BREEDERS

That Dauphin County, Pa., will soon be well up among the leaders of the State of Pennsylvania in breeding pure bred hogs has been shown by the action of the Dauphin County farmers recently, when three communities organized to breed co-operatively. These associations include the Lykens Valley and the Middle Paxton Pure Bred Duroc Jersey Associations, and the Lower Paxton Pure Bred O. I. C. Breeders' Association.

Because of the inadequate supply in Pennsylvania of the kind of breeding stock desired, both associatoins sent instructed delegates to Ohio to inspect some of the better herds of Ohio, with a purpose of locating breeding stock. It is likely that two of these associations will purchase community boars to head their herds in the associations. A number of bred gilts, sows and spring pigs are wanted.

Dauphin County possesses almost every qualification for a real good swine breeding county, and the members of the various associations are looking forward with keen interest to the time when other parts of the state as well as other states will look to Dauphin for the right kind of breeding stock.—H. G. Niesley, County Agent.

FARM PROSPECTS IMPROVING IN NEW YORK

This is more likely to be a good year for farmers than seemed probable earlier in the season. Wheat, rye, hay and most fruit crops wintered well in this State and are expected to give good yields, and on the first of the month farmers had completed the usual amount of plowing and planting for that date. The acreage of potatoes will be about 3 per cent less than it was last year, beans will be reduced probably 10 per cent and reductions are expected in the majority of other crops except hay, but as it now looks as if the labor shortage and weather conditions would cause even greater reductions in most other States, farmers here are beginning to have more hope that the prices of farm products will rise enough to cover the increased costs.

BRITISH CONTROL OF POTATO PRICES

Beginning March 15, British potatoes are sold at both wholesale and retail subject to control prices. The maximum growers' price is also fixed. The maximum growers' price for ware potatoes which will not pass thru a 1½-inch riddle will be $62.05 at normal exchange per long ton f. o. b. during the period March 15 to 31, and thereafter will increase fortnightly by 5s. ($1.22) per ton, rising on June 1 to £14 ($68.13) for the remainder of the 1919 crop.

Wholesalers will be permitted to average their profits over each fortnightly period, when their profits on sales to other wholesalers must not exceed 7s. 6d. ($1.83) per ton, and their profits on sales to retailers or consumers must not exceed 15s. ($3.65) per ton. The schedule of maximum retail prices permits the retailer to charge for delivery.

The control order does not extend to Ireland or apply to potatoes sold as or for seed.

Your Rail-less Railroad

YOUR live stock and the produce from your fields, carried in freight trains to the cities, thunder past countless danger-signs with the warning, "Look Out for the Cars!" Each one of these marks the crossing-place of a country road—a road without rails, leading to railroad and town. Each one marks a farmer's right-of-way.

Since your farm is a 1920 enterprise, probably it is fitted with most of the following modern equipment—the telephone, good lighting and heating, a silo, a manure spreader, a cream separator, an automobile, an engine, a tractor.

But have your hauling problems found their proper solution? Are the time-losses and difficulties of a decade ago still impeding your endless carrying of farm loads?

Government statistics show that in 1918 alone, 350,000,000 tons of farm produce were transported to local shipping centers in motor trucks. The same national figures prove also that American farmers are the greatest users of motor trucks—among all industries. No progressive farmer can afford to overlook impressive *facts* like these.

Your name and address mailed to our office at Chicago will bring you descriptive folders that will prove interesting and instructive. Put an *International Motor Truck* at work on your farm and on the roads which are your right-of-way. Handle all your miscellaneous farm hauling with railway efficiency. The nine *International Motor Truck* sizes range from ¾ ton to 3½ ton. Keep in mind that these trucks have been made for years by the makers of good and trusted farm machines.

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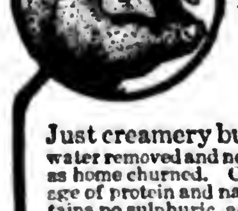

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Markets

PHILADELPHIA PRODUCE

—June 1, 1920

On account of Monday being a holiday we give the straight quotation as of Tuesday, June 1, 1920, with little comment.

Vegetables.—New Potatoes lower under heavier supplies, but active at revised prices, which take a wide range as to condition. Old potatoes weaker and lower. Asparagus lower and moving rather slowly. Only fancy beans wanted. New beets about steady as quoted. Market continues well supplied with cabbage much of which is poor to ordinary. Carrots firm. Cucumbers in light supply and fancy a little firmer. Egg plants scarce. Lettuce selling at low and irregular values. Only one car Texas onions brought $1.90, with some others at $1.75, but most sales at $1.50 and lower. Parsley showing a wide range in condition. Peas meeting a good demand with fancy firmer. Peppers more plentiful and easier with very few exceeding $4.50 per crate. Tomatoes easier under the larger supplies. Sweet potatoes dull and draggy, with only strictly fancy wanted. Other vegetables as quoted.

Asparagus, nearby, per bunch, 10@30c; extra fancy all green, 35@40c; Artichokes, California Drum, $8; California Box, $4; Beans, Florida green hamper, $1@1.50; South Carolina green hamper, 75c@$2.50; South Carolina wax hamper, $2.50; Beets, new, Norfolk bunch, 5@8c; new nearby bunch, 7c; Cabbage, Norfolk crate, $1.75@2.25; East Shore crate, $2@2.25.

Carrots, North Carolina bunch, 6@7c; Norfolk bunch, 7c. Cauliflower North Carolina hamper, $3.50. Celery, Florida crate, $2@8; Cucumbers, Florida hamper, 50c@$2.25; Norfolk, Hot bed hamper, $3, Egg plants, Florida crate $2.50@4.50 Garlic, per pound, 18@22c; Kale, nearby barrel, $1@1.50; Lettuce, North Carolina hamper, 75c@$1.75; Norfolk hamper Iceberg, 75c; East Shore hamper, 75c@$1.50; New Jersey box, $1.75@2.25 Nearby barrel, $2@4.

Onions, Texas Yellow Boilers, crate, $1.15@1.75 Texas Yellow, bushel, $1.25@1.40; Texas, Yellow, sack $2.25. Mushrooms, per 3-lb. basket, 75c@$1.75. Parsley, barrel Curley, $3@9; barrel plain, $3@6. Peas, Norfolk hamper, $2.50@3.25. Baltimore, hamper thirds, $2@2.50; Baltimore, hamper halves, $3@3.25; East Shore thirds, $2@2.50. Peppers, Florida, crate, $3@5, Rhubarb, nearby, 100 bunches, $3@6. Radishes, Norfolk, hamper red, 50c; nearby bunch red, per crate $1@2.50; nearby white per 100 bunch, $1@2.50. Romaine North Carolina, hamper, 75c; Scallions, nearby per 100 bunches, $1.50@2.50.

Potatoes, old bulk, per cwt., $6.50@7; New Florida, barrel, No. 1s, $8@14; New Florida barrel, No. 2s, $5@10.50 New South Carolina, barrel, No. 1s, $12@13; New South Carolina, barrel No. 2s, $7.50@9.50; Spinach, nearby ⅝ basket 10@35c; nearby per box, 25@75c. Sweet potatoes, nearby, ⅝ basket, No. 1s, $2@2.75; nearby ⅝ basket, No. 2s, $1@1.65. Watercress, per 100 bunches, $3@3.50.

Fruits.—The first straight cars of Georgia peaches this morning, and while sales ranged from $1.50@3.50 per crate, mostly $2.50@3, they did not clean up. Strawberries showing a wide range as to quality and condition. Apples receiving less attention as other fruits increase in supply.

Apples, barrels: Ben Davis, $8@9; Newtowns, $9. Box apples: Winesaps, (Scald little) Extra fancy, $3.10@4.25.

Cantaloupes, California, standard crate, $13.50@15; California, pony, $9@12, peaches, Georgia, crate, $1.50@3.50. Oranges, Florida, box, $3.35@7.05. California box, $1.50@5.35; Grapefruit, Florida, box, 90c@$4.30. Strawberries, East Shore, quart, 15@26c; Norfolk, quart, 12@24c. Maryland-Delaware, quart, 20@30c; New Jersey, per quart, 20@35c.

Poultry.—Live fowls, fancy, 40@42; inferior, 38@39c; roosters, 22@25c; broilers, not Leghorns, 60@75c.

Leghorn broilers, 45@55c; ducks, 30@32c.

Eggs.—Nearby current receipts, 42c; firsts, 43c; inferior, 40@41c; Western firsts, 40@42c; extra firsts, 43c; seconds, 35@38c.

SHORT WEEK-END REVIEW

—May 31, 1920

Prices Changes Moderate

Old potatoes were slightly higher and onions lower, while prices of other leading commodities were relatively steady. Movement of new potatoes and strawberries increased sharply. Total shipments were 7,208 compared with 6,712 during the preceding week.

Movement of New Potatoes Increases

Haulings were heavy at Hastings, Florida, but a good demand and movement kept prices steady at last week's range of $12@14 per double head barrel of No. 1 Spaulding Rose f. o. b. cash track. Consuming markets were moderately supplied and prices steady at $14@17 per barrel in cities of the east, and middlewest with the exception of Boston which ranged $14.50@15. Irish Cobblers in cloth top cut barrels ranged $12@13 carloads f. o. b. cash track at Charleston, South Carolina. An important increase occurred in the movement of new stock. Shipments were 1,500 cars compared with 685 the week before. Florida, South Carolina, and Louisiana are shipping heavily at a rate of approximately 700 cars, 350 cars, and 200 cars respectively.

Old Potatoes Slightly Stronger

Minnesota Round Whites were steady at a range of $7.15@7.35 sacked per cwt. carloads f. o. b. but prices tended to advance in consuming markets, St. Louis and Detroit advancing strongly to a closing range of $8.50@8.85. Carlots in Chicago were slightly higher at $7.50@7.75 sacked. New York Round Whites ranged $7.35@8 in Philadelphia and Baltimore sacked per cwt. Movement of old potatoes continued to decrease. Shipments were 349 cars compared with 501 the preceding week. Maine is the only remaining state shipping in excess of 100 cars per week.

Onions Lower

Receipts increased and with consuming markets already heavily supplied, the market for new onions was unsettled and lower. Texas Yellow Bermudas No. 1 and 2's mixed ranged $1.75@2.25 in middlewestern markets with the exceptions of Chicago which weakened at the close to $1.25@1.75 and St. Louis and Kansas City which ranged $1.25@2. Eastern markets were slow and weak, losing 50c@$1 from the general closing range of the week before. Prevailing prices at the end of the week were $1.25@2 per standard crate. Movement was limited and market unsettled at Coachella Valley, California. Yellow Bermudas, No. 1 in standard crates selling at $1.25@1.60 f. o. b. cash track. The same stock in consuming markets ranged from $1.50@2.75. Shipments decreased moderately, movement 819 compared with 941 cars the week before. Texas is shipping at the rate of about 550 cars per week and California at about 250.

Strawberry Markets Irregular

Early sales at Judsonia, Arkansas, were at $3.75@4 for Klondikes in 24-quart ventilated crates f. o. b. cash track. Aromas sold around $5 per crate. Klondikes ranged $5.50@7.50 in Chicago and Kansas City, closing weak and Aromas at $4@6 in St. Louis. Haulings are decreasing at Western Tennessee shipping points. Klondikes in 24-quart ventilated crates sold early at $3@3.75. Late haulings were sold mostly to canners. At Eastern Tennessee shipping points Klondikes ranged $3.50@4.25 and Aromas $4.50@5.50 carloads f. o. b. cash track. Tennessee berries in Chicago and Cincinnati sold mostly from $4@6 per crate and in Detroit and Cleveland at $6@7. Aromas in most markets ranged $6@8. Early sales in New York and Boston were 30@35 cents quart basis. Maryland and Virginia Missionarys and Klondikes are now reaching eastern markets with prices ranging 20@40 cents per quart. There was a material increase in shipments. 973 cars moving compared with 735 shipped last week. States shipping in excess of 100 cars per week are Tennessee, Arkansas and Virginia.

Tomato Market Steady

Consuming markets were lightly supplied and prices showed little change, fancy Globes in 6-basket carriers ranging $7@8 in Eastern markets. Repacked stock has been selling at $7.50@8.50 per crate in Chicago and original packs mostly at $6@7. Shipments were 160 cars compared with 89 the week before, chiefly from Florida, with moderate shipments from Texas.

YORK PRODUCE MARKETS

—May 31, 1920

There are a few county berries on the market this week. The outlook is not encouraging for the season unless there is a change in weather conditions. Much of the early bloom was frozen. A few frosts will not injure the crop, but continued frosts cut the quantity down to a minimum. Southern cabbage is more plentiful than last week.

Butter.—Country, 65@70c lb.; separator, 75@85c lb.; milk, 12c quart.

Poultry.—Hens, dressed, $1 to $2.50 each.

Vegetables.—Potatoes, 50c ½ peck; $3.50 bushel; cabbage, 6c; beets, 5c bunch; radishes, 5c bunch; onions, 5c bunch; lima beans, 40c quart; soup beans, 30c quart; celery, 5@15c stalk; rhubarb, 3@5c bunch; asparagus, 10@12c bunch; sausage, 38@40c pound; ham, 45@80c; whole, 40@55c lb.;

Fruit.—Apples, 50@90c ½ peck. County berries, 40@45c box.

Retail Grain Market.—Wheat, $3.25; corn, $2.25; oats, $1.50; rye, $2.50; bran, $3.25; middlings, $3.75.

Wholesale Grain Market.—Wheat, $3.00; corn, $1.75; oats, $1.25, rye, $2.25; bran, $60 ton; middlings, $75 ton.

PITTSBURGH PRODUCE

—May 31, 1920

Butter.—Prints 59@59½c; Tubs, 58½@59c; cooking, 48@50c; Ohio, 54@56c.

Cheese.—New York full cream, 54@56c; Wisconsin, Swiss, 58@60c; Philadelphia cream, $1 per dozen.

Eggs.—Fresh, select, 48@49c; at mark, 44@45c; current receipts, 40@41c; do., candled, 43@44c.

Vegetables.—Potatoes, round, $13@13.50 per 150-pound sacks. Onions Texas, $1.65@2.25 crate. Lettuce, 50@60c; bkt. Sweet potatoes, $3@3.25 hamper. Turnips, $2.25@2.50 bushel. Radishes, 25@35c dozen. Rhubarb, 30@40c bunch. Spinach, home-grown, bushel, 50@75c; Asparagus, Del., bunch, 25@40c.

Fruit.—Apples, $3@5 box. Strawberries, 24-quart crate, $5@6.50.

NEW YORK PRODUCE

—May 31, 1920

Butter.—Easy; receipts, 4,361 tubs. Creamery higher than extras, 60½@61c; creamery, extras (92 score), 59½@60c; firsts (88 to 91 score), 55@59c; packing stock, current make, No. 2, 40½@41c.

Eggs.—Irregular, receipts, 40,102 cases. Storage packed extra firsts, 45½@46½c, do., firsts 43½@44½c; fresh gathered, firsts, 41@42½c; state, Pennsylvania and nearby western hennery browns, extras, 48½@49c; do., gathered browns and mixed colors, firsts to extras, 43@47½c.

Cheese.—Easy; receipts, 2,233 boxes; state whole milk, flats, held, specials, white and colored 31@32c do., average run, 30c, do., whole milk flats current make, specials, white and colored, 27½@27¾c; do., average run 27¼@27¾c.

Live Poultry.—There were fourteen freight cars in today, and of these receivers are unloading eleven cars. Demand very light and market weak and lower. Fowls declined to 38c; old roosters to 22c, car of broilers to 70c, other foreign poultry without change. Express receipts rather light and steady today, [illegible] any demand and market lower. The best Boston broilers are bringing 75c in a small way, but as a general rule 70c is top for colored stock and 70c is very hard to obtain for the best white leghorns today.

Vegetables.—Asparagus, dozen bunches, green, colossal, $6.00; fancy, $5@6; extra, $4@4.50; prime, $3@3.75; culls, $2@2.50. Potatoes, old, $11@11.50 per 165-pound sack. Carrots, $7@8.50 barrel. Kale, nearby, $1.50@2.50 barrel. Lettuce, nearby, dozen, $1.50@2.50; bbl. L. I., $2@4.50; J'y, $1@3 crate; J'y, $1@$2.50 bkt. Peas, bkt., Va., $2.50@4.50. Radishes, nearby, 100 bunches 50c@$1. Rhubarb, $2@3.50 per 100 bunches. Scallions, nearby, 100 bunches, $2@3. Spinach, nearby, barrel, 75c@$1; Rutabaga, old, $3@4.25 barrel.

LIVESTOCK MARKETS

—May 31, 1920

New York.—Beeves. — Receipts, 4,400; steady; steers, $10@13.75; bulls, $7.50@11; cows, $4@10.25.

Calves.—Receipts, 5,200; weak; little trading; veals, $15@17; cull, $12@14.

Sheep and Lambs.—Receipts, 7,010; no trading.

Hogs.—Receipts, 5,050; steady, at $15.50@16; pigs, $15; roughs, $13.

Lancaster.—Cattle.—Receipts, 371 head; market lifeless; prices lower; best grades steers, $11@11.75; common grades, $9.25@10; best grade bulls, $10@10.25; common grade bulls, $8.25@9.25; best grade heifers, $9.75@10.75; common grade heifers, $8.90@9.85; best grade cows, $8.25@9.75; common kind cows, $4@4.25; stock bulls, $8.25@9.15; best grade calves, $16.25@16.75; inferior grade calves, $13.75@14.85.

Hogs.—Receipts, 135 head; market slow; prices steady; primes, $15.25@17; lights, $14.75@15.50; roughs, $11@12.25.

East Buffalo, N. Y.—Cattle.—Receipts, 300; steady.

Calves.—Receipts, 350; steady, $6@16.

Hogs.—Receipts, 3,200; steady to 15c higher. Heavy, $15.50@15.75; mixed, $15.75@15.90; yorkers, $15.90@16; light do., $14.50@15.50; pigs, $14@14.25; roughs, $12.25@12.50; stags, $7@9.

Sheep and Lambs.—Receipts, 400; steady, Lambs, $8@19; yearlings, $10@15.50; wethers, $12.50@13; ewes, $11.50@12; mixed sheep, $12@12.50.

Pittsburgh.—Cattle.—Steady; supply light; prime, $13@13.75.

Sheep.—Steady; supply light; prime wethers, $9.50@10; culls and common, $3.50@5.50; spring lambs, $15@19; lambs, $8@17; veal calves, $15@15.50.

Hogs.—Lower; supply, 15 double decks; prime heavies, $14.75@15; mediums and heavy yorkers, $15.50@15.75; light yorkers, $14@14.50; pigs, $13@13.75; roughs, $10@12.

Chicago.—Cattle.—Receipts, 10,000; beef cattle, 15c to 25c higher; top yearlings, $14.30; best heavy, $13.75; bulk all weights, $12@13.15; she stock steady to strong; spots higher; choice heavy cows, $11; bulls and canners steady; medium bologna, $7.75@8; calves steady to strong; bulk vealers, $13.50@14.25; feeders steady to strong but quiet.

Hogs.—Receipts, 45,000; light-weights, 15c to 25c lower than Saturday's average; top, $14.90; bulk all weights, $14@14.75; pigs, 25c to 50c lower.

Sheep.—Receipts, 8,000; bulk lambs steady; others lower; sheep, 50c lower; good and choice shorn lambs, $16.50@17; common kinds mostly, $12@13; choice spring lambs, $17.50; others mostly $16.25; good and choice fat ewes, $9@10.

PHILADELPHIA HAY AND GRAIN

—May 31, 1920

Baled Hay and Straw.—Receipts, 216 tons No. 3, $41@42; sample, $35@37; no grade, cleaned up and firm. Straw quiet and unchanged. We quote as follows: Timothy hay No. 1, none here; No. 2, $44@45; No. 3, $41@42; sample, $35@37; no grade, $30@32; clover mixed hay; light mixed, $41@42; straw, No. 1 straight rye, $17.50@18; No. 2, do., $16.50@17; No. 1 wheat straw, $16@16.50; No. 2, do., $15@15.50.

Bran.—Quiet but firm. We quote: Car lots including sacks: Soft winter bran, western, in 100-lb. sacks, per ton, $64@64.50; spring bran, in 100-lb. sacks, per ton, $63.50@64.

PITTSBURGH HAY AND GRAIN

—May 31, 1920

The railroad strike is about over as far as the Pittsburgh market is concerned and conditions are gradually becoming normal. Hay is arriving at the different terminals but the demand is fully equal to the receipts. Market continues strong in both hay and straw but oats are weak and dull.

Following prices may be realized: No. 1 Timothy, $44@45; Standard, $43@44; No. 2 Timothy, $42@43; No. 3 Timothy, $40@41; No. 1 oat straw, $18.50@19; No. 2 Oat Straw, $18@18.50; No. 1 Wheat Straw, $18@18.50; No. 2 Wheat Straw, $17.50@18; No. 1 Rye Straw, $18.50@19; No. 2 Rye Straw, $18@18.50.

NEW YORK HAY AND GRAIN

—May 31, 1920

Feed.—Offers of Western feed were somewhat more liberal and as the demand was slow for anything but spot goods, the tone of the market was easier. It was said that some feed in transit was also available and the situation as a whole appeared weaker.

Quotations:—City feed, bran $64; middlings, $66, in 100-pound sacks; red dog, $70, nominal in 100-pound sacks. Western spring bran, $62, standard middlings, $65, flour middlings, $69; red dog, $75, all in 100-pound sacks 30-day shipment. Oat feed $42; rye middlings, [illegible], white hominy feed, $71, all in 100-pound sacks. Cottonseed oil meal, $73; linseed oil meal, $67, in 100-pound sacks.

Hay and Straw.—Continued heavy offerings at all harbor points, trade is holdings off and the market is dull thruout. Medium and high grades of Timothy Hay are held without change, tho low grade hay is being pressed for sale and averaging lower. Rye straw about steady. Oat straw steady to firm.

Large bales, Timothy, No. 1, $43@45; No. 2, $38@42; No. 3, $35@37. Shipping, $30@33. No grade, $35@37. Clover, mixed. Fancy, $38@40. Straw large bales, No. 1 rye, $18; No 1 oat, $20@24; No. 1 wheat, $18.

Wheat.—No. 2 red, $3.12.

Corn.—No. 2 Yellow, $2.16½; No. 3, Yellow, $2.14½.

Oats.—All grades, $1.40@1.43 nominal.

Rye.—F. O. B., $2.37; **Barley**, feeding $1.70.

TOLEDO CLOVERSEED

—May 31, 1920

Cloverseed.—Prime cash, $25; October, $23.90; December, $22.90.

Alsike.—Prime cash, $24; December, $24.50.

Timothy.—Prime cash, 1917, $5.40; 1918, $5.40; 1919, $5.50; May, $5.70; September, $5.80; October, $5.70; December, $5.70; March, $5.95.

Note.—The prices are wholesale prices paid by jobbers.

PHILADELPHIA DAIRY MARKET

—May 31, 1920

Butter.—Receipts, 3,224 tubs. The market for strictly fine creamery ruled firm, with demand equal to the limited receipts. The bulk of the supply, however, was of medium and undergrades, which sold slowly at irregular figures. We quote: Fresh, solid-packed creamery, fancy, high-scoring goods, 63@64c, the latter for jobbing sales; extra, 61c; do., extra, firsts, 58@60c; firsts, 56@57c; seconds, 48@52c; garlicky, 45@47c; sweet creamery, choice and fancy, 63@65c; fair to good, 54@62c; ladle packed, as to quality, 45@46c; packing stock, 38@41c; fancy brands of nearby prints were jobbing at 70@72c; good to choice, 62@69c; fair, 59@61c.

Cheese.—Market firm under scarcity. We quote: New York, whole-milk flats, held, fancy, 32c; specials higher; ordinary to good, 35@41c; current make, best, 30c; common to fair, 24@29c; jobbing sales of fancy held goods, 33@34c.

NEW YORK MILK MARKET

—May 31, 1920

The demand was less active last week and surplus rapidly increasing. Nearly all of the distributers are manufacturing. Export trade dropped off to almost nothing. The Dairymen's League has fixed the June price for 3 percent milk in 200 mile zone at $2.83 per 100 lbs.; this is equal to about 6c per quart to the producer; 3.6 percent milk is $3.07 and 4 percent milk, $3.23.

Receipts of milk and cream in 40-quart cans for the week ending May 29th, 1920, were as follows:

Railroad	Milk	Cream
Erie	47,385	3,962
Susquehanna	8,617	126
West Shore	18,244	1,510
Lackawanna	59,112	1,473
N. Y. Central (long haul)	186,643	4,552
Ontario	46,728	1,410
Lehigh Valley	60,970	2,148
New Haven	6,950	55
Pennsylvania	12,780	475
Other Sources	6,000	200
Totals	453,429	15,911
Same week last year	399,131	14,938

INTERSTATE MILK PRICES

—May 31, 1920

The basic price for 3 percent milk within 10 miles of Philadelphia is $3.28 per 100 pounds, and one cent per hundred less for each 10 miles distant. Four cents per 100 pounds is paid for each one-tenth of one percent fat above 3 percent. These are prices for the basic quantity or less. The price for amount exceeding the basic quantity is on the basis of 6.6c for 3 percent milk.

TOBACCO MARKET

—May 31, 1920

There is little encouragement to cigar tobacco valuations in the fact that the same can be successfully grown in not less than ten states of our country and also in practically all foreign countries.

Among foreign competitors none is more prominent than Cuba and the many fertile islands to the south on nearly all of which tobacco is successfuly produced. For instance it is stated that the little Dominican Republic alone has grown a crop of 60,000,000 pounds much of which will be shipped to U. S. Price paid growers for same ranged as low as $3 per seroon (108 pounds) which shows the competetion to be encountered by domestic producers.

Import duties will afford more or less market protection in such instances but these duties are usually low and most of them were formulated years ago before the present time of low priced dollars.

A leading feature of the week was the government report showing the total stock of leaf tobacco held by manufacturers and dealers to be smaller than at the corresponding time last year, but the decrease was not sufficient to have any noticeable influence on valuations.

It, however, should have a stabilizing effect on values for a slightly decreased supply with a constantly increasing consumption seems to assure a demand for all the tobacco that may be grown. The one unfavorable feature is the possibility of an increased foreign production which seems quite likely under present conditions of peace and renewed activity in foreign countries.

VALUES OF PLOW LANDS

When farm plow lands increase in value by one-fifth in one year and by one-half in four years, something has occurred that may be called a "phenomenon." In March, 1916, plow lands in the United States had the average value of $58.39; in the same month in 1917 the average was $62.17; in 1918 it was $68.38; in 1919, $74.31; and at the same time of the year in 1920, $90.01, building values in all years not being included in the average.

The average value of 1920 is 54 per cent above that of 1916, 45 per cent above 1917, 32 per cent above 1918, and 21 per cent above 1919. Hence it appears that by far the greatest rate of yearly increase was from 1919 to 1920. To the extent that plow-land values are related to crop prices, this lag in the advance of land values behind the advance in crop prices is according to rule.

Values approximately doubled in the South in four years, and that is a part of the country where plow lands have low values. They are overtaking the higher values of other States. The least rates of advance in values are found in the New England and Middle Atlantic States. In the corn belt, where values are highest, the upward movement is strong.

Among the States that have high acre values for plow lands are Iowa with $219, Illinois with $170, California and Arizona with $130, Nebraska with $125, Indiana with $119, Washington with $115, Ohio and Idaho with $105, Utah with $103, and Wisconsin, Minnesota, and Oregon with $100. Irrigation has made high values possible for dry lands in Arizona and other States.

PER CAPITA CONSUMPTION OF MEAT

The following data are quoted from a table, prepared by the Bureau of Animal Industry, showing the annual per capita consumption of meat in the United States. They present some interesting contrasts:

Meat.	1917. Pounds.	1918. Pounds.	1919. Pounds.
Beef	61.23	66.74	58.95
Veal	6.39	6.90	7.96
Mutton and lamb	4.59	4.95	5.90
Goat meat	0.18	0.14	0.09
Pork (excl. lard)	57.59	71.35	69.08
Total meat	129.98	150.08	141.98
Lard	11.51	14.57	12.48
Total meat and lard	141.49	164.65	154.46

Consumers in 1917 refrained to some extent from eating meat. Pork products were especially desired for export, and the result for the year was a smaller total consumption than ever before recorded.

Producers came to the rescue in 1918 and provided such an abundance of animals that a large surplus was available for the home consumption after meeting the export requirements. In 1919 the shorter supply of cattle and augmented shipments of pork products brought the total consumption down 8 pounds a person.

The quantities of each kind of meat above given, it is explained, are figured from a "dressed," or butcher's-meat basis, which includes the bones and butcher's waste. They include also such parts as are canned and cured—bacon, hams, canned meats, etc. On the other hand, there are considerable quantities of edible meat which are not included in the dressed weights of the animals, such as the liver, pluck, etc. Allowing the one to offset the other the figures used are considered as approximately the actual meat consumption.

MANY MICHIGAN FARMS IDLE

Of all the reports on the agricultural situation the most surprising is the one which has just come from Michigan. Detailed reports from rural school directors show there are 18,232 idle farms in the State of Michigan compared with 11,831 last year. These idle farms include 1 2-3 millions acres. There are also on the farms 30,300 vacant houses, 10,000 of which have been vacated within the last year. Of the 276,000 men on the farms of the State three years ago, 46,000 have since left, 20,000 of them during the past year. The reports also show that during April there was left on the farms an average of only 11 men and boys for each ten farms. This decrease in farm workers is caused by the high wages being paid in other industries. It can hardly fail to result in a decrease in crop production unless weather conditions this year are better than usual.

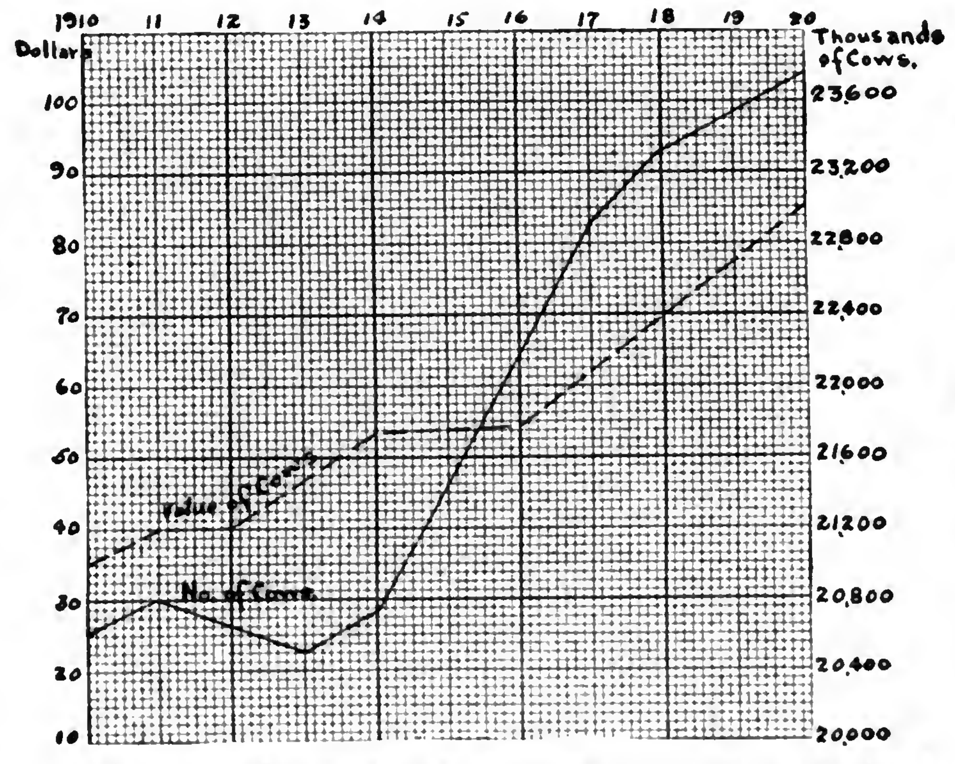

Chart Showing Number and Value of Cows for the last Eleven Years

TENTATIVE WOOL GRADE TYPES READY FOR GROWERS' APPROVAL

Tentative types representing various grades of wool have been prepared by the Bureau of Markets, in connection with its investigational work looking toward the ultimate establishment of uniform wool standards. The types decided upon have been prepared after careful examination of thousands of samples that represent the opinion of the trade generally as to what should comprise wool standards, and which now form the basis of commercial transactions.

It is proposed to demonstrate these types to wool growers for the purpose of determining the practicability of their application upon a commercial basis.

There are now no fixed wool grades in universal application, with the result that the purchaser of the producer's product is based upon arbitrary standards fixed by individual buyers. It is therefore obvious that to place the business upon a uniform basis would be decidedly advantageous to all concerned.

For several years the Bureau of Markets has been conducting investigations and making a study of wool samples collected from all States and foreign countries with regard to the possibility of establishing uniform wool standards, and the work has now reached the point where the wool experts in charge of it feel warranted in submitting their findings to wool growers for consideration. Of course, it must be understood that the work is still at an investigational stage. It would be unjust to fix grades without first securing the views of the wool growers themselves, and the types to be demonstrated are simply intended to form the basis of further investigations in the field. At the same time the types prepared represent the consensus of opinion of experts who are practical wool men, and it may very well be that but slight changes will have to be made in these types in order to produce grades acceptable to wool growers generally.

The cooperation of all wool growers is urged in connection with this work. Those interested in the demonstrations may secure full information by writing the Bureau of Markets, United States Department of Agriculture, Washington, D. C.

FEDERAL LAND BANK LOANS

During the month of April, 1920, an aggregate of $2,078,675 was loaned to 513 farmers of the United States by the Federal Land Banks on long-time first mortgages according to the monthly statements made to Farm Loan Board. During April 1,101 applications were received by the twelve banks, asking for $3,856,416, and during the same month 847 loans were approved by them amounting to $2,349,975.

On April 30, 1920, there were operating in the United States 3,988 Farm Loan Associations, and the total mortgage loans made by the Federal Land Banks thru these associations to 125,003 farmer-borrowers as of that date, amounted to $346,616,041. Deducting from this amount the loans paid off in full by borrowers, to wit: $10,375,455, the grand total of loans in force as of April 30, 1920, is $336,240,586.

Up to April 30, 1920, matured interest and amortization payments due by borrowers to the Federal Land Banks amounted to $23,160,068.75. Of this amount all but $289,621.60, or 1.3 per cent had been paid, and of this sum $128,662.22 represents delinquent instalments maturing during the month.

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NEW YORK'S MILK SHOW

New York's Milk and Child Health Exposition came to a close in Grand Central Palace, Saturday May 22nd, after a very successful week. The display, the third of its kind in the Metropolis, was undoubtedly the best, and great interest was shown by the public thruout the week.

The New York State Department of Farms and Markets and the New York City Department of Health had by far the most pretentious exhibits, while Sheffield Farms, Borden's and Clover Farms excelled in the commercial displays. There was also a herd of Holsteins from the farm of Paul T. Brady, at Pawling, N. Y., which attracted considerable attention.

It was the aim of those behind the exposition to teach the public the value of milk as a food and nearly one million tickets were distributed in the schools and in homes. Children were weighed and examined daily, the Health Department doctors and nurses taking statistics on mal-nutrition. That this prevailed was shown by the examinations and it was also found that where mal-nutrition existed, lack of milk was responsible.

LOYAL DAIRYMEN

At a recent meeting of the Maywood Branch of The Dairymen's League of New York a resolution agreeing to discontinue the use of oleo and agreeing to trade only with merchants who sold only butter and not oleo all the farmers signed the resolution excepting two, all merchants also signed up agreeing to not sell oleo after the supply on hand was sold. It was also voted at this meeting to assess each member five cents a cow, the money to be used for advertising purposes.—Ray Van Tassle.

THE NATIONAL DAIRY SHOW AS A SERVICE

The National Dairy Show is the greatest single factor for bringing together and co-ordinating every branch of the dairy industry into a solid, progressive fighting force, and every man in the industry allying his strength with this great force just hastens the day when the strength of the whole becomes irresistible for advancement and progress to the benefit of all.

Do not miss the Annual Dairy Show this year—October 7th to 16th, inclusive, at Chicago.

COUNTY NOTES

McKean Co., Pa.—A very backward spring, pastures and meadows are very poor. Fruit trees are just coming into bloom. Had flurries of snow as late as May 14th and now the ground is too dry to work good.

Grain is very high. Oats, $1.50 bu. Corn, $4.10 per cwt. Hay is very scarce and high. Farm labor is just as hard to get as ever and wages are higher.—R. C. Fuller.

Broome County, N. Y.—Cold, rainy weather is retarding farm work. Few cattle are yet out to pasture. Hay is selling for $40 per ton and is scarce. Ground oats are $4.70 a hundred; corn, $4.15. Milk has been lowered in price again and with the high prices of feed and seeds for planting, farmers are feeling somewhat discouraged. Clover seed costs $41.50 per bu. Timothy, $9, and oats $1.95 per bushel for seed. Eggs are bringing 45 cents and butter 50 cents per pound. Early sown peas are up. Potatoes are being planted, and oats sown. Winter wheat is looking good. The railroad strikes have caused great hardships among the farmers as shipments of machinery repairs and seeds have been held up. In some cases where grass seed was ordered to be sown on the winter wheat land it came so late that the wheat was so high the grass seed could not be sown. Good roads and state highway work is in full swing, one contractor going south and bringing a gang of negroes to do the road work.—C. H.

DELAWARE NOTES

The farmers thruout this section are facing a labor situation which is causing them much alarm, and threatens to bring farming business almost to a standstill. In this district are many farms of large acreage on which there is not more than one farm hand at work. The government work last year crippled the farmers of this district by taking all the farm labor and paying them prices which the farmers could not pay. While most of this help has now been laid off there, the contracts for the state road is now beginning, and word has gone out among the negroes and farm hands that the work is going to be done with local help and that the price for laborers is to be $4.50 a day of ten hours. As this wage is much higher than the farmers can afford to pay for farm work, the contractors will, of course, get help and the farmers will sit still and look at road building go on.

The State Board of Agriculture will give a solid gold medal to every farmer in Delaware who grows one hundred bushels of corn per acre this year. The medals are in addition to very liberal cash prizes. A special gold medal will be given to the farmers who have the best acre of seed corn.—K. P. T.

PEQUEA COW TESTING ASSOCIATION

This association made its best records in April. Out of 310 cows tested, 97 were on the "quality" list.

One cow produced over 70 pounds fat; 4 cows produced over 60 pounds fat; 8 cows produced over 50 pounds fat, and 34 cows produced over 40 pounds fat. The remainder of the "quality" cows produced over 1,000 pounds milk.

The highest monthly record was made in April. That was 2,745 lbs. milk and 76.2 pounds fat, produced by Mayflower Pauline, a purebred Holstein owned by H. L. Herr & Son, This cow has a 30 pound A. R. O. record.

The second highest cow was Lily McKinley Netherland, Reg. Holstein owned by H. L. Hen & Son. Her record was 2,214 pounds milk and 64.2 pounds fat.

The quality list consisted of eight Holsteins; eight Guernseys; six Jerseys and two Shorthorns.

The owners of the quality cows are as follows: D. B. Book, 4; Jacob B. Kauffman, 1; Jacob R. Housen, 1; John H. Kauffman, 1; H. H. Snavelly, 3; Aaron P. Berter, 5; Martin H. Myers, 4; Jason M. Ely, 7; Henry R. Herr, 6; Ira M. Eby, 6; H. L. Herr & Son, 8; I. R. Barge, 5; Jonas Harnish, 2; Sol J. Stoltzfus, 4; C. H. Kendig, 5; J. Howard Brinton, 3; Lewis C. Creamer, 3; Chester D. Rauch, 2; Elias Buckwalter, 4; Ira J. Book, 4; Aldus Lansbey, 3; Walter J. Herr, 4; Christ F. Landis, 5; Aaron B. Stoltzfus, 3; Ross B. Denlinger, 5.—H. M.

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300 egg strain, day old chicks 25, 8.75 100, 35.00
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Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Lumpy Jaw.—Distemper.—I have a 4-year-old cow that recently developed a bunch between the jaw bones. When it appeared the cow was in good flesh. She is now thin and gives very little milk. Also, can you tell me what ails my young rabbits? They do well up to six weeks old, but after that age they become dumpish and soon die. It would surprise you to see how rapidly they lose flesh. R. J. W., Emmitsburg, Md. Either paint bunch with tincture of iodine once or twice a day, or clip off hair and apply one part red iodide of mercury and five parts lard every ten days. Give her one dram of potassium iodide at dose 2 or 3 times a day. If you will commence treatment at once you will perhaps be able to effect a cure. The back part of mouth should be examined and if found diseased, apply tincture of iodine daily. Distemper in young rabbits is an incurable disease.

Bruised Felock. — Abscess — Fistula.—I have a 12-year-old mare that bruised her ankle last December. Leg swelled. Some time later it opened and pus ran out. I then called our veterinary and he said she would get all right, but the wound heals, then opens. The opposite side of joint opened and a quantity of pus ran out. Now my neighbor tells me there is a pipe in it. Some time ago I turned her out. Perhaps she caught cold in leg, but leg is now swollen and tender, acting as tho it would open again. M. E. B., Equinunk, Pa.—Apply equal parts spirits of camphor and tincture of iodine to joint twice a day. When joint opens, swab out abscess with tincture of iodine daily and pack opening with iodoform gauze, then apply a tar bandage. I might say that the result from treatment in a chronic case of this kind is not always satisfactory.

Warbles.—I have been a subscriber of your farm paper for several years and a constant reader of the veterinary column. I have a bull which I got from a breeder in the northern part of the state. Last week I noticed lumps on his back which seem soft. I opened one, found corruption in it. Is this a contagious disease? H. Z. E., Halifax, Pa.—No, it is neither contagious nor infectious. It is caused by the grub of the ox-warble fly. Apply pressure with thumb and fore finger to squeeze out grub, if opening be too small, enlarge it with sharp clean knife. Bunches that have no opening should be cut open, the grub squeezed out, the cavity swabed out with tincture of iodine, every day or two until wound heals. Don't forget to kill every grub you liberate, for if you do not you will increase next season's crop.

Goiter.—I have a calf with bunch in throat which is moveable and not painful, but as I want her for breeding and dairy purposes would like to have it removed. So far as I can tell she is thriving all right, but it looks bad. A. D. K., Meadville, Pa.—Calves are occasionally born with enlarged necks or goiter, and if not treated a majority of them never get well. Give calf five grains of potassium iodide at a dose daily until the glands reduce. Painting bunch with tincture of iodine daily will also reduce the swelling.

Cystic Overian Ailment.—I have a 16-year-old mare that was always gentle until this spring. She has raised four colts. Altho she is seemingly in heat all the while, she refuses to mate and when ever a Stallion comes near her she kicks and is ugly. I am unable to work her. J. G., Kersey, Pa.—Doubtless your mare is suffering from ovarian cysts and until she is spayed she will be nervous and ugly. Secure the services of a veterinarian who has had experience in doing this line of work.

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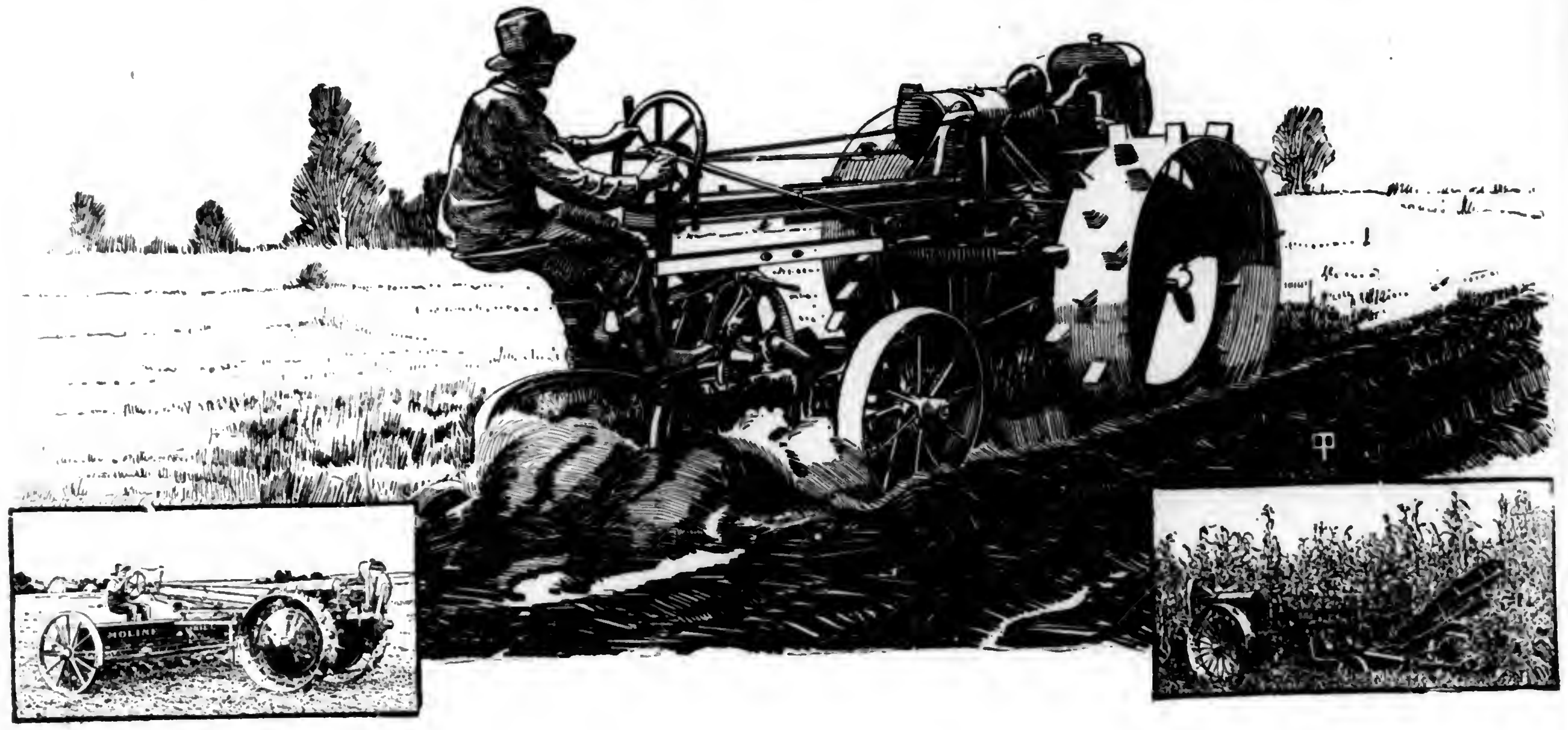

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PENNSYLVANIA FARMER

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THE KEYSTONE OF
NATIONAL PROSPERITY

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Wanted: A National Agricultural Policy

Agriculture is Responsive to The Same Economic Laws as Other Business

Frederik Rasmussen

Secretary of Agriculture

The most talked of fact about agriculture today is the acute shortage of farm labor with a consequent decrease in acreage of crops and even abandoned farms and farm houses. While the cities with pride call attention to the shortage of houses as an indication of their growth, reports from the country show thousands of vacant houses. The States of Michigan and New York, respectively, 30,000 and 24,000 each. These conditions are not isolated, but are found in greater or less degree thruout the entire country. The average man and woman desires to better their opportunities and conditions, and a full meaning of decreased acreage, deserted farms and farm houses is that the people who have left the farms to go to the cities and factories felt that their earning power in the city was increased, or the living conditions and social life improved.

Farm wages in the United States in 1919 show an increase of 207 percent with 1910 as a basis. This increase has not been sufficient to meet the increased wages of other industries. In view of the continued increase in the cost of the necessary articles which the farmer has to purchase, which on fifty articles is an increase of 221 percent in 1919 over 1914 without a corresponding increase in the price of his products, the farmer did not dare to further increase the wages of his hired men. The man who would like to rent a farm prefers the weekly wages in the industries rather than taking a chance on the average yearly price of agricultural products; in other words, the proper balance between agriculture and industry in this country is lost.

The question at once arises: How does this balance become destroyed and how can it be restored? It is generally agreed that agriculture is an industry and in its development subject to the same economic principles and laws as govern all industries; yet, when we come to compare the development of agriculture with other industries, there are some striking differences. Among the principal factors which have developed the great industries in this country are machinery, standardization of products, organization and a national policy.

It is machinery which has enabled this country both in factories and in the fields to turn out a greater product per man than any other country. Agriculture has had its development in machinery perhaps to almost as great degree as other industries, altho it takes longer to get the machinery universally introduced on the farms than in the factories.

Every great industry has standardized its products. In this respect agriculture is far behind. That farm products can be standardized is evinced by results accomplished in other countries and in certain communities in this country. The work of standardizing agricultural products in this country is in very rapid progress. Breeders' associations trying to encourage a particular breed of livestock in a community, organizations for standardizing potatoes both as to variety grown and as to grade, and organizations dealing with other crops in a similar manner are being formed very rapidly, yet in but few sections in the country has this development reached a point where it has been an influential factor in making agriculture more profitable.

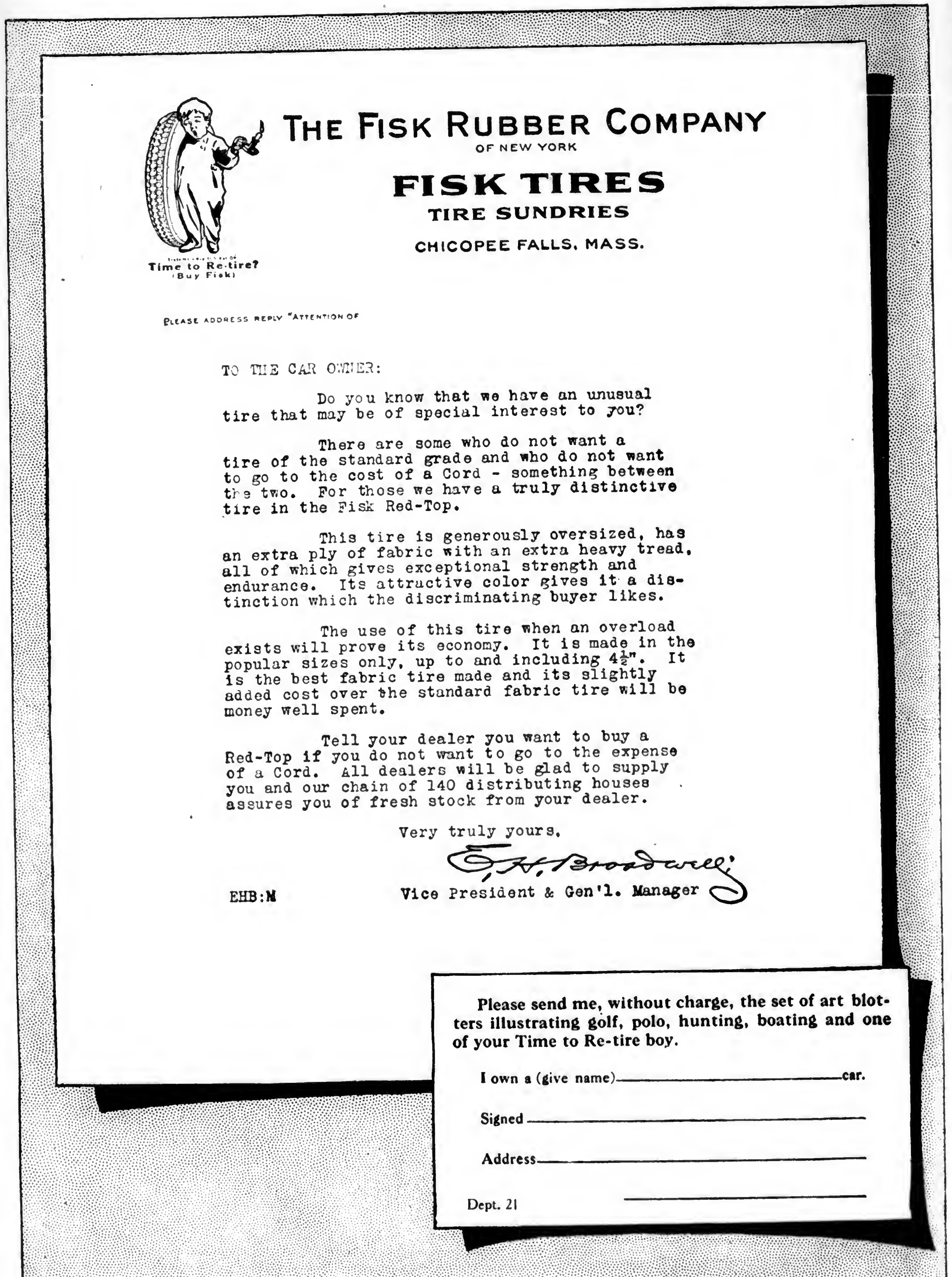
Primitive, But Efficient and Economical For Some Kinds of Work

In business efficiency and in organization agriculture is far behind other industries. A manufacturer determines the selling price of an article by a system of cost accounting and regulates the volume of production. A business man adds the cost of doing business plus a percentage for profit to his cost price. The farmer in the past has just produced; he has no system of cost accounting, no inventory, no balancing of accounts. Without thinking, he sold away from the farm the fertility in the soil, threw in the labor of his wife and children, and suffered the hardships of a pioneer. The small cash surplus, if any remained, did not represent profit in farming, but the sweat of child-labor and soil-robbing. Here again we find conditions rapidly changing. Today, cost studies are being made of practically all of the principal agricultural crops. The efficiency test is being applied with a view of decreasing cost of production and increasing yields; but since there are 6,361,502, farms in the United States with practically that many operators, it is not such a simple task to put every house in order.

There are today Retail and Wholesale Grocers' Associations, Bankers' Associations, Manufacturers' Associations (State and National), Chambers of Commerce, Export Associations, Trade Associations, representing every well established industry in the country, and labor unions, each in turn speaking in their own interest. There has not developed in this country within the field of agriculture until recently, and still a very limited number, effective business organizations in specific lines. Neither has there been organizations which consistently and effectively could speak for agriculture as an industry and carry the influence as did the organizations of other industries. That the farmers today have awakened to this situation is evident by their activities in agricultural organizations thruout the country. In different communities the farmers are organizing for specific purposes, both in production and in buying and selling. Recently the American Farm Bureau Federation has come into existence. This organization, altho only about six months old, has a membership of over 1,000,000 farmers. It is based upon a county organization in each county centered in a State Federation, the State Federations in turn forming the American Farm Bureau Federation. This organization is thoroly representative, and with efficient leadership will be in a position to speak for agriculture as an industry.

Up to the time of the Civil War this country was principally agricultural. After the Civil War a rapid expansion in industry began at the expense of agriculture. Manufacturing was protected by tariff and able to produce cheaply because of low priced raw material and cheap food. The capital of the country was concentrated in industries

(Continued on Page Four)



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Address________________

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Vocational Training in Pennsylvania

Children Develop Great Interest in Projects. Consolidation favored by Boroughs

A. B. Huey,

Chester County, Pa.

Mention has often been made of the retention of the little single room red school house and compared to the consolidated agricultural vocational schools and their work. In view of this a few statistics will be interesting both as to what is being done by the state, and by Chester County as well as a stimulus to other counties "to go thou and do likewise." Practically all this work has been accomplished by the state within the last six years so we seem to be forging ahead toward a better education. Some of the things accomplished follow:

There were more than 1400 boys in vocational agricultural courses; and over 1400 girls in home economic courses.

Vocational instruction is now offered in 56 centres in 35 counties.

One-sixteenth of all the boys enrolled in vocational courses in the United States are in Pennsylvania.

Approximately one-third of all boys enrolled in vocational agricultural courses in 11 states, from Maryand to Maine, are in Pennsylvania.

Only four states have as many boys enrolled in vocational agricultural courses as Pennsylvania—some have more teachers but fewer boys. In some of these four states the work is not as definitely organized as here.

Vocational agricultural boys last year made over $85,000 thru home project work.

As many as 2,000 farmers were present during one week at farmers night schools held in various vocational schools.

The state of Pennsylvania brought at its own expense about 40 units (80 boys) who had qualified in cow judging to compete for a state championship banner at the Farm Products Show at Harrisburg.

As an adjunct to vocational work last year the state established three county supervisors, one each in the counties of Alleghany, Columbia and Chester. Their work has been so marked, the department is just putting on six more, and their contact with the masses of the people is going to be a great help in establishing consolidated schools.

Chester County at Harrisburg Show

Chester County had four units in competition in corn judging, one each from the three vocational schools of the county and a unit from Lionville that had been given instruction at odd times by the county supervisor.

The awards included:

State championship banner Honeybrook.

Fifth place Cochranville.

Ninth place Aarondale.

Tenth place county team at Lionville.

In corn judging out of the first 15 boys in individual scoring, Chester County had six.

Boys' and girls' egg contest: 12 prizes offered by the state. (White eggs.)

Second price to a girl at Guthriesville.

Third prize to a girl at Lyndell.

Brown eggs: Fifth prize to a boy at West Chester.

Boys' and girls' potatoes—Second and third prizes to two brothers at Honeybrook.

Chester County School Directors passed unanimously at their annual convention a resolution asking the state to make a survey of the county as a whole for the establishment of consolidated and vocational schools, and give us some definite knowledge as to what in their judgment would be the best possible centers.

The establishment of larger units than the one room school has met with such general favor that every little village wants a school. They have not looked ahead and studied the economical and successful operation of these schools, one can safely say that in Southeastern Pennsylvania there would be no place where provision need be made for horse transportation of children, as such rapid strides have been made in the improvement of our roads to meet the ever increasing demand of the motor vehicles. No community would long neglect the improvement of any route needed for transportation of children to schools, where trains and trolleys can be utilized it would be well to do so, as there seems to be but one limiting factor as to the size of these rural schools, and that factor is the time taken for transportation.

I understand that at a recent conference of educators forty minutes was suggested rather than the number of miles, yet 40 minutes with horse transportation would be longer than one hour by train or trolley or truck.

There is one thought that must be always borne in mind, and that is if we are ever going to have as good schools in the country as we have in town, we must have enough children to gather at some point, so we can compete in salaries paid teachers, as that is the determining factor in good schools. Good teachers mean the best salaries and best living conditions for the teachers themselves.

Help in Cleaning the Milk Cans

When we country people realize the fact that all our boroughs are inviting us to enter their high schools, altho we pay nothing for the building occupied or its repairs, we do pay our share of the expenses of the actual operation of the school, and some of our boroughs have nearly twice as many coming in from outside as they have of their own yet they welcome our entrance that they may give their own children the advantage of better instructors. This clearly brings to our mind the fact that we must have as large units as possible.

While this matter of transportation is something new to us and looked on with suspicion and prejudice by some, the fact remains that where transportation has been established we have an increase and more regular attendance, with a very marked increase in the number of children going out of the grades into the high schools. Transportation in large units with a teacher with the train, trolley or truck would be so ideal no small community need hesitate when they consider the better advantages given their children by the larger unit of consolidation.

SUDAN GRASS QUESTIONABLE IN NORTH

Your paper is a very welcome weekly visitor. I think it is the best farm paper I ever took.

If it is not asking too much please tell us the good qualities of the sudan grass and its effects on the ground. On account of the dry spell just after the grass seed had come up last spring all my seeding was lost and I will be short of hay this summer, so I thought possibly I could fill in with it. I have new ground and it is good.—J. S. C., Jefferson County, Pa.

Sudan grass is very similar to Johnson grass, and like millet requires a warm climate. It is believed to be the wild form of cultivated sorghum, with which it crosses readily, but it differs from sorghum in that it is fine-stemmed and in stooling freely. From twenty to fifty stems have been known to come from a single seed.

Like millet, it makes a quick rapid growth in hot weather and produces a somewhat better quality of hay. It is very drought resistant. About twenty, or possibly thirty pounds of seed should be planted to the acre, usually in June. Few trials have been made of Sudan grass in the Northern states and it would be well to try it out in a small way before going into it on a large acreage. Millet might be used on part of your land. Mixtures of cowpeas or soybeans with millet or kafir corn are also good.

Because Sudan grass makes a rapid growth in mid-summer it requires an abundance of available plant food. Use a mixture of 75 pounds of nitrate of soda and 200 pounds of acid phosphate to the acre at the time of planting. This will insure a good growth and the soil will be left in better condition for fall planting.

SORGHUM BETTER THAN SUGAR BEETS FOR SIRUP

Numerous requests are being received for advice with respect to the production in a small way of sugar or sirup from the sugar beet.

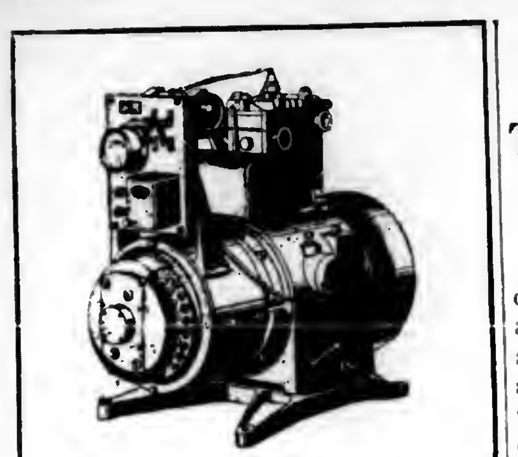
Officials state that the preferable plant to use is sorghum, which is more easily grown that the sugar beet and which produces a better sirup, that from the sugar beet having an unpleasant taste.

The Early Amber is the best variety of sorghum for the northern half of Ohio, while the Early Orange may be grown in the southern part of the state.

Seed may be procured of any first class seedsman and it may be planted up to the tenth of June, planting not more than an inch in depth on any good corn land and cultivating like corn.

To make use of sorghum a mill for grinding the cane is necessary and a shallow pan in which to boil the juice. A new equipment, at present prices, would cost from $250 up, but even the smallest outfit would take care of a half acre of cane on each of a dozen or more farms, or enough to provide a barrel of sirup for each farm.—Ohio Experiment Station.

Blood pressure is the pressure of the blood against the walls of the large arteries. It is determined by the force of the heart and the resistance in the small blood vessels. These latter either expand or contract according to conditions. This action is influenced by various factors.



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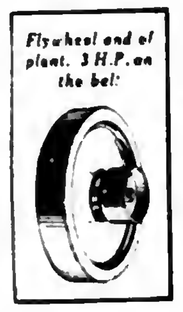
Flywheel end of plant. 3 H.P. on the belt

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The Farm Gas Engine

Terms Explained in Showing How Power is Developed to do Work

In order for work of any kind to be done, pressure must be exerted. There are several sources of pressure, such as gravity, wind, falling water, heat and the like. The pressure from these sources is utilized by some mechanical means for the accomplishment of useful work. Pile drivers, windmills, water wheels and gas engines may be used to convert pressure into useful work.

Power may be obtained from heat because substances when heated tend to become larger—that is, they expand. In a gas engine a mixture of fuel vapor and air is drawn into the cylinder of the engine. Here it is ignited, and in burning generates heat which in turn causes the gases to expand. If there is a moving wall upon which these gases can act the pressure of the exploding gases will cause this wall to move.

A cylinder is merely a chamber, of which one side, known as the piston, is free to move, and the expanding gases cause movement of the piston, By means of a rod, the piston is connected to a shaft tree to revolve and the outward, or linear, motion of the piston is transformed into rotary motion of the shaft. On this shaft are flywheels and pulley. The flywheels are to give a steady motion and to furish the momentum to carry the piston thru the other strokes. From the pulley the transformed heat energy is taken as mechanical energy to do work.

When the piston travels from one end of the cylinder to the other, the crank shaft and the flywheel make one-half a revolution.

The "Dead Center"

When the piston is in as far as it will go the connecting rod and the crank are in the same straight line and because of this fact pressure exerted on the piston when in this position will not cause the flywheel to move. Such a position of the piston is known as "dead center." There are two such positions or "dead centers," one when the piston is in the cylinder as far as it can go, called "inner dead center," and one when the piston has reached its outward limit of travel, called "outer dead center."

The travel of a piston from one "dead center" to the other "dead center" is called a stroke, and the various strokes are named to indicate what is happening in the engine during the stroke. An internal combustion engine has four functions to fulfill:

(1.) Take in a charge. (2.) Compress it. (3.) Get the energy out of the charge. (4.) Exhaust the burned gases.

Starting with inner dead center, if the piston moves out and a valve called the intake valve is opened, there will be a movement of air from outside of the engine into the engine cylinder, and if this air in its passage is sent thru a carburetor, a mixture of fuel vapor and air will enter the cylinder. As the function of the piston during the first stroke is to take in a charge, it is called the "in take" or "suction" stroke. The flywheel has now made one-half of a revolution.

Charge is Compressed

The next movement of the piston will be from outer dead center to inner dead center. If the valves are closed the charge will be compressed. This action of compressing the charge results in a more uniform mixture, a higher temperature of the mixture, thus assuring more rapid combustion, and in more power. This second stroke is called the "compression" stroke. During the first two strokes the flywheel has made one complete revolution.

The mixture now being compressed is fired, the fuel burns rapidly, or as is usually said, explodes. Heat results and this causes the gases in the cylinder to expand rapidly. This expansion of the gases causes pressure, and this pressure in turn drives the piston to outer dead center. This third stroke is called the work stroke and is the only stroke from which power is obtained.

The piston now returns to inner dead center, the exhaust valve being open, and pressed out the burned gases, getting the cylinder cleaned for a new charge. This fourth stroke is called the "exhaust" stroke. The flywheel has now made two complete revolutions. The next event would be the intake stroke.

A Cycle Defined

A cycle might be considered as a series of events starting at one point and returning to the same point again. The cycle of the seasons would be: Spring, summer, autumn, winter; of an engine: Intake, compression, work, exhaust. An engine is named according to the number of strokes to a cycle.

If there are four strokes as above —intake, compression work and exhaust—there will result a four-stroke-to-the-cycle engine. As this is rather a cumbersome expression it has been shortened to four cycle, not meaning thereby actully four cycles, but four-strokes to the cycle; the prefix four thus denotes the number of strokes to complete a cycle.

ERADICATE POISON IVY

Poison ivy is a very serious weed because it is so poisonous, especially to some people. There are those who are poisoned if they are in the vicinity of it.

To eradicate poison ivy, dig it out if you can secure some one to do the work who is immune to the poison. If this is not possible then you will have to resort to other means.

Spraying the plants with the following solution will give results, but more than one application will be necessary.

Common salt, arsenite of soda and some form of petroleum are good weed killers (herbicides). If the poison ivy is where stock is not pastured spray it with a solution of arsenite of soda. This can be purchased in a wholesale way at about fifty cents a pound or you can make it by boiling one pound of white arsenic and two pounds of sal soda in one gallon of water for about fifteen or twenty minutes.

To use.—Ten pounds of the commercial arsenite of soda or seven pounds of the home made are diluted to make 50 gallons of solution. This must not be used where stock is pastured or able to get to the sprayed foliage as it will kill them.

WANTED: A NATIONAL AGRICULTURAL POLICY

(Continued from Page One.)

with little available for the development of agriculture. The country started on a policy of industrialism and commercialism which has prevailed up until the present time. A very definite National policy was established in which agriculture was not included, and in which agriculture had no voice. It is true that agricultural colleges and departments of agriculture were established for the encouragement and development of agriculture, but those institutions had no influence in dealing with agriculture in relation to other industries. Their sole time and efforts were taken up in problems of production. In the meantime, organized industries, financial and business interests were able thru business efficiency and political influence to develop and shape the tariff policy, the financial policy, both internal and external and the tax policy favorable to industries other than agriculture. The effect of this national policy toward industries with the exclusion of agriculture is evident today in the labor shortage on the farms, deserted farms, and the rush of the population to the cities and industries. This policy has not been developed with malice aforethought, but business men and manufacturers, most of them ignorant of where we were drifting, have always assumed that agriculture would take care of itself, and food would always be cheap and plentiful.

The United States today stands on the threshold of a new era. The next few years will determine whether this country is to continue its present policy to plunge into further feverish development of commerce and industries, leaving agriculture to take care of itself, and hoping to get cheap food and labor from foreign shores. Indications are that every effort possible will be made for further industrial and commercial development. The Webb Law, passed in 1918, adds new stimulus to our export trade. Amendments are being proposed to the Federal Reserve Loan Act, and rumors are being heard of a new immigration policy We have a new Merchant Marine, all of which is more in the interest of manufacture and trade than in the interest of agriculture. At the same time we find interests at work trying to destroy the Federal Farm Loan Act, one of the very few National acts of a business character favorable to the farmer.

More than ever in the history of the country is it important that agriculture be considered in formulating a national policy. The agricultural resources of this country are not fully developed, and can be made a bullwork for the industries if treated in a national way, and with the same consideration, as other industries. The development of agriculture and other industries side by side will lead to a more stable financial condition and a more stable government and make United States a safer and better country in which to live. Why not profit by the history of the agricultural and industrial development and decay in the older countries.

(Abstract of Address of Secretary Fred Rasmussen, before Philadelphia Chamber of Commerce, May 27, 1920.)

LENGTHEN THE LIFE OF PNEUMATIC TIRES BY GOOD CARE

In these times of costly operation of motor cars the driver should see to it that both tires and tubes receive his most intelligent attention. Tires for this season have jumped to the point where it means an outlay worth considering well in making selections for even the small cars. The increase in price should encourage diligent study of the causes of wear as many troubles start from sins of both omission and commission.

Undue haste in replacing a punctured or blown out tube is responsible for a multitude of tube sins. The most common mistake is pinching the tube, done by inserting it in an uneven or twisted manner. This causes it to overlap or wrinkle, with the result that in a short time it will cut thru at this point, making a leak. The same trouble is caused sometimes by putting a new tube into the tire just as it comes from the box. When the tube is to be applied for the first time it should first be given a few shots of air before inserting within the shoe. The inside of tube —that on which the stem is found— being always kept inside.

When it is in the casing it should be talced carefully and the fingers forced all around the tire to make sure that the talc is evenly distributed, and then before the loose bead is applied, the tire should be given a little more air—enough to make it round out nicely and prevent pinching.

One should be cautioned against using too much talc. Several powders are procurable for keeping the tube from sticking to the casing, among these being soap stone, graphite and talc but the use of too much of any of these proves disastrous, and a collection of substance in one place eats into the rubber. If no powder is used it will be only a short time before the heat generated will cook the tube.

Under-inflation of the tire is equally injurious. When the under-inflated tire passes over a stone both casing and tube are jolted against the rim and sooner or later a leak will develop. All tires should be inflated to the standard prescribed by the manufacturers. If a tire deflates suddenly the car should be stopped immediately, as continuous running means that the casing must slip circumferentially, ripping the valve stem out and tearing the tube.

Sand in a casing is another cause of ruination to the tube. It often happens that in repairing a puncture on the road one permits the tube and casing to pick up particles which creates a friction later and eventually tiny holes, which will scarcely show, but when tube is submerged in water will assert themselves. Then the motorist runs to the dealer and often charges him with selling a porus tube.

Putting undersized tubes in casings is a common fault. This strains the tube, makes the expansion one-sided on the tread side of the tire and generally results in a blowout.

Sunlight is a natural enemy of inner tubes. It drys out the tube, making it brittle and unelastic. A cool, dark place is the proper storage for the tubes not intended in immediate reserve. The effect of grease and oil on tubes is well known. Many reserve tubes are weakened before they are inserted in the casing from chafing by tools as the car bounds along. All tubes should be carried in a waterproof

(Continued on Page 14.)

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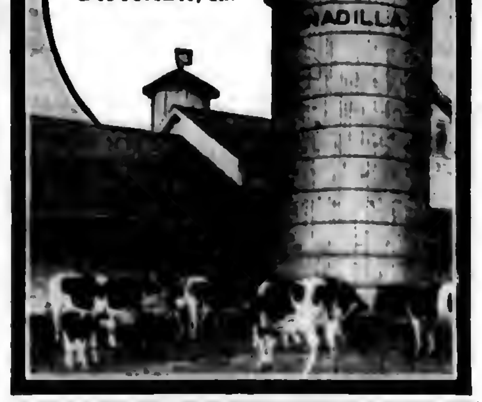

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AGRICULTURE THE KEYSTONE OF NATIONAL PROSPERITY
ESTABLISHED 1880

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PHILADELPHIA, PA., JUNE 12, 1920

VOLUME 47 NUMBER 23

Our job is to serve our readers. Whenever and wherever we can help you, write us.—The Editors.

Wheat Price Control Ended

THE CONTROL of wheat prices and the licensing of dealers in wheat and its products automatically came to an end on June 1. From this date wheat will be sold on the open market in the same manner as before the war-time law was enacted. Probably no other control law has been so damned as that relating to wheat. Farmers opposed it because they felt that they would have received more on the open market; dealers condemned it because it prevented speculation in those stressful times, and consumers blamed it for raising the price of bread at their expense and to the profit of farmers. Urgent demands to repeal it have been made by consumers and dealers ever since the armistice was signed, but not by farmers.

In spite of these illogical and more or less selfish criticisms we believe that the law upon the whole was beneficial to all during the war. Since farmers are not able to regulate the selling price it is altogether possible that any higher price would have gone as profits to dealers to the disadvantage of a bread-hungry world. The grain exchanges are considering plans for the resumption of trading in futures. It will be mighty interesting, in the face of the short crop here and the general world shortage, to see where the boasted law of supply and demand will place the price of bread during the next year, and just how much of that price gets back to the wheat grower.

Slackers: Millionaire and Ordinary

THE COUNTRY has been terribly excited during the last few weeks because a millionaire war slacker escaped from his keepers and, at this writing, is still at large. There is always a secret hope in the minds of many people when an ordinary convict escapes that he may succeed in eluding the officers. This is because of the natural sympathy of mankind with the hunted; but there is no such feeling concerning the millionaire slacker. The public condemnation of war-slackers is universal and unqualified. The public was surprised and disappointed that the original sentence was so light and the criticism of those responsible for his escape is unmeasured.

However, it is not to add to the common talk concerning him that this is written. Too much time is being wasted over it, and it is a question whether the importance of the event is not over estimated. But we have a concern about the question of slackerism in general. In spite of the much-ado over this spectacular affair the public conscience does not seem to be aware that we are living in a time in which slackers flourish on every hand. Every one who fails or refuses to do his or her full share of the world's work is a slacker. The shortage in almost every line of necessities is proof that not enough people are doing full-time work. The streets, movies, theatres and other places of entertainment are full night and day. Strikes and the short day testify to the almost universal desire to do the least possible altho demanding the most possible. The tens of thousands of deserted farms and empty farm houses over the country are mute witnesses of the insane scramble for quick wealth and more pleasure. The cost of living is high because the people as a whole work too little and get too much for doing it.

There is more than one slacker at large.

Maryland Agricultural College

ON JULY FIRST, the Maryland State College of Agriculture will surrender its name and enter upon a new era of existence as a part of the newly created University of Maryland. A recent act of the Legislature merges the two into one. After the above date, the work of the two institutions will be carried on under one name and under the supervision of the present executive organization of the State College of Agriculture. It is not anticipated, however, that any material change will be made in the character of work now being done by the two institutions.

The Maryland Agricultural College is the oldest agricultural college in America, if the date of charter 1856, is reckoned as the beginning. The doors of the college were opened in the fall of 1859. The purpose of the original institution is shown in the preamble to the Charter, part of which follows:

> "Whereas, it has been represented to the Legislature that certain wise and virtuous citizens are desirous of instituting and establishing in some convenient locality within this State an agricultural college and model farm, in which the youthful students may especially be instructed in those arts and sciences indispensable to successful agricultural pursuits; and
>
> "Whereas, it doth appear to this Legislature that, while the wise and learned in the present age hath cultivated with laudable industry, and applied, with admirable success, the arts and sciences to other pursuits, the most necessary, useful and honorable pursuits of agriculturists have so far been lamentably neglected."

We wish all possible success to the new institution, and hope that the motives back of the new move may prove to have been inspired by prophetic wisdom.

"Pampering" The Farmer

ONE OF the leading commercial papers of New York, which by the way is to be commended for helpful loyalty to commercial interests, is strongly and consistently opposed to giving the farmer banking and credit facilities suited to his business. In commenting upon the past and proposed legislation in this direction the paper says:

> "The influence of this political pampering has been uniformly bad, not to say disastrous. It slackened a little during the war because the price of agricultural products was fixed at so high a point and was so far in advance of wages and of the things needed by the farmers that agricultural operations were enabled to show a vast and immediate profit and farmers were ashamed to prefer new requests. Now, they return to the charge and have no trouble in finding members of Congress who are willing to assert the existence of banking discrimination and to demand special favors for the agricultural class."

It is the publication of this kind of ignorant clap-trap that makes the job of educating the business man as to his duty towards agriculture so difficult. Naturally, he gives weight to the opinions of his editor who speaks intelligently on industrial matters and assumes that the editor is equally sound upon agriculture. But it is evident that he is not. If the editorial writers of the city papers were to read the news columns of their own papers they would find a recital of facts concerning agriculture which frequently disproves their editorial utterances. The modern business man is honestly seeking knowledge and his good business sense as well as his sense of justice tells him that if his own business is to be a permanent success, agriculture must be fostered by fair dealing and equitable laws. But how is the business man to learn of his true relationship to farming if his papers persistently mislead him?

Our Washington Letter

For several days prior to the adjournment of Congress it was apparent to observers here in Washington that the four or five important agricultural measures for which the farm organizations have contended thruout the long session, would not be passed. It is true the House on Memorial Day by a vote of 233 to 58 passed the Volstead farmers' collective bargaining bill and it was sent to the Senate. And by unanimous vote the Senate Agriculture Committee ordered a favorable report on the Wadsworth-Kahn bill authorizing the operation by the War Department of nitrate fixation plants at Muscle Shoals and Sheffield, Alabama, thru a corporation to be organized under the direction of the Secretary of War. This bill has had to meet strong opposition in the House, but it is believed that this would have been largely removed if it had provided for the naming of the commission by Congress or by the farm organizations.

* * *

Congress has had a long drawn out session, characterized by much discussion and playing politics, with little accomplished in beneficial legislation. More than 900 bills have been introduced. Of these only a few more than 300 have become laws, and they are mostly appropriations for bridges, individual pensions, relief for contracting companies and other local objects. The Cummins-Esch Railroad law returning the railroads to their owners is probably the most important act in which farmers are especially interested.

With nearly six hundred bills on the calendar to be acted upon less than a week before the date set for adjournment, and every one of these bills backed by a senator or representative, or a fraction demanding attention it could be readily seen that there was little chance for agricultural legislation, altho the farm organizations representatives have made a strong fight up to the very last day of the session.

* * *

A number of new propositions are being promoted here which will undoubtedly be presented in Congress next fall and are worthy the attention of farmers and discussion in farm organization meetings.

* * *

Senator Edge, of New Jersey, proposes legislation that will place the Vice-President in charge of the national budget which is to be developed by the Government, making his office one of greater usefulness and importance. Governor Allen of Kansas recently appeared before the Senate Labor Committee, and urged the establishment of a Federal Court of industrial relations similar to the Kansas Industrial settlement court It is evident that the people will demand legislation providing for protection from strikes which paralyze and tie up transportation systems. Labor organizations are opposing both the Kansas industrial court and Senator Poindexter's anti-strike bill. But when a railway chief comes before the public and declares that he will feel compelled to refrain from trying to prevent the men from striking unless they are awarded a minimum wage of $2,500 a year, there is a sentiment developing quite strongly in and out of government circles, that the country will demand one or the other of these alternatives, and industrial court in which all labor disputed on transportation systems must be settled, or an effective anti-strike law. The Poindexter bill as reported by the Senate Interstate Commerce committee, could make a felony of any proven intent to obstruct or prevent the movement of commodities in interstate commerce by persuading persons to quit work or by destroying property, and would provide for the punishment of persons who thru violence or threats prevent employees from continuing work. The anti-strike provision of the Cummins railroad bill as added to the Poindexter bill would prohibit two or more persons from conspiring to bring about a strike that would tie up interstate commerce.

* * *

In its report just made public the Agriculture committee of the Republican party's policies, of which Senator Capper is chairman, urges that a national commission be appointed to co-ordinate all rail, water and motor transport which adequate facilities for receiving, handling and transporting food between cities. The importance of this proposal is emphasized by the present situation of the New York State barge canal. This great waterway with magnificent harbors in the cities thru which it runs, constructed at a cost of hundreds of millions, is practically idle. Few

boats disturb its waters. Its harbors are unoccupied. This condition is due to the fact that the terminal railroads, altho congested with Western freight, refuse to turn it over to the canal for shipment. It is argued that a law which will compel the practical co-ordination of rail, canal, river and motor traffic will be an effective means of improving our transportation service and prevent freight congestions and embargoes.

* * *

The Farmers' National Council, which maintains headquarters in Washington, has sent to each of the two leading political party national committees a statement of policies which it asserts is endorsed by 750,000 farmers. The main plank in this platform declares for government ownership and control of railroads and government ownership of the merchant marine. Other planks are the "restoration of personal liberty" by repeal of the espionage and sedition acts, exempting farmers' co-operative organizations from prosecution under the anti-trust laws, and a tax on land and other natural resources held for speculation. Whether the author of this platform had in mind the Nolan Land Tax bill in his reference to this matter I cannot say, but it is a fact well established that the representatives of the Farmers' National Council are closely allied with the American Federation of Labor leaders, among whom are Congressman Nolan, introducer, and Attorney Ralston, author of the Nolan land tax scheme.

The thirty-ninth annual conference of the National Florence Crittenden Missions was held in Washington beginning June 1st. A leading topic for discussion was farm colonies for wayward girls. After careful investigations and study officials of the mission and other uplift workers said it was their belief that many girls can be saved by placing them in congenial employment on farms where they can have plenty of fresh air, good, wholesome food and other conditions favorable for right living. During the conference the delegates visited Wakota Farms, near the capitol, where the first mission farm is to be established.

The American Agricultural Editors Association will hold a meeting in Washington on June 17, 18 and 19th, with headquarters at the Hotel Harrington.—Elmer E. Reynolds.

HARRISBURG LETTER

Guard Against the Pests.—Establishment of a system of patrols along sections of the Delaware River where it borders Pennsylvania to prevent invasion of this State by the Japanese beetle so destructive in New Jersey by the State Department of Agriculture is probably the most far-reaching step of the kind to be taken by the State and is one of a series of efforts under way to prevent pests from entering Pennsylvania. The whole southern Pennsylvania orchard region is being watched to see that the oriental moth and other pests discovered last year in southern states does not enter, and State agents have been ordered on the alert to prevent some voracious bugs in other states getting a foothold. Investments in orchards and vineyards in this state in recent years were so heavy that special attention is being given by the government, with federal aid, to prevent loss.

Governor's Appeal. — Governor Sproul has issued a call to the people of the State who dwell in cities and the towns, and especially to the students to go out and work on the farms this summer. In his remarks the governor makes the point that attention has got to be given to the problem of getting agriculture into its proper relation to the national well-being, and on a plane with other industries.

The Idle Farm.—Secretary Rasmussen has succeeded in getting some very striking exhibits of Pennsylvania's idle farms, farms right in the garden county, the wheat belt and the most fertile part of Pennsylvania. These farms have been visited, photographed, information about them obtained and the various commercial and business organizations furnished with some facts not only concrete but as hard as that composite material ever gets. Already there have been some signs in industries of an awakening to the danger of taking all the labor from the country, but not enough to make any appreciable difference in the labor supply.

The Constitution.—Late this month the committee which is to make the final mould of the revision of the constitution will meet to discuss phrases, principles being established. This will be next to the final stage and it does seem that the next legislature will determine to call a constitutional convention. Should this come about it will be expensive, but the preliminary matters for months before sending the document to the people.

Off the Band Wagon.—The State Forestry authorities were offered some land the other day for a forest reserve at a dollar an acre. Land in this same region was offered for $50 and rejected, for $25 and turned down and for $15 and the offer sent home again. The Commission also declined to buy some land at $10 an acre in another section. The truth is, since the State embarked upon the policy of forest expansion as good business there have been some enterprising citizens who have come here with bargains in woodland, possible woodland, and plain rocks and grub land, with the bargain all on their own side and they have run up against a business administration in forestry matters which does not see where the people would profit. Chances are the state will be able to buy all the land it needs soon for prices quite comparable with worth to the public.

Advice for Woodlots.—Commissioner of Forestry Gifford Pinchot has arranged to furnish farmers and other owners of small tracts of woodland with expert advice as to planting, care, cutting and sale of their timber free of all charges except the travelling expenses of the state representatives. This has been determined upon because of requests and the discovery that valuable small tracts of woodland need care which the state can give easily.

The Fence Code.—The announcement of State intention to draw up a fence code has brought numerous letters to the State Department of Agriculture, most of them commendatory.—Hamilton, Harrisburg, June 7.

NEW YORK LETTER

Call For Farm Help.—After the handicaps deliberately placed on the farmers by the daylight-saving and other regulations the Governor now calls on the cities to go into the country and offer help to the farmers.

No Fertilizers.—Despite preferential shipment orders on farm supplies farmers are unable in many whole counties to get the needed fertilizers and lime.

Smaller Crops.—Onondaga County has taken a survey of crop acreages and reports a reduction in the potato crop of a million dollars as compared to last year. The vegetable crop will be $60,000 less.

Cheese Steady.—Cheese on the Watertown board holds steady at 26 cents, but lost a quarter point on the Gouverneur board this week.

National Sale.—About 70 New York State farmers are in attendance this week at the big Holstein Friesian sale in St. Paul. About $100,000, or an average of $2500 each is expected from the 40 animals this state consigned to the sale.

Tomato Contracts.—Tomato growers of Western New York have made contracts, in part, at $22.50 a ton. The price was obtained only after the growers of Central and Western counties organized with a membership of over 4,000.

More Tractors.—Onondaga County reports many more tractors in use this year. There are 10,000 in use in the state. Many farmers who invested in the heavy type a few years ago have returned to horses, reporting undesirable packing and lumping of the soil where the machines were used. The Wayne County Farm Bureau is arranging a county wide dynamiting campaign to clear fields of boulders and other obstacles, so that tractors may be used more freely.

Health Supervision.—Scarcity of country physicians is becoming acute in many places and much need is felt for constructive health legislation. The number of physicians being graduated from medical colleges grows less every year. At a recent state conference of physicians the support of the rural health center bill was urged as the only solution to present problems. More periodical health clinics with expert examiners furnished by the state are greatly needed and will be provided by this bill.

Rural School Aid.—Farmers are vitally concerned in the proposals to be made by a sub-committee to the Republican national convention. Greater co-operation between local and national authorities in the enactment of legislation affecting rural education, public health and roads, will be urged, with more state and federal aid. Better pay for teachers and higher training qualifications will be necessary if country children are to be anywhere near as well educated as city children.

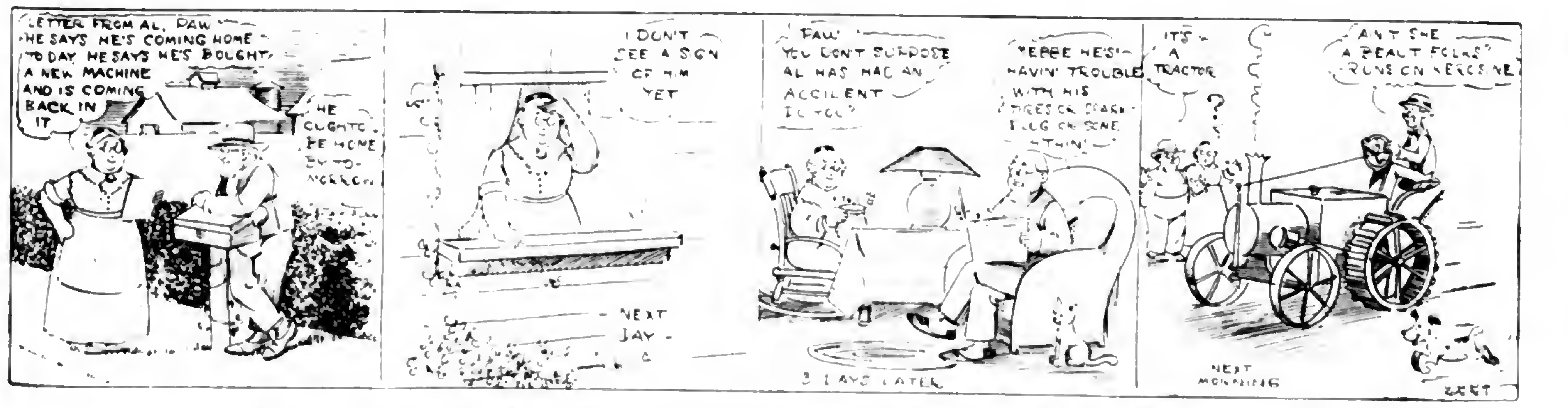
Statistics For State Historian.—Local historians are requested to help the State Historian, James Sullivan, get facts of men and women who entered war service of Liberty loans, Red Cross work, etc., of each community.—M. G. F.

NEW JERSEY NEWS

Legislative Mixup. The New Jersey Legislature has recessed until Wednesday, September 8, without enacting appropriation bills that would have allowed the payment of salaries of farm and other help at State institutions, the construction of new outbuildings, etc., and the extension of operations in various forms at these places. It is indicated that the amount of crops usually raised at the institutions annually for the use of inmates and attaches, as well as for sale to the public, will be very much diminished by the action of the lawmakers in turning down the measures. This move developed because of a mixup in the Legislature between the Republican majority and Governor Edward I. Edwards, a Democrat, and while the political battle is raging, the interests of the state wards are at stake. The solons have also failed to pass bills that would provide for better housing conditions in New Jersey, and as a result, thousands of persons will be compelled to seek shelter in the suburban and rural sections.

Park as Memorial.—State Forester Alfred Gaskill has proposed that New Jersey's memorial to her sons who participated in the world war shall be an immense forest park on the Kittatinny Mountains in this state, and with the approval of the Governor and the Board of Conservation and Development, the proposition has been submitted for the consideration of the general public of New Jersey. The plan has also been presented to the former service men of the American Legion for an expression of opinion. The tract proposed to be dedicated is located in the most beautiful part of New Jersey, extending from the Delaware Water Gap for 36 miles along the crest and slopes of the mountain the New York State line, including the highest point in the State which is more than 1,800 feet above sea level. This wild and forested section with its magnificent vistas, winding paths and well-stocked trout streams lacks none of the charm of the famous mountain resorts in other states. The mountain is easily accessible to a majority of the people of New Jersey, and a memorial at this point would not favor any one city to the exclusion of the others. Good roads reach the mountain from the east and the south while the State Highway to Dingman's Ferry cuts it near its centre and brings any of its sections within three hours by motor from Jersey City and Newark or four hours from Trenton and other South Jersey points. When the Delaware River drive is completed, the park would be the natural terminus of a splendid highway leading to the crowning scenic features of the state dedicated and developed to the memory of New Jersey's part in the war.

New Farm Body.—The South Jersey Farmers' and Growers' Association has been chartered in the office of the Secretary of State to operate from an office in the Village of Newfield, Gloucester County, in dealing in agricultural products, developing practical and scientific farming, promoting social intercourse among its members, and advancing the general interests of all of the farmers allied with it.—Kelly.


LETTER FROM AL, PAW HE SAYS HE'S COMING HOME TO DAY HE SAYS HE'S BOUGHT A NEW MACHINE AND IS COMING BACK IN IT
HE OUGHT TO BE HOME BY TO-MORROW
I DON'T SEE A SIGN OF HIM YET
NEXT DAY
PAW YOU DON'T SUPPOSE AL HAS HAD AN ACCIDENT DO YOU?
MEBBE HE'S HAVIN' TROUBLE WITH HIS TIRES OR SPARK PLUG OR SOMETHIN'
3 DAYS LATER
IT'S A TRACTOR
?
AIN'T SHE A BEAUT FOLKS? RUNS ON KEROSENE
NEXT MORNING

Al Goes to the City and Buys a "Machine" But He Traveled Slower Than His Folks Expected.

ROSS

For BETTER Silage--at LOWER Cost. Flywheel and Cylinder Types--and sizes to match your present power--Kerosene, Gasoline or Steam--from four H. P. up.

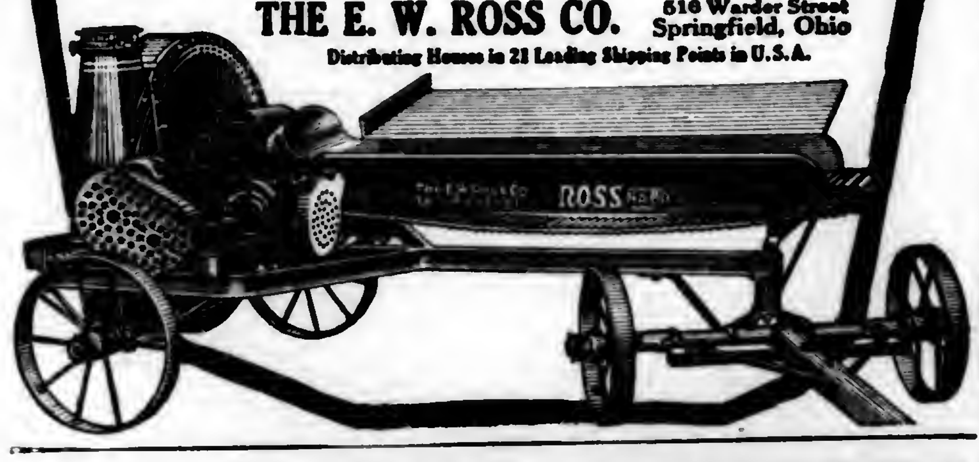
Ensilage Cutters

HERE'S a suggestion that will mean money in your pocket if you follow it out. Just write, asking "Who sells Ross Cutters in my locality?"

We will send you *facts that will open your eyes* on this silo-filling proposition. We will prove to you that the Ross will not only *save* you money, time and trouble, every fall, but will *earn* you bigger profits every winter by furnishing more succulent, more palatable and more nutritious silage for your stock. We will explain why *the Ross cuts clean always*--keeping the natural juices in every slice of silage.

A one-cent stamp is all it costs to get the facts before you. Your name on a postcard will bring you the story of the simple, powerful, smooth-running and clean-cutting Ross. Write today. No obligation. We'll send Catalog and the name of nearest dealer.

THE E. W. ROSS CO. 516 Warder Street Springfield, Ohio
Distributing Houses in 21 Leading Shipping Points in U.S.A.



R&B Co.

SAVE on fuel; save on labor; save on materials. Knowing the comfort of Richardson & Boynton Co. warmth you can defy the coldest winter. Install a Richardson One Pipe Heater, which sends warmth to every room from a single register and requires no pipes or no cutting up of the house, no matter what its construction may be. Remember that the design of the

RICHARDSON ONE PIPE HEATER

gives such ample cold air space around the hot air chamber of the heater that the cellar is kept at the proper low temperature for vegetables. The direction of the arrows in the accompanying pictures illustrates the method of taking the cold air from the house and sending it back again in a stream of warmth to every room.

Send us a description of your house and we will supply you with full particulars of this famous heater. Ask for Booklet E

Richardson & Boynton Co.
Established 1837
258-260 FIFTH AVE., NEW YORK
Boston Chicago Philadelphia
Rochester Providence

Richardson ONE PIP

THE IMPROVED CHAMPION
COOLS MILK—SAVES MONEY
Removes animal and feed odors—halts germ growth instantly. Saves its cost in one week. Write for Free Folder.
Champion Milk Cooler Co. Dept. 12 Cortland, N.Y.

STRAWBERRY PLANTS
A selected list, including Everbearers. We have a fine lot to offer at wholesale prices.
VEGETABLE PLANTS
All kinds grown from selected seed. Get our prices on plants sent by Parcels Post prepaid. Catalog free. C. R. FIELD, SEWELL, N. J.

Advertising Milk in Pittsburgh

Much has been said and still more written about the food value of milk but the test of the importance of milk as a factor for health was crystallized in a campaign in Pittsburgh in March which proved to be of interest thruout the United States.

The unique feature of this Campaign was the organization that planned the proceedings. More than thirty of Pittsburgh's social and civic organizations combined to put the message of the "Food Value of Milk" into every home in the entire city. These organizations were aroused into action when they learned that of the 125,000 school children in Pittsburgh there were over 20,000 under nourished and malnutritious children. In the United States it is conceded that the total number of under nourished children is over 5,000,000. The Board of Public Education in Pittsburgh spend $10,000 annually for milk which is distributed to children in the schools. This fact reveals the importance attached to milk used to correct the mental and physical backwardness in children that do not receive sufficient nourishment.

The Publicity Committee opened a contest to the pupils in the eighth grade in the public school for the best posters to be submitted to a committee of judges. Over 600 excellent posters were made in this manner furnishing splendid material for the Campaign workers. If you want original ideas, go to the children.

The large official posters, of which there were 9,000 distributed, were designed by two students from one of the local colleges. Here again the contest idea brought to surface two posters that have been labeled the best of their kind in the United States.

Specially designed placards for inside and outside trolley car advertisements kept the purpose of the Campaign "on the move" and followed the crowd thruout the city.

Attractive ads in the dairy newspapers and press notices in all the local dailies kept the plan of the work before the public.

The one big medium of reaching the home was thru the school. The Superintendent of the Schools assisted in having the twenty home economic workers from State College give ten minute talks in each school room of the entire 156 schools. The children carried home, leaflets, kitchen cards and bulletins numbering over 800,000, all of which were filled with the latest information on milk pertaining to its food value and how to use it. One hundred-thirty thousand booklets for children were printed having been originated by Miss Pearl MacDonald of State College. These booklets created an untold interest on the part of the children who appropriated them as coming with a personal message to the boys and girls in Pittsburgh.

Each child in the 156 schools visited was presented with a button on which appeared a milk bottle about which was written "Every Child Should Drink a Quart of Milk a Day."

Milk, sweet and pure, gives her the wealth
Of smiling face and perfect health

An important phase of the work consisted in arranging for exhibits in store windows. Every large store in the city showed a desire to assist the committee and welcomed the idea. The displays were a credit to the stores and were of unlimited value in showing in concrete form the story of good milk for growing children.

Cho-Cho, the Health Clown from the Childs Health Organization in New York entertained 5,500 children at four different performances. His manner of driving home his point is unique. He gets results.

A large gathering of business men had the opportunity to hear some valuable information about the manner in which the milk prices were adjusted when Dr. Clyde L. King, Milk Arbitrator for Pennsylvania, addressed them at a luncheon arranged by the members of the Publicity Committee.

During the entire campaign the committees, without any renumeration, worked hard to accomplish results that would raise the living standard of the citizens of Pittsburgh, thru the urging of a liberal amount of good, fresh, clean milk.

We feel that as a result of the campaign the people of Pittsburgh have been impressed in such a manner as to believe the following facts are true:

Milk is the most excellent food known because it is a complete food. It supplies energy and protein and most important of all, it contains large quantities of mineral matter and of vitamines, which are lacking in most foods, but without which nutrition fails.

Milk is a protective food, and as such is in the class of those foods whose liberal use protects health and promotes growth. It excels all other protective foods.

All things considered, milk is an economical food. As a source of protein it is as cheap as or cheaper than foods of equal quality such as eggs, fish and meat. In the interest of health we cannot afford to neglect the use of milk.

Milk used in cooking has the same food value as milk taken raw.

The use of milk should be considerably increased. Cut out so much meat and use more milk. Use a quart of milk a day for the children and a pint for the adults.

MILK SHOW NOTES

In the spring of 1918 a milk show proposed by Dr. North was held in New York City. Among those contributing to its success was the state department of agriculture, the state college, and the Dairymen's League. The milk dealers also assisted. Last year the dealers did not contribute. This year a third milk show has been held, the dealers coming back somewhat but the college, the League, and others dropped out.

The League and the college do not seem to think there is return for the money spent. The state agricultural department still supported the show and gave it considerable material of much value. At the present time it looks as tho something else will be necessary before milk can be adequately advertised in New York City.

Borden's, Sheffield's, and Cloverdale, dealers disposing of fluid milk gave good exhibits. Some of the dry milk concerns also did considerable. The dry milk venture looks to be expanding. The moving picture department which Mr. Witter had in charge came in well and amused many children and interested some grown-ups. The pictures were instructive. It seems a pity that we cannot have something similar for the public instead of the usual sort.

Among the statistics furnished by the State Department of Agriculture was that of purebred cattle. The department found that the state has approximately 150,000 Holsteins valued at $54,150,000. Of Jerseys they figure 10,000 worth $3,000,000. Guernseys closely follow with 9,500, but exceed in value at $3,135,000. Ayrshires exceed Gurnseys in number, calling for 9,625 but valued at $1,925,000. Brown Swiss are yet at only 500 and credited at $125,000. In the entire country they figure 828,000 purebreds with an estimated value of $276,337,000.—H. H. Lyon.

The better the farmer, the less sure is he that he has heard the last word on efficient farm management. There is no business in which more time and thought are being expended for finding better ways than in agriculture.

Champion
CHAMPION TRADE MARK
Dependable Spark Plugs

Did You Ever Lose a Dollar?

THAT is what it means to you when you drop and break a spark plug. At least one out of every twenty spark plugs is broken in one way or another. Figured on that basis Champion Spark Plugs with an annual output of over 25,000,000 save their users over a million dollars a year on breakage loss alone.

Our famous No. 3450 Insulator has been developed and strengthened to such a degree that car owners who use Champion Spark Plugs are free from spark plug breakage and from trouble due to heat, shocks and temperature changes.

There is a Champion Spark Plug for every type of motor car, truck, tractor, motorcycle and stationary engine. Order a set from your dealer today.

Be sure the name Champion is on the Insulator and the World Trade-Mark on the Box

Champion Spark Plug Company, Toledo, Ohio

CRAINE TRIPLE WALL
SILOS

Strong and Handsome

"Crainelox" patent covering over a stave silo, with Silafelt between, produces a smooth 3-wall silo without bothersome iron hoops; a silo that makes and keeps good silage by keeping *warmth* in, and cold out.

Any old stave silo, tipped, twisted or broken can be rebuilt into a beautiful, enduring Craine 3 wall silo at a fraction of the cost of a new silo.

Prices are certain to advance. Place your order now.

Send for literature and early-order discount offer.

Craine Silo Co.
Bo[illegible]0, Norwich, N. Y.

HAY
W. D. POWER & CO. 601 W. 33 St., New York, are the largest handlers of commission hay in greater New York; if you have hay to dispose of communicate with them.
HAY

WANTED
Single Men to Work in Large Dairy Barn

350 head registered Holsteins. Must be good dry hand milkers. Wages $65. per month and board Steady employment and opportunity to advance if interested in milking and feeding Cows on test.

WINTERTHUR FARM,
WINTERTHUR, DEL.

I Can Ship Your Engine
When You Want It---Save You $15 to $500. Any Style--Stationary, Portable or Saw Rig. Any Size--2, 3, 4, 6, 8, 12, 16, 22 or 30 H-P. Cash or Easy Terms. BOSCH Ignition on order. Catalog FREE.
WITTE ENGINE WORKS
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2040 Empire Bldg., Pittsburgh, Pa.

Before You Buy Your Silo, investigate the reliable Green Mountain. Send for circulars describing long-life, tight construction, new Anchorage System, etc.
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GREEN MOUNTAIN SILOS

HAY
Ship To The Old Reliable House
Daniel McCaffrey's Sons
623-625 Wabash Bldg., Pittsburgh, Pa.

NINE MONTHS TO PAY

Immediate possession on our liberal Easy Monthly Payment plan—the most liberal terms ever offered on a high grade bicycle. FACTORY TO RIDER prices save you money. We make our bicycles in our own new model factory and sell direct to you. We put real quality in them and our bicycles must satisfy you.

44 STYLES, colors, and sizes to choose from in our famous RANGER line. Send for big, beautiful catalog.

Many parents advance the first payment and energetic boys by odd jobs—paper routes, delivery for stores, etc., make the bicycle earn money to meet the small Payments.

DELIVERED FREE on Approval and 30 DAYS TRIAL. Select the bicycle you want and terms that suit you--cash or easy payments.

TIRES wheels and parts for all bicycles—at half usual prices. SEND NO MONEY but write today for the big new catalog, prices and terms.

MEAD CYCLE COMPANY Dept. T-78 Chicago

Shoo-Fly THE ANIMALS' FRIEND

For keeping Flies, Gnats and many other insects off animals. Used and endorsed since 1885 by leading dairymen. Cows give 25 per cent to 35 per cent more milk during fly season if sprayed with Shoo-Fly.

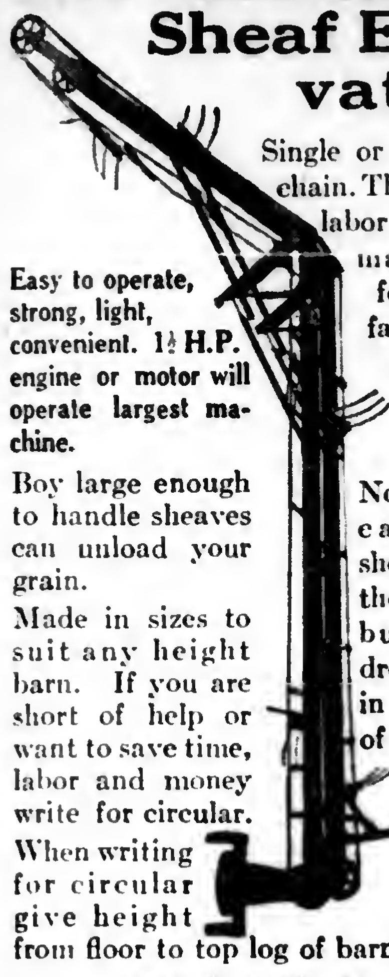
$1.50 WORTH SAVES $20

in milk and flesh alone on each cow in a single season. Excellent for galls. Allays itching. Aids in healing cuts and sores. Excellent for lice and mites in poultry houses.

Send $1.50 for enough Shoo-Fly to protect 10 cows 2 weeks, also our 3-tube gravity sprayer. Money back if not satisfactory. Name Express Office. Booklet FREE.

SHOO-FLY MFG. CO., 1342 N. 10th St., Phila

BINDER TWINE
Get our astonishingly low price to Granges, Equity Unions, Farm Bureaus, etc. Farmer agents wanted. Free samples.
THEO. BURT & SONS, Box 44, MELROSE, OHIO



The Eshleman Sheaf Elevator

Single or double chain. The great labor saving machine for the farm today.

Easy to operate, strong, light, convenient. 1½ H.P. engine or motor will operate largest machine.

Boy large enough to handle sheaves can unload your grain.

Made in sizes to suit any height barn. If you are short of help or want to save time, labor and money write for circular.

Not only carries sheaves to the mow, but will drop them in middle of mow.

When writing for circular give height from floor to top log of barn.

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A. M. DELLINGER, 723 N. Prince St. LANCASTER, PA.

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FREE BOOK

This book by a foremost agricultural expert will tell you how to produce many more tons per acre.

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supplies sulphate sulphur direct to **alfalfa, clover and other legumes.** It enormously increases growth and adds NITROGEN to the soil.

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6

HILLPOT

Quality Chicks

SPECIAL REDUCED PRICES

June chicks run higher percentage of pullets. Grow quickly, thrive well and make early Winter layers. Note big price reduction.

	25	50	100
White Leghorns	$5.00	$9.25	$18.00
Black Leghorns	5.00	9.25	18.00
Brown Leghorns	5.25	10.25	20.00
Barred Rocks	5.00	9.25	18.00
R. I. Reds	5.25	10.25	20.00
White Rocks or Wyandottes	7.00	12.50	25.00

1,000 White or Black Leghorns, Barred or Buff Rocks, $170.00; 1,000 R. I. Reds, $190.00.

Special Matings: Leghorns, Rocks, Reds; $7.00 per 25; $12.50 per 50; $25.00 per 100; $240.00 per 1,000.

Order now. Prompt deliveries. Terms cash with order. Can not send C. O. D. Safe delivery guaranteed.

W. F. HILLPOT
Box 28 Frenchtown, N. J.

PLEASE say: "I saw your adv. in Pennsylvania Farmer."

POULTRY

JUNE HENYARD HINTS

When hens eat feathers it is often due to idleness and close confinement. Give such birds a balanced ration and as much range as possible. Make them scratch for their grain as this helps them to forget the feather eating habit. The first offender that starts the habit should be killed or isolated as it spreads rapidly.

* * *

Egg eating is the cause of many lost eggs. We believe it is almost entirely due to faulty nest construction. When the hens are able to scratch in open nests, eggs are sure to be broken. Because a hen eats a broken egg is not a sign that she has the egg eating habit. But watch for the hen that deliberately kicks eggs around a nest until they are broken or breaks them with her bill. Darkened nests that the hens enter from the rear will help to prevent the habit. Trapnests will help locate the egg eaters in the flock.

* * *

When building nests in the new poultry house it will pay to make trapnests. If they are not always used they can be wired open. And next winter when the farm work is reduced it may be possible to use the trapnests for a few months and locate the best winter layers.

* * *

Tuberculosis causes losses in many poultry flocks. It is contagious. The bird that is lame and thin should be killed and examined for the greyish bunches on the liver which denote tuberculosis. This disease cannot be cured and large losses have resulted from allowing an emaciated hen to feed and roost with the flock until she dies, thus contaminating the feed and infecting healthy birds. Prevent tuberculosis by breeding from mature healthy fowls and keep them under the best possible conditions. Trap the sparrows which may bring the disease from other farms.

* * *

Bowel trouble causes great losses to chicks during the hot summer weather. It can largely be prevented by hatching from strong stock and avoiding chilling or overheating of the chicks. Then feed buttermilk or sour milk for the first drink and keep it before the chicks every day. If a chick becomes pasted up try giving it a couple drops of castor oil from a medicine dropper. We have found this a desirable treatment.

* * *

Kill the weak chicks when hatched and those that become listless and too weak to eat and grow. It seems rough treatment but it saves many healthy chicks from being infected by the sick ones. The poultryman who can never kill a weak chick and has the blues whenever one dies, should plan on another business. Mortality rates can be kept quite low but some chicks die under the best of management and it should not cause too much discouragement.

* * *

When culling out the old hens for market it pays to save the laying stock as long as possible. With eggs at present prices a hen soon lays a large percent of her market value. Even if poultry meat prices go down we shall save the old layers as long as they pay and we know that poultry meat will not be very cheap.—R. G. K.

Raising Chicks on the Colony System

THE FARM FLOCK

The farm flock, of course, does not get the careful attention given the hens cared for by the poultry specialist, and they may not produce as many eggs.

There is one advantage, however, the poultry on the farm can have free range for a large part of the time and they can gather food that would be otherwise wasted. We use the poultry as gleaners after harvest and usually grow an acre or two of late buckwheat for the hens to harvest. Last year we had about two acres of buckwheat accessible to the chickens and thru October and November they only got such food as they could gather.

During the winter the bulk of the feed was corn, oats and buckwheat. We have about 60 hens and pullets.

During October, November and December we got 100 dozen eggs. January, February and March we got 120 dozen eggs.

All of the feeds the hens got were rather fattening. We think that if we had fixed a food richer in protein we would have had more eggs but the hens did not get too fat to lay.

A few days ago we killed a hen which I think was the fattest hen that I ever saw. She had a fully-developed yolk in her and others that were nearly full size with yolks of various sizes from very small up to the full size.

This hen, if she was not already laying eggs, would have been an egg producer within a very few days, in spite of her flesh.

The "too fat to lay" theory seems to be a very poor excuse for hens that do not lay eggs. The idea that fear that they will get too fat to lay, has been repeated so often that some people seem to be afraid to feed hens as much as they really need for fear that they will get too fat to lay. I see in a recent Ohio experiment station bulletin that a test was made with two pens of hens under like treatment, except one pen was provided with litter to scratch in, and the other was not. The scratch litter did not seem to make any difference in the egg production of the two pens.—A. J. Legg, Albion, W. Va.

WHITEWASH FOR THE HEN HOUSE

A good disinfectant white-wash is easily made and applied and will work wonders with the inside of the house. The following formula is recommended by the Poultry Department of the New Jersey Agricultural College:

5 parts cream of lime (by volume).
½ part some good disinfectant.
1 part kerosene.
6½ parts water.

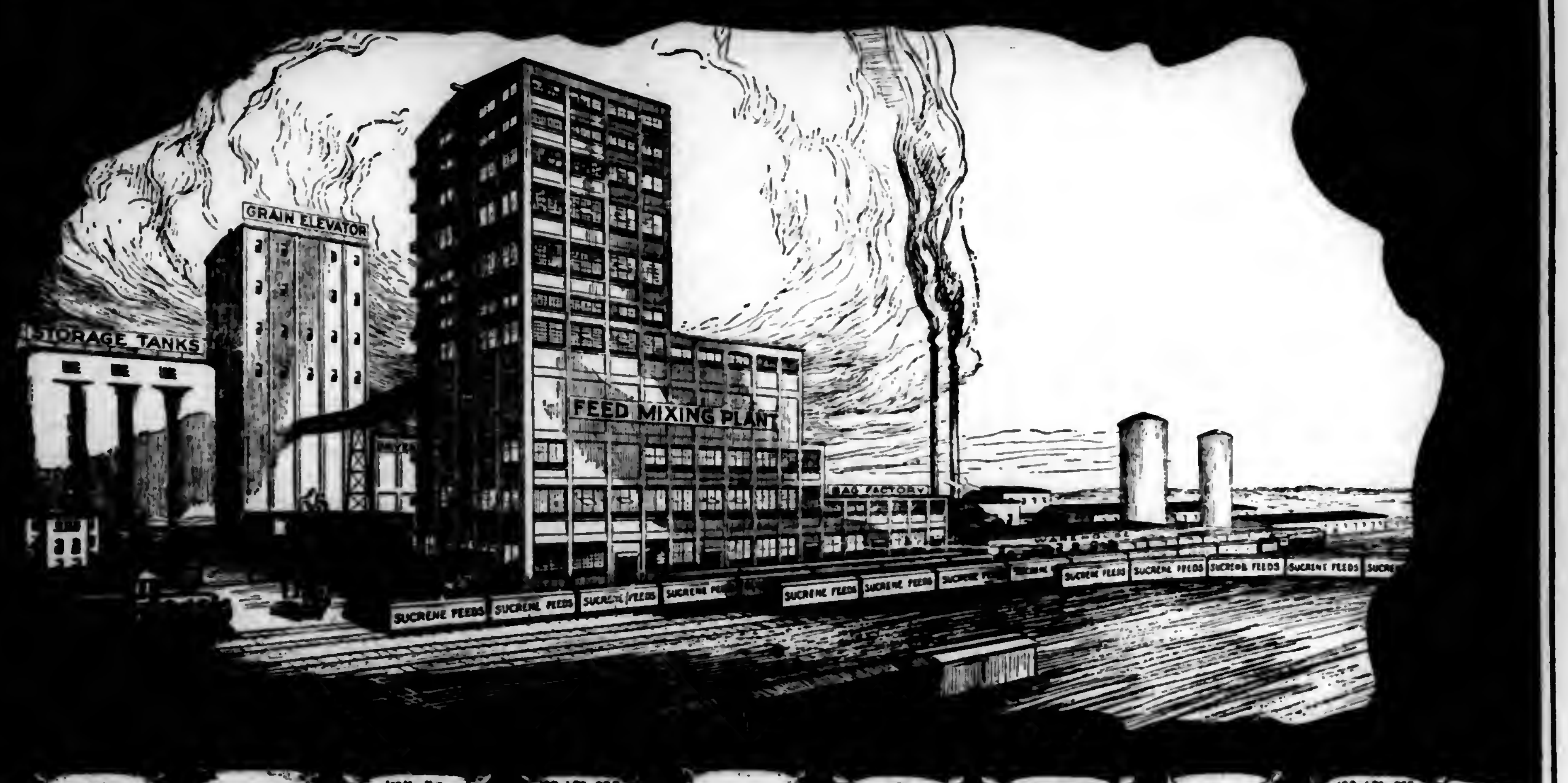
Cream of lime is made by slaking fresh stone lime with boiling water and thinning to the consistency of cream. Add a pound of lard to every 5 pails and a cup or so of salt, to help make it stick well. Apply with a force pump, putting on the coating as evenly as possible. Kerosene will destroy red mites, the disinfectant will do away with disease germs, and the whitewash will lighten the interior and make it more cheerful. If an application is made at the beginning of the season, it will last all summer.

MARKETING EGGS DIRECT TO CONSUMERS

An enterprising producer of poultry products in a small town in New Hampshire has built up a business of marketing eggs direct to consumers. He was unable to obtain a satisfactory price for eggs at the local market and decided to make use of the parcel post system. After experimenting with shipping containers of various kinds, he finally devised one which is especially suited to his own needs, and by ordering in large quantities he obtains them at a relatively low price. Only high-grade eggs are shipped. Particular care is taken in packing, and the parcels are tied with strong cord in such a way that a handle is provided. Printed labels are used and business transactions are attended to properly and promptly. Satisfaction is given and customers recommend this producer to other consumers so that new customers are obtained at practically no cost.

This man's business has grown to such an extent that during the spring and summer months he markets an average of 600 dozen eggs a week direct to consumers.

Three reasons for cultivation: Downing the weeds, loosening the soil, saving moisture.



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EMPIRE DAIRY FEED
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AMERICAN MILLING CO. PEORIA, ILL.

NEW PLANT FOR SUCRENE FEEDS

OUR new $2,000,000 plant is now in operation. It has a capacity of over 1,000 tons daily and is the largest and most modern exclusive mixed feed mill in the country.

This plant takes the place of the one destroyed by fire January 1, 1919; and to guard against a repetition of such a catastrophe, the new mill and all accessory buildings—elevator, storage tanks, bag factory, warehouse, etc.—are built fireproof of concrete and steel.

In the design, construction and operation of this plant we have provided for all the most advanced appliances and processes which science, mechanical skill and long manufacturing experience have developed for the economical, large-volume production of uniformly high quality feeds which can be sold at money-saving prices to stock feeders.

Sucrene Feeds are pioneers—the first feeds regularly manufactured according to approved scientific feeding formulæ, combining grain and grain products, with molasses for maximum palatability, digestibility and nutrition. Today Sucrene Feeds represent twenty years' devotion to the gospel of more productive and more economical feeding of live stock and poultry; twenty years of specialization to create and maintain a high standard of quality in ready-to-feed rations; twenty years of investigation and care in selection of materials, practical application of latest scientific discoveries by experts in animal needs and nutritive value of materials; invention and adoption of improved machinery for accurate mixing of dependable rations for specific feeding purposes.

20 Years' Success Proves Quality

Sucrene Feeds have a national reputation for promoting animal health and thrift, and for bringing maximum results per dollar of feed cost—in milk, veal, pork, beef, horse power and poultry products. Every sack of Sucrene Feed must conform accurately to the specifications called for by our experts, who know animals and feeds.

Among the materials of unquestionable nutritive value used in the various Sucrene Feeds are corn, oats, wheat, buckwheat, barley, cottonseed meal, linseed meal, alfalfa meal, cocoanut meal, peanut meal, distillers' dried grains, wheat bran, molasses, corn feed meal, corn gluten feed, bone meal, blood flour, dried buttermilk, malt flour and soluble starch.

Try Sucrene Feeds. You will find them more profitable than ordinary feeds. Ask your dealer about them. If he cannot supply you write us and we will see that your order is filled promptly. The coupon or a post-card brings you free information on any Sucrene Feeds in which you are interested.

AMERICAN MILLING COMPANY
Dept. 12 Peoria, Ill.

Summer Feeding of Dairy Cows

"The cow's stomach cannot contain grass enough to supply the required nutrients for maximum milk production; therefore a part of the ration should be of a more concentrated nature." Bulletin No. 743, U. S. Dept. of Agriculture.

Cows fed Sucrene Dairy Feed while on pasture show a heavier milk flow, not only while pasture is greenest, but the effect of summer feeding of Sucrene shows itself in greater milk yield all through the year.

Sucrene Dairy Feed backs up the stimulating effects of grass with substantial milk-making and body-building nutrients. It is composed of prime cottonseed meal, wheat bran, linseed meal, cocoanut meal, corn gluten feed, corn feed meal, ground and bolted grain screenings, clipped oat by-product, molasses, salt and calcium carbonate.

Drive your cows home to a ration of Sucrene Dairy Feed every evening. You'll find it a profit making practice.

AMERICAN MILLING CO.
Dept. 12 Peoria, Ill.

Please send me illustrated literature on feeds checked below:

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They are guaranteed strictly pure, full strength, effective and safe. Made to conform with the standards specified by the U. S. Government. This means highest quality.

Our experts have prepared five booklets on the use of various insecticides. Ask your dealer for them. If he can't supply you, write to our New York Office, 101 Fulton St. They're free.

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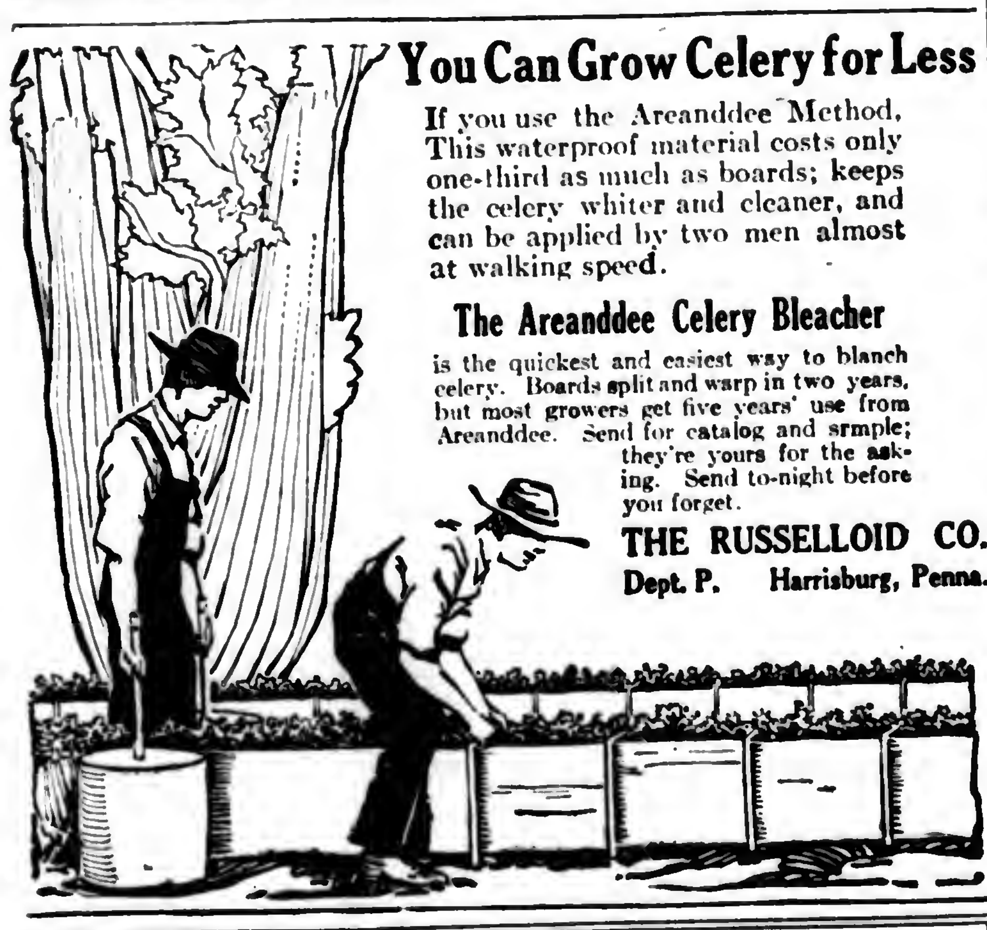


You Can Grow Celery for Less

If you use the Areanddee Method. This waterproof material costs only one-third as much as boards; keeps the celery whiter and cleaner, and can be applied by two men almost at walking speed.

The Areanddee Celery Bleacher

is the quickest and easiest way to blanch celery. Boards split and warp in two years, but most growers get five years' use from Areanddee. Send for catalog and sample; they're yours for the asking. Send to-night before you forget.

THE RUSSELLOID CO.
Dept. P. Harrisburg, Penna.

Special Subscription Offer

We will extend your subscription the balance of this year and all of next, or to Jan. 1, 1922 for 75c. The balance of this year and 2 years for $1.25; the balance of this year and 5 years for $2.25.

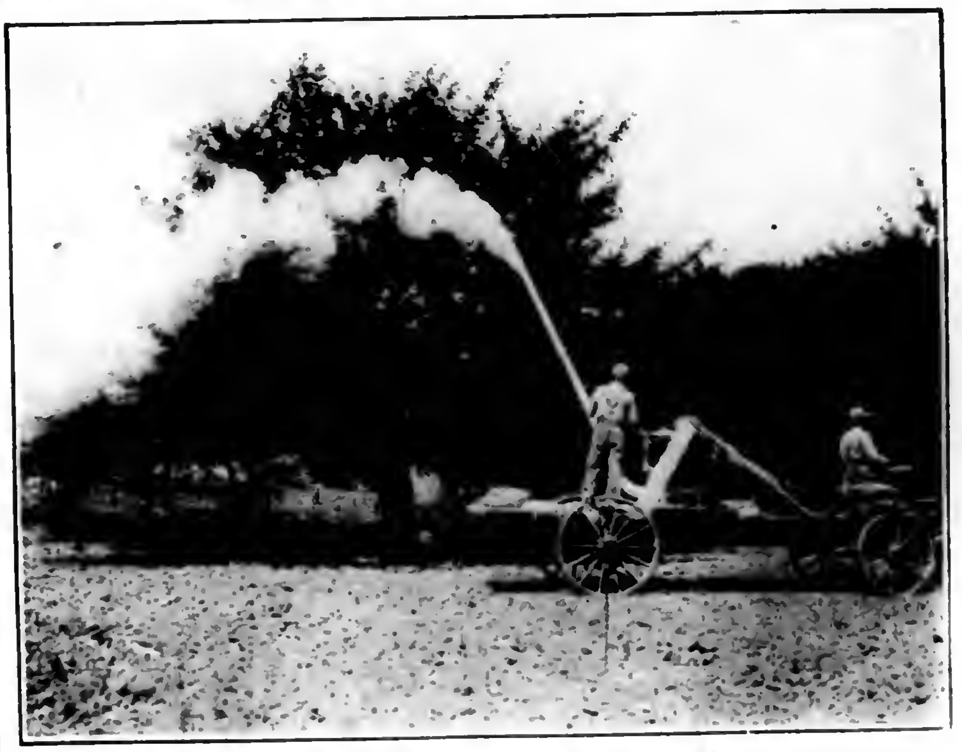
PENNSYLVANIA FARMER, 261 South Third Street, Philadelphia, Pa.

HORTICULTURE

GOOD FRUIT PROSPECTS BLIGHTED BY SCARCITY OF SUGAR

The fruit situation in Western New York thus far is the most favorable in many years. With the exception of peaches all tree fruits came out in unusual bloom. In Orleans County the early indications are that the apple crop this year will be as large as any ever gathered in the past. Orleans and Niagara counties have the best prospects on peaches of any counties in the state, with Wayne and Monroe not far behind. In the Hudson River section it is said peaches have no show this season.

The price of barrels, now around $1.25 each, makes it a matter of conjecture as to the way the apple crop will be handled. Many of the growers sold their crops on a tree run basis last year because of the high cost of barrels, the price then hovering around $1 each. The buyers in turn graded them in the storage houses and marketed them, the smaller ones for cider and the larger ones, thru the mediums of barrels or bushel baskets, the latter becoming extremely popular because of the high price of barrels.



Summer Spray With High-Power Outfit.

Cherries, both sweet and sour varieties, pears, plums and prunes bloomed to the full and an extended period of dry weather allowed perfect pollenization of the blossoms. Not in many years has so favorable a season been in evidence during the bloom period.

However, the goodly prospect of big yields in store are not so much uppermost in the minds of the growers just now as the continued scarcity of sugar and the probable difficulty of canners to obtain ample supplies as the fruit matures. This will fall as a direct hardship to the growers, as even an ample supply of sugar at extortionate prices will restrict contract prices with growers. The finished fruit will not move at prohibitive prices and whatever big boost in sugar prices holds for the season will automatically bring about lowered prices to the growers. If sugar is unprocurable at canning time as it is now some fruits will have to be canned without sweetening, but this and the method of preserving with benzoate of soda is undesirable.

The U. S. Department of Agriculture and Senators Wadsworth and Calder have been appealed to by fruit growers of New York, seeking relief from the scarcity of sugar but little encouragement has come from Washington. Senator Wadsworth has advised that the Sugar Equalization Board, of New York City, which during the war was charged with the responsibility of the proper distribution of sugar, has been in a state of liquidation since December 31st and now has no authority whatever.

One of the largest cherry growers of Sodus who processes a large pack for the select soda fountain trade, states that for weeks he has been scouting for sugar, even seeking to tap Canadian supplies, without any substantial success. Sugar seems to be easy of purchase in Canada at prices from 16 to 18 cents a pound, without limit of quantity to the consumer, but an effective embargo prevents any supplies from trickling across the border.—A. H. Pulver, New York.

GROWING PICKLES

The growing of pickles in South Jersey the past two years has proven very discouraging. The year before last gave us a bountiful crop and even with close grading the profit was greatly curtailed. Last year we were lucky to make our exist even, and this year sees us up and again at it.

The location for the pickle patch is selected for earliness, and if possible, a place that doesn't dry out quickly. The ground is plowed early and medium shallow. In our sandy loam the smoothing harrow makes it as even as it can be made. The rows are marked out four by our feet each way. A sweet potato cultivator is stripped and a large broad tooth is placed on the back prong to deepen out the rows one way. Manure is placed in each hill and a handful of 5-8-5 fertilizer. The rows are closed by placing the sweet potato shovels inverted in order to close up the rows.

A wooden block with a handle is used to flatten out each hill. This has two cross pieces at the bottom and marks the hill dividing it into four parts. Each division is planted every week until a stand is secured. The first planting is usually begun the latter part of April.

When a stand is secured and the plants are well started they are thinned out to two in the hill. These plants are allowed to grow several inches when 75 to 100 pounds of nitrate of soda is used to the acre. We also apply lime to each hill which has a tendency to make them set more fruit and help growth by sweetening the soil.

Varieties of white spine are generally used. We grow our own seed. We pick the fruit on the vines to be saved for seed until the middle of the season when the fruit is allowed to ripen. Before planting the seed is soaked for fifteen minutes in a solution of corrosive sublimate.

Cultivation is continued until impracticable. The vines are sprayed every week to ten days. By this means we often keep them alive until nearly frost.

Grading is one of our most important operations. Two grades of cucumbers are made, two of pickles and one of culls. We pick every other day or three times a week.

The striped cucumber beetle is our greatest pest. Cultivation on a day when they are present often drives them away. Tobacco dust and lime is an excellent remedy when dusted on the damp plants early in the morning.

Blight sooner or latter claims the vines and a sprayer which gives us 200 pounds pressure at the nozzle and covers upper and lower sides of leaves is necessary to prevent this disease. Bordeaux mixture is used mostly to control it in this section.

We have tried barreling our own crop but did not meet with success. We now retail as much of the crop as possible, the remainder being shipped to either New York or Philadelphia, whichever market is offering the highest price.

The above method of growing the pickles in the past years has enabled us to keep ahead of the game and in some years has allowed us a fair profit at the end of the season for our work on the crop.—James E. Toomey, Atlantic County, N. J.

VEGETABLE SEED SALES

Replies that have been received from inquiries sent to a number of representative retail vegetable seed dealers indicate that the quantity of vegetable seed sold to market gardeners so far this season is equal to or greater than last year. Exceptions are shown in the case of reports from a few industrial centers, principally in the East, where the quantity sold to market gardeners is estimated to be 10 to 30 per cent less than last year because of the shortage of labor on truck farms. Sales last year, however, were not equal to those of a normal prewar year and sales this year are reported to be 10 to 45 per cent less than for a prewar year, with the exception of a few districts in some of the Northwestern, Western, and Southwestern States.

On the whole, the sales to home gardeners this year seem to be larger than those of last year and of a normal prewar year, ranging from a 5 per cent increase in some sections to 50 per cent in others.

In some of the Northern States very little vegetable seed has been sold to date, either to market or home gardeners. This is not to be taken as an indication of a falling off in sales, because normally the bulk of sales are made by seedsmen in those States later in the season.

For Dependable Threshing with the Fordson

Get the utmost efficiency from your Fordson by belting it to an individual thresher and handling your own small grain crops. The more belt work your Fordson does, the greater will be the return on your tractor investment. With an individual outfit you plan your work—you thresh when it is most convenient to *you*.

But dependable threshing and satisfactory belt work with the Fordson tractor is best assured when you use the Little Giant tractor belt—the belt specially designed for use with this tractor.

The Little Giant belt is endless so there are no belt ends to pull out and no stops for relacing.

It has a powerful clinging pulley-grip that not only conquers slippage but also overcomes any tendency toward throwing the belt off when a bunch of wet bundles goes through the separator.

It is unusually serviceable and withstands to a marked degree the effects of exposure to moisture, heat and all the ordinary enemies to belt efficiency in farming.

It is made of four plies of a single piece of best quality, heavy canvas, pressed, stitched, with double stitches at the edges to withstand edge wear. Its special design compels it to run straight and true always. You can get Little Giant belts in three lengths—50 ft., 75 ft. and 100 ft. from your Fordson dealer.

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MECHANICAL GOODS DIVISION
Distributed by
GASH-STULL & CO., Philadelphia, Pa.

For sale by all authorized Fordson Dealers

LITTLE GIANT TRACTOR BELT
US
UNITED STATES RUBBER COMPANY
ASSOCIATED COMPANIES

PLANTS

CABBAGE, TOMATO, PEPPER & CELERY
ALL LEADING VARIETIES

Cabbage Plants $1.25 per 1000
Tomato Plants $3.00 per 1000
Pepper Plants $4.00 per 1000
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All Plants Packed Carefully in Moss

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Largest Grower of Vegetables Plants in New Jersey

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Equipped Farm Near City
100 Acres $3600 Easy Terms

Unusually productive fields, spring-watered pasture, wood; some fruit; 2-story 6 room house; big barn, slate roof, cellar; mile R. R. 6 miles city, all conveniences including high school nearby; owner throws in 2 horses, harness, machinery, only $3600 easy terms. Details page 41, Strout's Catalog Farm Bargains [illegible] States, copy free. STROUT FARM AGENCY, 1422 B E, Land Title Bldg., Phila., Pa.

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CALCITE BRAND
MICHIGAN LIMESTONE
OVER 99% PURE

Good for your soil

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Over 99% Pure Carbonate

It makes clover grow

With Clover Seed at $37.00 per bushel, you can't afford to take any chances. Our Michigan Carbonate of Lime, finely pulverized, soft and very quickly soluble in your soil, is your best insurance against loss of seeding.

Order Early, because freight cars are scarce and freight rates are going up.

MICHIGAN LIMESTONE & CHEMICAL CO., Inc.
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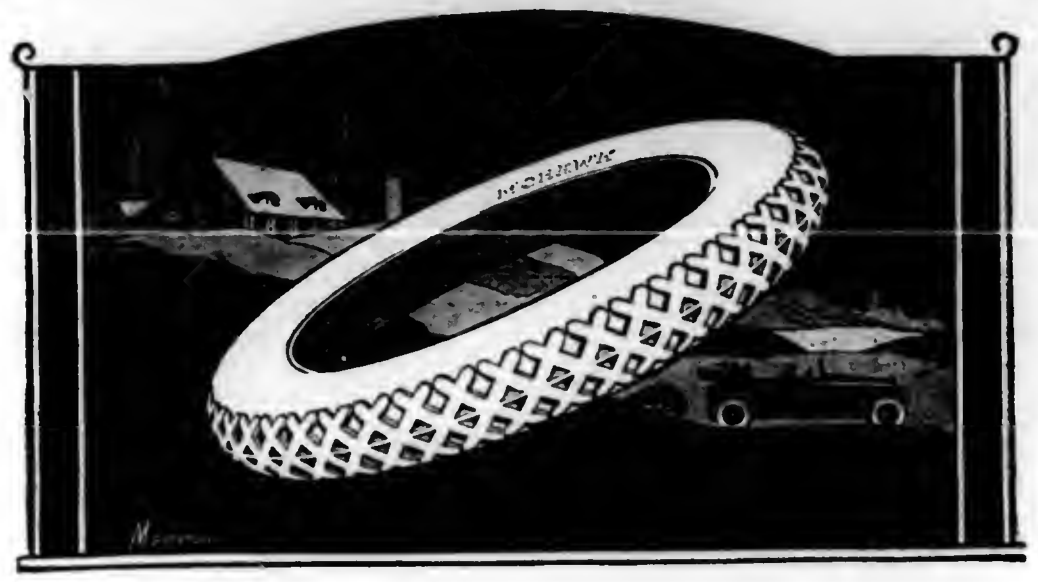
Largest agricultural lime mill in the world.
Capacity 1800 tons per day.



How To Choose Quality Tires

The tire buyer has no means of examining the inner part of a tire, upon which the mileage really depends.

Cross sections of a tire are no proof. Rubber substitutes may look like pure rubber.

Experimenting with various kinds of brands may prove which is the best: but this is an expensive and troublesome method.

To know positively the kind of materials and workmanship which go into a tire—this is the safest method of choosing.

Good mileage isn't accidental. It depends entirely upon the honesty and sincerity of the manufacturer, in using such pure rubber, such strong fabric, and such experienced workmanship that his products consistently stay well above the quality line which divides good tires from poor tires.

The best proof of how consistently the Mohawk Company has kept faith with the users of its product throughout the entire seven years of its history is shown by the number of permanent Mohawk users. Actual records kept by Mohawk dealers show that 85 per cent of all motorists who buy their first Mohawks use Mohawks exclusively thereafter.

Certainly this is proof of Mohawk quality of materials and workmanship which cannot be denied.

Made in Cord and Fabric Types—good dealers everywhere handle them

MOHAWK RUBBER COMPANY, AKRON, OHIO

MOHAWK "Quality" TIRES
HAND MADE

Why risk injury to your plants, vines, trees, and reduction of your crops by applying Arsenical Preparations!

USE
BUG DEATH
Contains no Paris Green or Arsenic
A safe insecticide for your plants and vegetables.
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TAPES
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Kill All Flies! THEY SPREAD DISEASE
Placed anywhere, DAISY FLY KILLER attracts and kills all flies. Neat, clean, ornamental, convenient and cheap. Lasts all season. Made of metal, can't spill or tip over; will not soil or injure anything. Guaranteed.
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Over a Quarter Century in this Business
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You men who need the toughest, strongest, comfortable shoe for hard work, will get $6 worth of service out of this bargain at $3.98. Leather is soft, comfortable and durable. Scientific tanning of healthy hides makes lasting qualities. The soles and heels are solid, heavy and guaranteed good all through. Strong, reinforced, tanned to resist action of manure, milk, soil. Stand up no matter how roughly treated. Here's proof of my perfect faith in these work shoes.

SEND NO MONEY

Just your name, address and size. Pay $3.98 when shoes arrive. If they are not the greatest shoe bargain you ever put your feet into, I will take them back at not a penny's cost to you. That's plain and fair as any man could ask. Fill in the coupon now, get it off in today's mail and you've saved [illegible] as good shoes as you ever had.

Stewart the Bargain Shoe Man

Stewart the Bargain Shoe Man, Binghamton, N. Y. Send 1 pair bargain shoes as above $3.98 on approval.
Name ....
Address ....
P. F. 3 .... Size ....

$3.98
A BED ROCK BARGAIN

HAMPTON METAL
Hampton Metal is the only material that ha no come-back.
Fire-proof as steel—but rust-resisting and corrosion resisting. And, "needs no paint." No steel sheathing or galvanized iron made, can stand the tests given Hampton Metal. As roofing, siding or sheathing, it has no equal.
HAMPTON SHEATHING STYLES:
Clap-board, Plain Brick Siding, Rock face Stone, Rock-face Brick, Three inch Beaded, Corrugated, 1¼ in. and 2½ in.
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Nails and lead washers furnished. Delivery prepaid to nearest R. R. Station. Guaranteed as represented or money back. Shipments made twenty-four hours after receipt of order.
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A double-tread and chain stitched rebuilt tire that not only never fails to do all you ask it, but does more—and then some! Twice as much fabric as an ordinary tire—and so full of real service that you simply cant overwork them. And that's why we guarantee them!
The following are the little prices of our guaranteed tires

Size	Non-Skid	Price	Size	Non-Skid	Price
30x3	....	$ 7.00	34x4	....	$11.50
30x3	1-2	8.00	34x4	1-2	13.50
32x3	1-2	9.00	35x4	1-2	14.00
33x4	....	11.50	36x4	1-2	14.50

3 percent off for cash with order.
10 percent deposit required with all C. O. D. orders.
R. K. Tire Company
837 No. Broad St., Dept. A, Phila., Pa.
Send for descriptive booklet and price list.
Good Territory Open for Live Agents.

LENGTHEN THE LIFE OF PNEUMATIC TIRES BY GOOD CARE

(Continued from Page 5.)

bag or well wrapped in newspaper under the back seat. Acid from the battery, if allowed to splash on the tubes, will surely start the work of deterioration.

There are on the market many appliances for repairing inner tubes quickly. These range from cementless patches to miniature vulcanizers. All of them answer their purpose to a certain degree. Ordinary nail punctures, pin holes and small cuts can be repaired successfully by the over-lapped process, using any of these devices. Cuts exceeding half an inch, blowouts, gouges, tears or any other serious injuries can be repaired successfully only by the tire repairman, as a steam vulcanizer is here indispensable.

To get the most out of the tire, the most care should be put into it. Kept in good shape continually mended for the smallest cuts soon after each trip, the tire will run up to, and perhaps above, the mileage set by the manufacturer. Neglect means waste and disappointment over the service the tire is supposed to give.

Most important, in the care of the tire, is the almost daily habit of keeping the tread uncut and unbroken. As fast as they occur all cuts should be mended so that water, sand and other destructive matter may not gain a start on the tread and wear it away, faster than calculated.

If the tire is wore down to the carcass, it should be taken to a reliable concern for retreading. Men who are trustworthy will say whether this operation would only mean an added expense. If the canvas base is worn thru in spots, retreading will not help it. An inner liner will give additional life to the tire, but not for long.

In addition to the extra wear in road friction on an under-inflated tire there is the extra amount of gasoline consumed by this lax method. This in a day's run will make more of an item than would appear at first. It is the answer in many cases in the difference of mileage which one car of the same make gets over another, so that from every standpoint it behooves the motorist to keep his tires inflated to standard pressure all the time.—Alvah H. Pulver.

COULDN'T SEE THE POINT

First Tenderfoot: When does two from five leave one?

Second Tenderfoot: Never, it always leaves three.

First Tenderfoot: Don't you be so sure about that. What about taking "s t" from "stone"?

A main object of New York's many sheep-growers' associations, through which the wool clip is pooled, is to get the extra ten or twenty cents a pound, which marks the difference between a profit and a loss.

Better livestock pays. Have you a copy of "Making Advanced Registry Records"? Ask the State College at Ithaca, N. Y., for F 147.

Corporal (to Rookie who is clumsily handling gun): I told you to take a fine sight. Don't you know what a fine sight is?

Rookie: Sure, I know what a fine sight is. A boat load of corporals sinking.

PASSING EVENTS IN PICTURES

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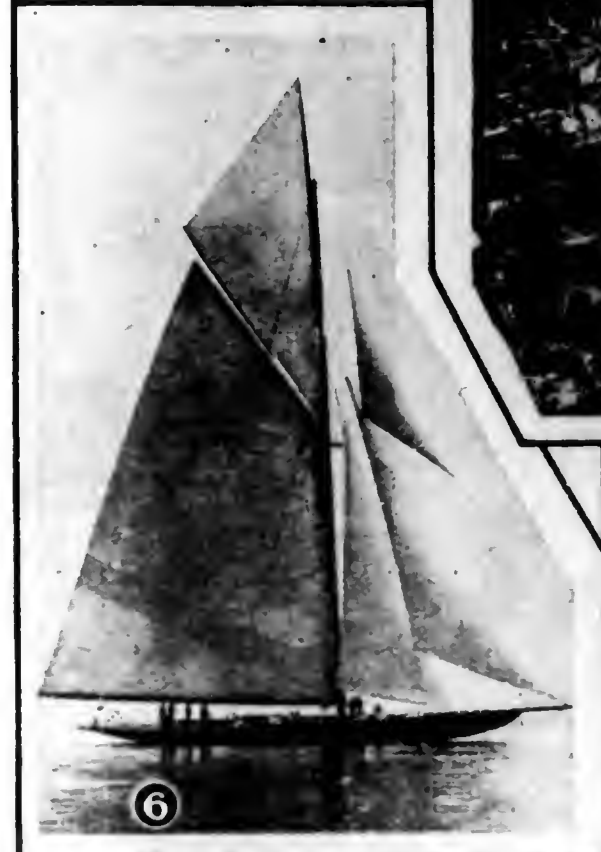
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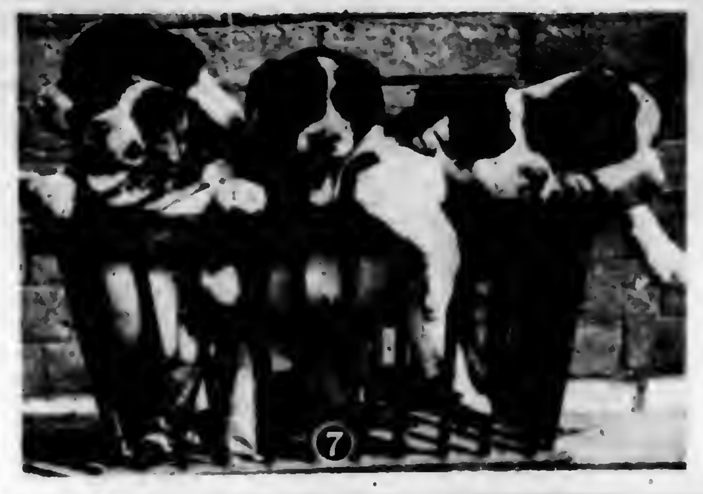
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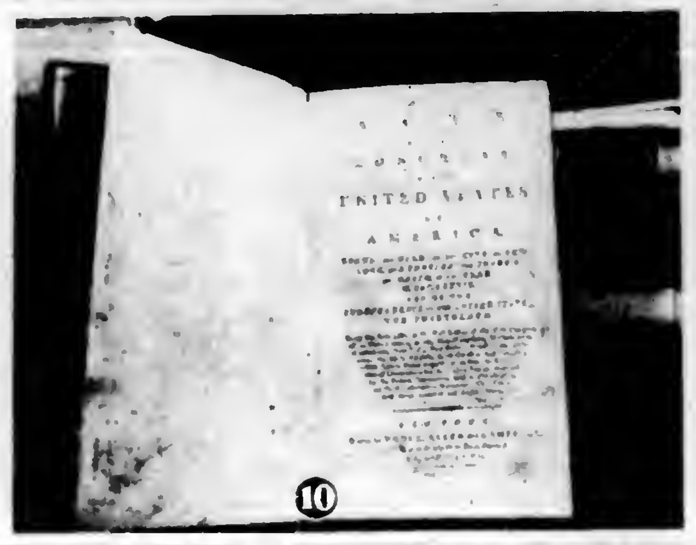
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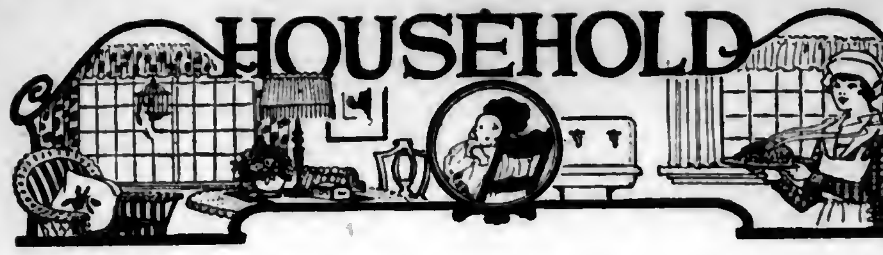
(Photo, Copyright by Underwood & Underwood)

1.—Statue to be erected in Plymouth, to Commemorate Landing of the Pilgrims.
2.—Beautiful Amphitheatre erected at Arlington in memory of our Soldier Dead.
3.—One of the latest U. S. Submarines Entering New York Harbor.
4.—Aerial Photograph of the Nation's Capitol
5.—Miss Claudia Reed, Favorite of Washington's Younger Set.
6.—The "Vanite," a contestant for the honor of Racing Sir Lipton's Shamrock IV.
7.—Which one would you choose?
8.—Son of Princess Hohenlohe of Austria, Formerly Miss Britton of Washington.
9.—Admiral H. Kato of the Japanese Navy Returning from Vladivostok via U. S.
10.—First Code of Federal Statutes signed by Washington to be Contained in New Volume.
11.—Col. Grant Morden who has just formed a steel combine in Canada.



STUDIES IN NUTRITION

By Pearl MacDonald, Penna. State College

Vitamines, the Protective Substances

A few years ago we knew nothing of the so-called vitamines Specialists who were doing investigational work in foods analyzed foods chemically and determined how much protein, carbohydrate, fat and mineral matter each food contained. Then they determined how much total energy the human machine required, how much protein was needed for building and repair, what mineral matter was required and how much fuel should be supplied. But investigators were not satisfied with results. There were those who began to believe that the chemical composition of foods was not the whole story, that in addition we must know how foods act in the body. They began to feel that certain properties which some foods have are not evident in other foods, because certain foods produced effects upon the general well-being of the individual and upon the normal growth of children which could not be accounted for by chemical compositions alone. And so a new type of investigational work was begun.

By means of a large number of very carefully worked out experiments, it has been determined that certain foods contain certain substances (if we may so call them for lack of a better term) which have a marked influence upon the general health or well-being of the individual and which in the case of children produce normal growth. What they do is to build up the disease resisting powers of the body. For this reason one term applied to them is "protective substances." These substances or types of substances have not as yet been isolated, so that it has been impossible to determine their chemical nature and composition.

While these substances are not fully understood, yet investigations have shown their general characteristics and what foods contain them, and that they can be relied upon as sources of supply.

Investigations to date seem to indicate that there are at least three of these substances. As a whole they are called vitamines, because they are necessary for sustaining life.

Fat-Soluble A, Vitamin

The first one we will discuss is called fat—Soluble A, because it is dissolved or is in solution in fat. It is found abundantly in the fat of milk (cream and butter). It also occurs in the fat of egg yolk, in cod liver oil and in leafy vegetables, as spinach, chard, beet tops, lettuce, kale, dandelion and other leaves of plants used as greens. It is also found in certain organs of animals where there is active cell work going on, as in livers and kidneys.

If animals are fed a ration adequate in every respect except that the fat is supplied by a vegetable oil or animal fat like lard, there will be a loss of weight and eventually death will result. Frequently, the eyes are affected. By the addition of butter-fat, the animal is quickly brought back to normal weight and to general physical well-being.

Water-Soluble B Vitamin

The second vitamin substance is soluble in water, wherefore it is spoken of as water-soluble B. It is found in milk (in the skimmilk), in eggs, in fruits and vegetables generally and in the grain products in which the outer bran coats have been retained. Spinach is rich in Water-Soluble B. It will be recalled that spinach is also rich in iron, and contains some of the fat-soluble A vitamin. Liver and kidney also have this water-soluble B vitamin as well as the fat-soluble A type. Lack of water-soluble B vitamin results in loss of weight and a general breakdown in health, the nervous system being particularly affected.

The results of a lack of water-soluble B have not been fully determined, but investigators are inclined to believe that this vitamin directly affects the appetite and the assimilation of food by the body. Authorities have more recently stated that a generous general diet will insure one against the lack of water-soluble B vitamin. Danger comes when for any reason, whether notion or economic necessity, the diet becomes limited to a few articles of food.

Helping Grandma Sprout Potatoes

Anti-Scorbutic Vitamin

The third vitamin protective substance has been more recently discovered. It is termed the C vitamin or the anti-scorbutic vitamin because it is evidently the one which is the corrective for scurvy, from which, you remember, old-time sailors used to suffer because of lack of fresh vegetables and fruits in their diet during their long sea voyages. Nowadays, the disease does not appear in quite the same way but it does occur among infants artificially fed. One of the serious things about scurvy is that it leads to other diseases; people having it are more liable to pneumonia, and their wounds heal less readily, etc.

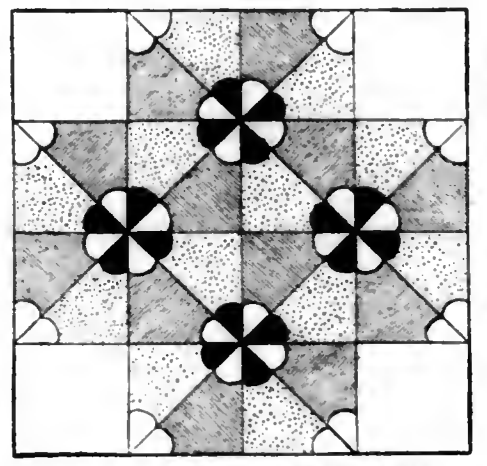
The C vitamin is found in milk and eggs, but more particularly in fruits and vegetables. The oranges, lemon, cabbage and onion are all high in this anti-scorbutic vitamin content.

Effect of Heat and Drying on Vitamines

The effect of heat upon these "protective substances" has not yet been fully determined. It has been found however, that fat-soluble A and water-soluble B are quite stable, but the anti-scorbutic substance is very sensitive to heat. Investigators do not believe that ordinary domestic cooking and canning destroy all of fat-soluble A and water-soluble B. But canning eventually does usually destroy the C vitamin or anti-scorbutic property of fruits and vegetables. Acids, however, seem to protect against the loss of the anti-scorbutic property in canning and drying. This has a practical value in canned tomato and in dried orange juice (which is now being put upon the market.)

Pasteurized milk loses some of its anti-scorbutic value, and if pasteurized milk ages for 48 hours, there is further loss. But dried milk may be prepared without losing much of the anti-scorbutic property.

In order, however, to be on the safe side when either pasteurized or dried milk is used in infant feeding, authorities advise the use of strained orange or tomato juice as an accompanient. For those who cannot afford the orange juice, tomato juice can be used.



Star and Cascades Quilt Block

How to Make Sure of Enough Vitamines

(1) Make milk the center of the food plan, and build around it.

(2) For children, a pint of whole milk a day is the very least allowance. It is much better to have a quart a day. For the adult, a pint of whole milk a day is desirable.

(3) Use eggs as liberally as possible. Eggs and cheese can replace meat to almost any extent in the diet.

(4) Provide generous amounts of fruits and vegetables. Have some fresh fruit and some fresh vegetables every day if possible. If not every day, at last three or four days a week.

(5) Have a generous general diet. Train children to eat and enjoy all the different fruits and vegetables.

SUGGESTIONS FOR HOUSEWIVES

Making Cottage Cheese.—When making cottage cheese, after the milk is scalded and the curd removed from the whey, if one level teaspoonful of baking soda is added to each quart of curd and thoroly worked thru it with the salt, pepper, butter and cream, you will find a decided improvement in the flavor. And the longer it stands before using, the more pronounced will be the improvement.

Salt in Coffee. A pinch of salt added to coffee in the pot just before serving gives a very pleasing flavor that can be procured in no other way.

Pack Furs in Tar Paper.—Thoroly remove the dust from all furs and robes before packing away for the summer. Pieces of tar roofing paper rolled in with fur robes will protect them from moths. I roll them tightly with these pieces enclosed, then wrap one piece on the outside. Do all up snugly in a large thick brown paper, and paste into a clean paper sack. I have one fur robe that has been kept many years in this way, and never has there been one moth in it.

To Cook Dandelion Greens.—Dandlion greens are good when large and in blossom, if well parboiled in a large quantity of water. I let them boil for about one hour, putting in about ½ teaspoon baking soda. Then I turn this water off and put on water in which a piece of meat has been cooking until it is about done, and cook the greens in this until done. If I do not have "meat water" in which to cook them, I put on clean boiling water to cover them well after turning off the soda water in which I parboil them. Then I add a little salt, not much, as it toughens them. When done, drain them and sprinkle with pepper, salt, and mix in a piece of butter.

Horseradish and Milkweed Greens. —Horseradish leaves, also milkweed leaves (the ones that look like dandelion leaves, all notched and pretty) are fine for greens when parboiled in a whole lot of water (containing a little soda) for an hour. Then drain, and cover with clear boiling water and cook until tender, drain and season with salt, pepper and butter, or pork drippings.—Mrs. Dana Burchard, Tioga County, N. Y.

CAN FRUITS WITHOUT SUGAR

Sugar is not required to keep canned fruit from spoiling; therefore the sugar shortage we are facing now should not keep any housewife from doing her quota of canning this year. It is the sterilization that counts, and the cold pack method, if properly followed, will keep the fruit perfectly without sugar. Let none go to waste. Food is likely to be both scarce and high in price next winter, and it is the economic duty of every family to put up all surplus fruit this summer.

Canning Rhubarb

Begin now with the rhubarb. This will make delicious pies next winter which can be sweetened when made. If you have any sugar, save it for canning peaches, cherries and berries. But even these can be canned and kept perfectly without sugar.

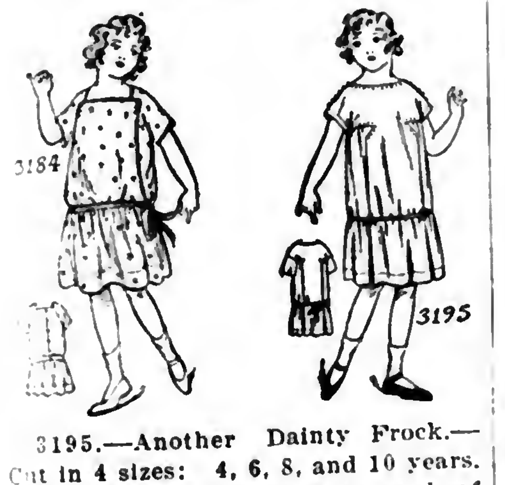
Of course, we shall have to forego the wonderful sun preserves and made-up jellies and marmalades and jams, but we can put up the fruit juice and pulp by sterilizing and sealing the cold-pack way, then we can make the jellies and jams next winter when sugar is again plenty and cheaper.

For good results in canning without sugar proceed this way: Prepare the fruit for canning. If hard fruit such as pears or peaches, dip in boiling water 1 to 3 minutes, depending on the hardness of the fruit, then dip at once in cold water, pack in hot jars, put on the rubbers (be sure that they are good elastic rubbers), add boiling water instead of boiling syrup adjust the can covers rather loose to let steam escape during boiling, and let in wash boiler on rack, and boil 15 minutes for soft fruits and 20 minutes for hard fruits, counting from when water about can begin to boil, and screw covers down tight while rubbers are soft. Then when cans are cold do not try to screw covers tighter for you will break the seal made by imbedding the cover in the soft hot rubber.—Mrs. Frank App, N. J. College of Agriculture.

PENNSYLVANIA FARMER PATTERNS

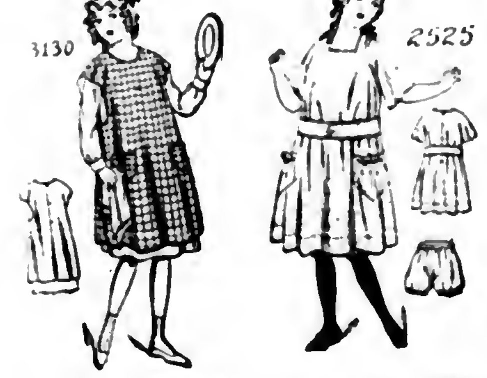
Give figures and letters of each pattern exactly as printed at beginning of each description or we will not be responsible for correct filling of orders. Give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261 S. Third Street, Philadelphia, Pa.

3184.—Pretty Frock For Little Miss.—Cut in 4 sizes: 4, 6, 8 and 10 years. A 6-year size will require 3 yards of 36-inch material. Pretty in pink and white challie with pipings of satin, or in crepe, wash silk, chambray, voile or batiste. Flouncing and bordered materials are appropriate also. Pattern, 10 cents.



3195.—Another Dainty Frock.—Cut in 4 sizes: 4, 6, 8, and 10 years. A 6-year size will require 3½ yards of 36-inch material. Shantung in natural shade with fancy stitching in red, blue or white would be pretty for this model. It may be finished without the sleeve portions. Gingham, chambray, percale, poplin and repp are also desirable for this style. Pattern, 10 cents.

3130.—Apron For Girl. The pattern is cut in 4 sizes: 6, 8, 10 and 12 years. It is fitted with shoulder and underarm seams and is easy to make and comfortable to wear. For an 8-year size 1¾ yard of 27-inch material will be required. Pattern, 10 cents.



2525.—A Very Comfortable Dress. The bloomers may take the place of petticoats. The sleeves are cut in one with the back and front. The bloomers may be of the same material or of sateen, linen, repp, or any other serviceable fabric. The pattern is cut in 5 sizes: 4, 6, 8, 10 and 12 years. Size 10 requires 3 yards of 36-inch material for the dress, and 1¼ yard for the bloomers.—Pattern, 10 cents.

Perhaps the small amount you receive from the sale of old papers and magazines seems hardly worth the bother of saving them; but every bit of paper stock which is destroyed brings just a little nearer what looks like an inevitable paper famine.

The high cost of clothing is sending many a housewife to the attic instead of to the dry goods store.

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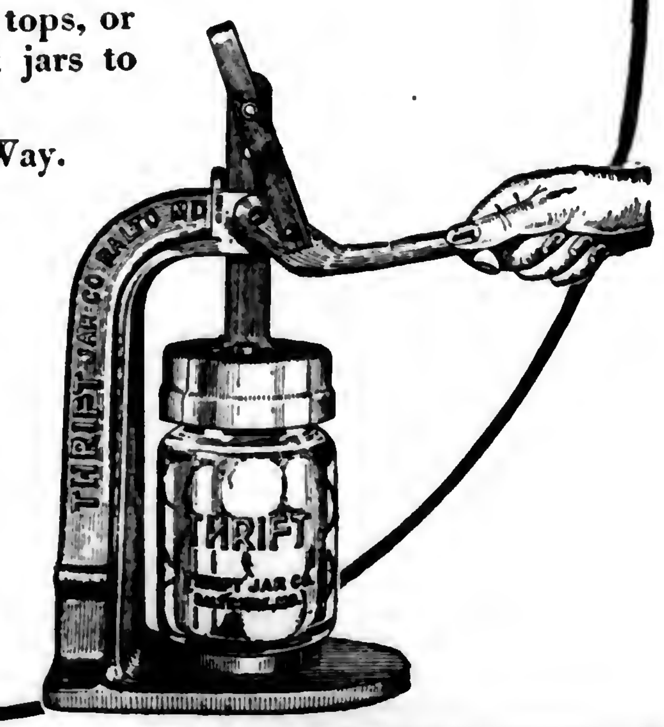
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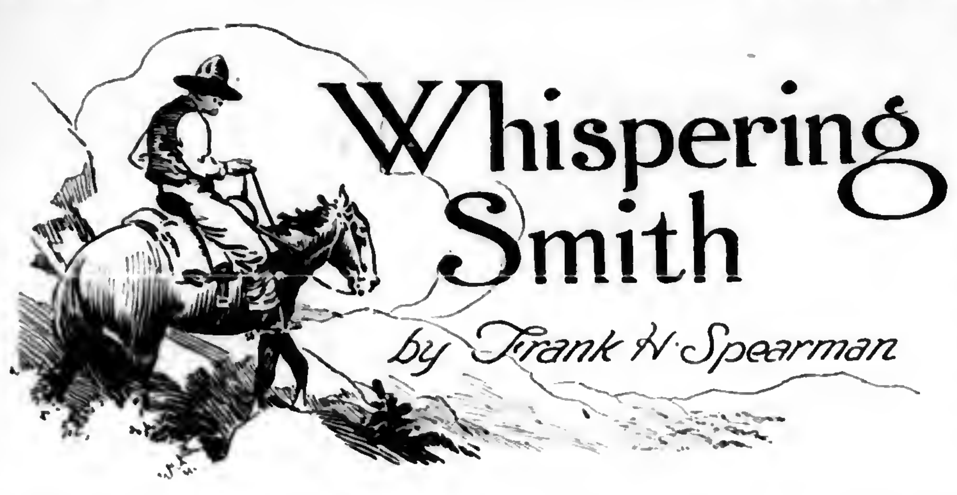

Whispering Smith

by Frank H. Spearman

SYNOPSIS OF PREVIOUS CHAPTERS

The wrecking of a heavy freight train at Smoky Creek had piled up dozens of box cars loaded with merchandise. The wrecking crew, lead by Sinclair the foreman, was at work clearing the tracks when McCloud, the superintendent, arrived. It had been the custom of Sinclair and his crew to appropriat whatever their fancy suggested from the goods carried by a wrecked train. They were now loading up a wagon when McCloud arrived and stopped the pilfering. At this, Sinclair became angry and because they would not agree to stop looting were discharged. Sinclair afterwards told Whispering Smith that his mistake was in not then killing McCloud. The only one injured in the wreck was a tramp who called for help and water but Sinclair would give neither. Dickste Dunning, of the Crawling Stone Ranch, suddenly appears upon the scene and she and McCloud become acquainted. The adherents of Sinclair tried to have him reinstated, but Phil Hailey was appointed in his place. McCloud, who had been threatened, nearly had a clash with Sinclair in the boarding house, but this was prevented by the tact of Marion Sinclair, the proprietress.

(Continued from Last Week.)

CHAPTER VIII

Smoky Creek Bridge

It was not alone that a defiance makes a bad dinner sauce; there was more than this for McCloud to feed on. He was forced to confess to himself as he walked back to the Wickiup that the most annoying feature of the incident was the least important, namely, that his only enemy in the country should be intrusted with commissions from the Stone Ranch and be carrying packages for Dicksie Dunning. It was Sinclair's trick to do things for people, and to make himself so useful that they must like first his obligingness and afterward himself. Sinclair, McCloud knew, was close in many ways to Lance Dunning. It was said to have been his influence that won Dunning's consent to sell a right of way across the ranch for the new Crawling Stone Line. But McCloud felt it useless to disguise the fact to himself that he now had a second keen interest in the Crawling Stone country—not alone a dream of a line, but a dream of a girl. Sitting moodily in his office, with his feet on the desk, a few nights after his encounter with Sinclair, he recalled her nod as she said good-by. It had seemed the least bit encouraging, and he meditated anew on the only twenty minutes of real pleasurable excitement he had ever felt in his life, the twenty minutes with Dicksie Dunning at Smoky Creek. Her intimates, he had heard, called her Dicksie, and he was vaguely envying her intimates when the night despatcher, Rooney Lee, opened the door and disturbed his reflections.

"How is Number One, Rooney?" called McCloud, as if nothing but the thought of a train movement ever entered his head.

Rooney Lee paused. In his hand he held a message. Rooney's cheeks were hollow and his sunken eyes were large. His face, which was singularly a night face, would shock a stranger, but any man on the division would have given his life for Rooney. The simple fellow had but two living interests—his train-sheets and his chewing tobacco. Sometimes I think that every railroad man earns his salary—even the president. But Rooney was a Past Worthy Master in that unnumbered lodge of railroad slaves who do killing work and have left, when they die, only a little tobacco to show for it. It was on Rooney's account that McCloud's order banishing cuspidors from his office had been rescinded. A few evenings of agony on the despatcher's part when in consultation with his chief, the mournful wandering of his uncomplaining eyes, his struggle to raise an obstinate window before he could answer a question, would have moved a heart harder than McCloud's. The cuspidor had been restored to one corner of the large room, and to this corner Rooney, like a man with a jaw full of birdshot, always walked first. When he turned back to face his chief his face had lost its haunted expression, and he answered with solemn cheer, "On time," or "Fourteen minutes late," as the case might be. This night his face showed something out of the ordinary, and he faced McCloud with evident uneasiness. "Holy smoke, Mr. McCloud, here's a ripper! We've lost Smoky Creek Bridge."

"Lost Smoky Creek Bridge?" echoed McCloud, rising in amazement.

"Burned to-night. Seventy-seven was flagged by the man at the pump station."

"That's a tie-up for your life!" exclaimed McCloud, reaching for the message. "How could it catch fire? Is it burned up?"

"I can't get anything on that yet; this came from Canby. I'll have a good wire in a few minutes and get it all for you."

"Have Phil Hailey and Hyde notified, Rooney, and Reed and Brill Young, and get up a train. Smoky Creek Bridge! By heavens, we are ripped up the back now! What can we do there, Rooney?" He was talking to himself. "There isn't a thing for it on God's earth but switchbacks and five-per-cent grades down to the bottom of the creek and cribbing across it till the new line is ready. Wire Callahan and Morris Blood, and get everything you can for me before we start."

Ten hours later and many hundreds of miles from the mountain division, President Bucks and a companion were riding in the peace of a June morning down the beautiful Mohawk Valley with an earlier and illustrious railroad man, William C. Brown. The three men were at breakfast in Brown's car. A message was brought in for Bucks. He read it and passed it to his companion, Whispering Smith, who sat at Brown's left hand. The message was from Callahan with the news of the burning of Smoky Creek Bridge. Details were few, because no one on the West End could suggest a plausible cause for the fire.

"What do you think of it, Gordon?" demanded Bucks bluntly.

Whispering Smith seemed at all times bordering on good-natured surprise, and in that normal condition he read Callahan's message. Everything surprised Whispering Smith, even his salary; but an important consequence was that nothing excited him. He seemed to accommodate himself to the unexpected thru habitual surprise. It showed markedly in his eyes, which were bright and quite wide open, and, save for his eyes, no feature about him would fix itself in the memory. His round, pleasant face, his heavy brown mustache, the medium build that concealed under its commonplace symmetry an unusual strength, his slightly rounding shoulders bespeaking a not too serious estimate of himself—every characteristic, even to his unobtrusive suit and black hat, made him distinctly an ordinary man—one to be met in the street today and passed and forgotten tomorrow.

He was laughing under Bucks's scrutiny when he handed the message back. "Why, I don't know a thing about it, not a thing; but taking a long shot and speaking by and far, I should say it looks something like first blood for Sinclair," he suggested, and to change the subject lifted his cup of coffee.

"Then it looks like you for the mountains tonight instead of for Weber and Fields's," retorted Bucks, reaching for a cigar. "Brown, why have you never learned to smoke?"

CHAPTER IX

The Misunderstanding

No attempt was made to minimize the truth that the blow to the division was a staggering one. The loss of Smoky Creek Bridge put almost a thousand miles of the mountain division out of business. Perishable freight and time freight were diverted to other lines. Passengers were transferred; lunches were served to them in the deep valley, and they were supplied by an ingenuous advertising department with pictures of the historic bridge as it had long stood, and their addresses were taken with the promise of a picture of the ruins. Smoky Creek Bridge had long been famous in mountain song and story. For one generation of Western railroad men it had stood as a monument to the earliest effort to conquer the Rockies with a railroad. Built long before the days of steel, this high and slender link in the first transcontinental line had for thirty years served faithfully at its danger-post, only to fall in the end at the hands of a bridge assassin; nor has the mystery of its fate ever completely been solved, though it is believed to lie with Murray Sinclair in the Frenchman hills. The engineering department and the operating department united in a tremendous effort to bring about a resumption of traffic. Glover's men, pulled off construction, were sent forward in trainloads. Dancing's linemen strung arc-lights along the creek until the canyon twinkled at night like a mountain village, and men in three shifts worked elbow to elbow unceasingly to run the switchbacks down to the creek-bed. There, by cribbing across the bottom, they got in a temporary line.

Train movement was thrown into a spectacle of confusion. Upon the incessant and well-ordered activities of the road the burning of the bridge fell like the heel of a heavy boot on an ant-hill; but the railroad men like ants rose to the emergency, and, where the possible failed, achieved the impossible.

McCloud spent his days at the creek and his nights at Medicine Bend with his assistant and his chief despatcher, advising, counselling, studying out trouble reports, and steadying wherever he could the weakened line of his operating forces. He was getting his first taste of the trials of the hardest-worked and poorest-paid man in the operating department of a railroad—the division superintendent.

To these were added personal annoyances. A trainload of Duck Bar steers shipped by Lance Dunning from the Crawling Stone Ranch, had been caught west of the bridge the very night of the fire. They had been loaded at Tipton and shipped to catch a good market, and under extravagant promises from the livestock agent of a quick run to Chicago. When Lance Dunning learned that his cattle had been caught west of the break and would have to be unloaded, he swore up a horse in hot haste and started for Medicine Bend. McCloud, who had not closed his eyes for sixty hours, had just got into Medicine Bend from Smoky Creek and was sitting at his desk buried in a mass of papers, but he ordered the cattleman admitted. He was, in fact, eager to meet the manager of the big ranch and the cousin of Dicksie. Lance Dunning stood above six feet in height, and was a handsome man, in spite of the hard lines around his eyes, as he walked in; but neither his manner nor his expression was amiable.

"Are you Mr. McCloud? I've been here three times this afternoon to see you," said he, ignoring McCloud's answer and a proffered chair. "This is your office, isn't it?"

McCloud, a little surprised, answered again and civilly: "It certainly is; but I have been at Smoky Creek for two or three days."

"What have you done with my cattle?"

"The Duck Bar train was run back to Point of Rocks and the cattle were unloaded at the yard."

Lance Dunning spoke with increasing harshness: "By whose order was that done? Why wasn't I notified? Have they had feed or water?"

"All the stock caught west of the bridge was sent back for feed and water by my orders. It has all been taken care of. You should have been notified, certainly; it is the business of the stock agent to see to that. Let me inquire about it while you are here, Mr. Dunning," suggested McCloud, ringing for his clerk.

Dunning lost no time in expressing himself. "I don't want my cattle held at Point of Rocks!" he said angrily. "Your Point of Rocks yards are infected. My cattle shouldn't have been sent there."

"Oh, no! The old yards where they had a touch of fever were burned off the face of the earth a year ago. The new yards are perfectly sanitary. The loss of the bridge has crippled us, you know. Your cattle are being well cared for, Mr. Dunning and if you doubt it you may go up and give our men any orders you like in the matter at our expense."

"You're taking altogether too much on yourself when you run my stock over the country in this way," exclaimed Dunning, refusing to be placated. "How am I to get to Point of Rocks—walk there?"

"Not at all," returned McCloud, ringing up his clerk and asking for a pass, which was brought back in a moment and handed to Dunning. "The cattle," continued HcCloud, "can be run down, unloaded, and driven around the break tomorrow—with the loss of only two days."

"And in the meantime I lose my market."

"It is too bad, certainly, but I suppose it will be several days before we can get a line across Smoky Creek."

"Why weren't the cattle sent thru that way yesterday? What have they been held at Point of Rocks for? I call the thing badly managed."

"We couldn't get the empty cars up from Piedmont for the transfer until today; empties are very scarce everywhere now."

"There always have been empties here when they were wanted until lately. There's been no head or tail to anything on this division for six months."

"I'm sorry that you have that impression.'"

"That impression is very general," declared the stockman, with an oath, "and if you keep on discharging the only men on this division that are competent to handle a break like this, it is likely to continue!"

"Just a moment!" McCloud's finger rose pointedly. "My failure to please you in caring for your stock in an emergency may be properly a matter for commment; your opinion as to the way I am running this division is, of course, your own; but don't attempt to criticise the retention or discharge of any man on my payroll!"

Dunning stroke toward him. "I'm a shipper on this line; when it suits me to criticise you or your methods, or anybody's else's, I expect to do so," he retorted in high tones.

"But you cannot tell me how to run my business!" thundered McCloud, leaning over the table in front of him.

As the two men glared at each other Rooney Lee opened the door. His surprise at the situation amounted to consternation. He shuffled to the corner of the room, and while McCloud and Dunning engaged hotly again, Rooney, from the corner, threw a shot of his own into the quarrel. "On time!" he roared.

The angry men turned. "What's on time?" asked McCloud curtly.

"Number One; she's in and changing engines. I told them you were going West," declared Rooney in so deep tones that his fiction would never have been suspected. If his one had been, "My lord, the conductor waits," it could not have been rung in more opportunely.

Dunning, to emphasize, without a further word, his disgust for the situation and his contempt for the management, tore into scraps the pass that had been given him, threw the scraps on the floor, took a cigar from his pocket and lighted it; insolence could do no more.

McCloud looked over at the despatcher. "No, I am not going West, Rooney. But if you will be good enough to stay here and find out from this man just how this railroad ought to be run, I will go to bed. He can tell you; the microbe seems to be working in his mind right now," said McCloud, slamming down the roll-top of his desk. And with Lance Dunning glaring at him, somewhat speechless, he put on his hat and walked out of the room.

It was but one of many disagreeable incidents due to the loss of the bridge. Complications arising from the tie-up followed him at every turn. It seemed as if he could not get away from trouble following trouble. After forty hours further of toil, relievd by four hours of sleep, McCloud found himself, rather dead than alive, back at Medicine Bend and in the little dining-room at Marion's. Coming in at the cottage door on Fort Street, he dropped into a chair. The cottage rooms were empty. He heard Marion's voice in the front shop; she was engaged with a customer. Putting his head on the table to wait a moment, nature asserted itself and McCloud fell asleep. He woke hearing a voice that he had heards in dreams. Perhaps no other voice could have wakened him, for he slept for a few minutes a death-like sleep. At all events, Dicksie Dunning was in the front room and McCloud heard her. She was talking with Marion about the burning of Smoky Creek Bridge.

"Every one is talking about it yet," Dicksie was saying. "If I had lost my best friend I couldn't have felt worse; you know, my father built it. I rode over there the day of the fire, and down into the creek, so I could look up where it stood. I never realized before how high and how long it was; and when I remembered how proud father always was of his work there—Cousin Lance has often told me—I sat down right on the ground and cried. Really, the ruins were the most pathetic thing you ever saw, Marion, with great clouds of smoke rolling up from the canyon that day; the place looked so lonely when I rode away that every time I turned to look back my eyes filled with tears. Poor daddy! I am almost glad he didn't live to see it. How times have changed in railroading, haven't they? Mr. Sinclair was over just the other night, and he said if they kept using this new coal in the engines they would burn up everything on the division. Do you know, I have been waiting in town three or four hours now for Cousin Lance. I feel almost like a tramp. He is coming from the West with the stock train. It was due here hours ago, but they never seem to know when anything is to get here the way things are run on the railroad now. I want to give Cousin Lance some mail before he goes thru."

"The passenger trains crossed the creek over the switchbacks hours ago, and they say the emergency grades are first-rate," said Marion Sinclair, on the defensive. "The stock trains must have followed right along. Your cousin is sure to be here pretty soon. Probably Mr. McCloud will know which train he is on, and Mr. Lee telephoned that Mr. McCloud would be over here at three o'clock for his dinner. He ought to be here now."

"Oh, dear, then I must go!"

"But he can probably tell you just when your cousin will be in."

"I wouldn't meet him for worlds!"

"You wouldn't? Why, Mr. McCloud is delightful."

"Oh, not for worlds, Marion! You know he is discharging all the best of the older men, the men that have made the road everything it is, and of course we can't help sympathizing with them over our way. For my part, I think it is terrible, after a man has given all of his life to building up a railroad, that he should be thrown out to starve in that way by new managers, Marion."

McCloud felt himself shrinking within his weary clothes. Resentment seemed to have died. He felt too exhausted to undertake controversy, even if it were to be thought of, and it was not.

Nothing further was needed to complete his humiliation. He picked up his hat and with the thought of getting out as quietly as he had come in. In rising he swept a tumbler at his elbow from the table. The glass broke on the floor, and Marion exclaimed, "What is that?" and started for the dining-room.

It was too late to get away. McCloud stepped to the portieres of the trimming-room door and pushed them aside. Marion stood with a hat in her hand, and Dicksie, sitting at the table, was looking directly at the intruder at he appeared in the doorway. She saw in him her pleasant acquaintance of the wreck at Smoky Creek, whose name she had not learned. In her surprise she rose to her feet, and Marion spoke quickly: "Oh, Mr. McCloud, is it you? I did not hear you come in."

Dicksie's face, which had lighted, became a spectacle of confusion after she heard the name. McCloud, conscious of the awkwardness of his position and the disorder of his garb, said the worst thing at once: "I fear I am inadvertently overhearing your conversation."

He looked at Dicksie as he spoke, chiefly because he could not help it, and this made matters hopeless.

She flushed more deeply. "I cannot concive why our conversation should invite a listener."

Her words did not, of course, help to steady him. "I tried to get away," he stammered, "when I realized I was a part of it."

"In any event," she exclaimed hastily, "if you are Mr. McCloud I think it unpardonable to do anything like that!"

"I am Mr. McCloud, tho I should rather be anybody else; and I am sorry that I was unable to help hearing what was said; I———"

"Marion, will you be kind enough to give me my gloves?" said Dicksie, holding out her hand.

Marion, having tried once or twice to intervene, stood between the firing-lines in helpless amazement. Her exclamations were lost; the two before her gave no heed to ordinary intervention.

McCloud flushed at being cut off, but he bowed. "Of course," he said, "if you will listen to no explanation I can only withdraw."

He went back, dinnerless, to work all night; but the switchbacks were doing capitally, and all night long, trains were rolling thru Medicine Bend from the West in an endless string. In the morning the yard was nearly cleared of westbound tonnage. Moreover, the mail in the morning brought compensation. A letter came from Glover telling him not to worry himself to death over the tie-up, and one came from Bucks telling him to make ready for the building of the Crawling Stone Line.

McCloud told Rooney Lee that if anybody asked for him to report him dead, and going to bed slept twenty-four hours.

CHAPTER X

Sweeping Orders

The burning of Smoky Creek Bridge was hardly off the minds of the mountain men when a disaster of a different sort befell the division. In the Rat Valley east of Sleepy Cat the main line springs between two ranges of hills with a dip and a long supported grade in each direction. At the point of the dip there is a switch from which a spur runs to a granite quarry. The track for two miles is straight and the switch-target and lights are seen easily from either direction save at one particular moment of the day—a moment which is in the valley neither quite day nor quite night. Even this disadvantage occurs to trains east-bound only, because due to unusual circumstances. When the sun in a burst of dawning glory shows itself above the crest of the eastern range an engineman, east-bound, may be so blinded by the rays streaming from the rising sun that he cannot see the switch at the foot of the grade. For these few moments he is helpless should anything be wrong with the quarry switch. Down this grade, a few weeks after the Smoky Creek fire, came a double-headed stock train from the Short Line with forty cars of steers. The switch stood open; this much was afterward abundantly proved. The train came down the grade very fast to gain speed for the hill ahead of it. The head engineman, too late, saw the open target. He applied the emergency air, threw his engine over, and whistled the alarm. The mightiest efforts of a dozen engines would have been powerless to check the heavy train. On the quarry track stood three flat cars loaded with granite blocks for the abutment of the new Smoky Creek Bridge. On a sanded track, rolling at thirty miles an hour and screaming in the clutches of the burning brakes, the heavy engines struck the switch like an avalanche, reared upon the granite-laden flats, and with forty loads of cattle plunged into the canyon below; not a car remained on the rails. The head brakeman, riding in the second cab, was instantly killed, and the engine crews, who jumped, were badly hurt.

The whole operating department of the road was stirred. What made the affair more dreadful was that it had occurred on the time of Number Six, the east-bound passenger train, held that morning at Sleepy Cat by an engine failure. Glover came to look into the matter. The testimony of all tended to one conclusion—that the quarry switch had been throw at some time between four-thirty and five o'clock that morning. Inferences were many; tramps during the early summer had been unusually troublesome and many of them had been rigorously handled by trainmen; robbery might have been a motive, as the express cars on train Number Six carried heavy specie shipments from the coast.

Yet a means so horrible as well as so awkward and ineffective seemed unlike mountain outlaws. Strange men from headquarters were on the ground as soon as they could reach the wreck, men from the special-service department, and a stock inspector who greatly resembled Whispering Smith was on the ground looking into the brands of the wrecked cattle. Glover was much in consultation with him, and there were two or three of the division men, such as Anderson, Young, McCloud, and Lee, who knew him but could answer no inquiries concerning his long stay at the wreck.

A third and more exciting event soon put the quarry wreck into the background. Ten days afterward an east-bround passenger train was flagged in the night at Sugar Buttes, twelve miles west of Sleepy Cat.

(Continued Next Week.)

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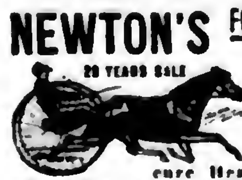

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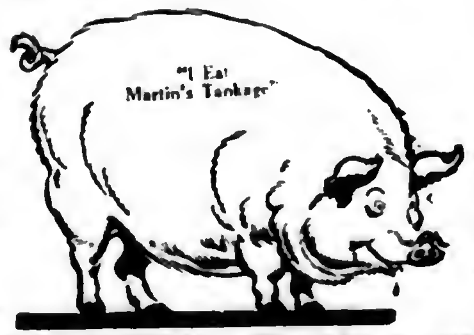

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CLEANLINESS AIDS HOG CHOLERA FIGHT

Since the season of the year when hog cholera causes heavy losses is approaching, farmers should make every effort to keep the hogs in good health, free from conditions that lower their resistance and make them more susceptible to disease, say animal husbandry specialists.

Hogs kept in clean well ventilated quarters with good feed, fresh water, sufficient amount of mineral matter, free from lice, mange, worms and other conditions caused by unsanitary pens and yards, it is pointed out are better able to resist hog cholera and losses are not as heavy when an outbreak does occur.

Special attention should be given sows at farrowing time. Good, warm, well cleaned and frequently disinfected pens help materially in producing good litters of strong, healthy pigs.

Belgians Raised by J. H. Hoffman, Franklin Co. Pa. Weight 1750 lbs.

Hog cholera spreads easily and travels in different ways from farm to farm. At first signs of sickness in swine, a competent veterinarian should be called. The county agent, further, will be of help in giving advice concerning the latest methods in preventing this disease.

In preventing losses and controlling cholera it is of importance that its presence be determined promptly.

Anti-hog-cholera serum is the only preventive treatment known at the present time. This must be used early to save the hogs and control the outbreak.

GIVE THE HOGS A FISH COURSE

The common domestic pig will never be able to write a book on table manners, but he knows how to order a meal as well as anyone. He is in a fair way to demand a fish course to supplement his salad and vegetable diet. He will take his fish in the form of fish meal, the refined by-product made from sound, wholesome raw material as the sardine, tuna, and salmon canneries, or from the menhaden.

The fish meal is not to be confused with "fish scrap," a coarser by-product much used for fertilizer; the meal is made from clean, sound material and is intended to be used as food for cattle and hogs.

The cleaned, selected portion is ground to a fine, palatable meal which may be used to replace tankage in hog, poultry, or dairy rations.

Fish meal has been recommended as a supplementary ration before now, but popular prejudice against a badly prepared product has discouraged its use. The Department of Agriculture has proved by feeding experiments that fish meal equals the high-priced tankage as a ration ingredient, and better methods of selecting and milling have removed the causes of prejudice.

The oil content of the meal adds materially to its feeding value. So far the experiments have shown that the meal does not taint the animal product, whether it be pork, butter, eggs, or milk. Moreover, by diverting the fish meals to his animals instead of supplying it directly to his land as fertilizer, the farmer loses but a trifle of its fertilizing value and gains its entire feeding value—thus making the material yield two profits in the place of one.

GOOD WOOL PRICES DEPEND ON FARMERS

Wool prices in New York bear such a close relation to the methods of handling the farm flock that the College of Agriculture at Ithaca suggests to wool producers the need for care of the flock at all seasons.

Some farmers have profited by standard grades, while others are said to have felt that these grades worked an injustice. The college points out that carelessness in flock management will result in a large proportion of defective wool such as seedy, burry, and cotted or matted wool; or weak-fibred wool, dead and lusterless, from sheep in a run-down condition. It is pointed out that there is considerable expense attached to freeing wool from burrs, seeds, and vegetable fibers, and that fleeces containing these substances obviously cannot grade with clean, bright wools from healthy, well-cared for sheep.

The best of breeding and care will pay in greater returns. Many instances have been known where wool from a certain sheep has graded for several years in the combing class; but due to old age, or to poor care, or lack of feed the fiber may become weak and short, and be graded down to the carding wools, instead of in the staple grade. A neglected flock of sheep, or an extremely old flock will ordinarily shear too large a proportion of the carding or so called clothing wools.

Markets

PHILADELPHIA PRODUCE

—June 7, 1920.

New potatoes have been increasing, but prices hold up well. About 85 to 90 cars were offered for sale, and about 85 cars still on track. The old potato season is practically over, with the few remaining stocks at $6.50@6.75 per cwt. New potatoes are gradually seeking lower levels. They are coming from Florida, S. C., N. C., the Norfolk section and a few from the Eastern Shore of Va. In a few days, Norfolk and Eastern Shore stock will be arriving freely. Sales from the various sections are being made as follows: Florida, No. 1s $8@13.50 per barrel; No. 2s, $5@8.50; No. 3s, $3.50@4.50; S. C. No. 1s, $11.50@12.50; No. 2s, $6.50@8; No. 3s, $3.50@4.50; N. C., No. 1s, $11@12.50; No. $4@7; Norfolk, No. 1s, $11.50@12.50; No. 2s, $6@7. The sweet potatoes season is practically over, and remaining stocks are poor, the fancy stock ranging from $2@4.50 per hamper.

Vegetables.—Nearby Penn. and N. J. asparagus is in lighter supply and firm, with fair to good at 10@35c per bunch, and extra fancy green asparagus at 40@50c per bunch. Beans are very scarce and have taken a very sharp advance, good green and wax beans selling from $3.50@4.50 per bushel hamper. Beets are in fairly liberal supply but meeting a very active demand at 7@8c per bunch for the Norfolk stock and from 8@10c per bunch for the nearby grown stock.

Cabbage has advanced with good Norfolk and Eastern Shore at $3.50@4 per crate, and poor quality stock at $1.75@2.75 per crate. Norfolk, N. J. and Penn. carrots in small quantities are selling promptly at 6@9c per bunch as to size. A fair supply of kale from N. J. sold from 75c@$1.50 per barrel as to quality.

New Jersey and Penn. lettuce shows a wide range in quality. N. J. lettuce sold here this morning all the way from $1@2.50 per box, with Penn. stock at $1.25 up to $3.25 per barrel. Onions are plentiful and dull, with prices ranging from 50c@$1.50 per crate as to quality. Mushrooms show a wide range in condition from 75c up to $1.75 per 3 lbs. basket. N. J. grown parsley has made its appearance and is meeting a good demand at $3@4 per hamper. N. J. peas have made their appearance also, and were fairly plentiful but sold quickly at $2.50@3 per ⅝-basket, mostly at $2.75. Norfolk peas sold at $2@3 per hamper and Eastern Shores at $2.75@4.25 per hamper. Peppers are in light supply and meeting an active demand at $3@3.50 per crate.

Nearby rhubarb appears to be winding up for this season at 3@6c per bunch. N. J. and Penn. radishes are selling at 1@2½c per bunch mostly with some fancy large bunches up to 3c. N. J. romaine is showing a range of 50c@$1.25 per box. Scallions are more scarce, sales being made at 2@2½c per bunch. Penn and N. J. spinach has been very plentiful and selling at low prices, but at the present writing supplies are rather scarce, the market firm and higher at $1.50@3 per present writing supplies are rather scarce, the market firm and higher at $1.50@3 per barrel and 75c@$1.25 per box. Watercress is in light supply and firm at 3@3½c per bunch.

Fruits.—The market is now being supplied with a greater variety of fresh fruits, and for this reason there is a less demand for apples and the market is lower with sales ranging generally from $8@9 per barrel and $2.50@4.50 per box. N. J. strawberries are very much in evidence at 25@30c per quart with extra fancy large berries at 32@[illegible]. Some Delaware berries here today sold at 23@30c per quart, and three cars from Kentucky brought 20@25c. A few huckleberries and gooseberries are appearing but not in sufficient quantity to establish a quotation.

Poultry.—The market has taken a slump on live fowls, but spring chickens have ruled firm under the light supplies. At this writing fancy fowls are selling at 37@39c per pound, with fair to good at 35@36c per pound. Old roosters remain practically unchanged at 22@25c per pound. While the supplies of broilers are showing a little increase, it has not been sufficient to reduce quotations, altho it is now the period of the year when lower prices are in order. At this writing fancy broilers not leghorns are selling at 60@75c per pound and the leghorn broilers at 45@55c per pound. Ducks remain firm at the unchanged price of 30@32c per pound.

Eggs.—There has been an advance in the market on eggs during the past week, especially on strictly fine eggs, which are hardly in sufficient supply to fill the demand even at the advance in price. At this writing Penn. and other nearby firsts are selling at 43c per dozen and firsts at 45c per dozen. Western firsts are quotable at 41@43c per dozen, with the extra firsts at 45c. Seconds are meeting a rather slow market at 35@40c per dozen.

LANCASTER PRODUCE

—June 7, 1920.

County grown strawberries made their first appearance today and sold rapidly at 25 and 30c per box. Virtually the entire supply was moved in the first two hours of trading. A marked decrease was noticed in the quotations for new potatoes.

Butter and Eggs.—Creamery butter, 70c per pound; country butter, 65@70c per pound; fresh eggs, 45@46c per dozen; duck eggs, 55c per dozen; goose eggs, 6@7c each.

Poultry.—Dressed old chickens, $2.25@2.50 each; dressed young chickens, $1.90@2.[illegible] each.

Vegetables.—Spinach, 15@20c per half peck; [illegible] 30c per half peck; new potatoes, [illegible] 70c per half peck; old potatoes, 70c per half peck; do. $1.50 per [illegible]; sweet potatoes, 50c per half peck; cabbage, 10@25c per head; cauliflower, 20@30c per head; dried lima beans, 20c per pint; asparagus, 10@12c per bunch; new peas, 50@60c per half peck; new beans, 60c per half peck; rhubarb, 5c per bunch; lettuce, 20@30c per head; oyster plant, 15c per bunch.

Fruits.—Apples, 40@60c per half peck; strawberries, 25@30c per box.

NEW YORK PRODUCE

—June 7, 1920.

Butter.—Firm; receipts, 7,016 tubs; creamery, higher than extras, 55½@56c; extra, (92 score,) 55c; first, 88 to 91 score, 51@54½c; packing stock, current make, No. 2, 40½@41c.

Eggs.—Steady; receipts, 29,029 cases; storage-packed extra firsts, 47@48c; do., firsts, 45@46½c; fresh-gathered extra firsts, 45@47½c; do., firsts, 42@44c; state, Pennsylvania and nearby western hennery white, first to extra, 47@55c; state, Pennsylvania and nearby hennery brown, extra, 50@51c; do., gathered brown and mixed colors, first to extra, 42@49c.

Cheese.—Steady; receipts, 1,154 boxes; state, specials, 30@31c; do., average run, 29c; state, whole-milk flats, current make, white and colored, specials, 26½@27c; do., average run, 25½@26c.

Live Poultry.—Steady; roosters, 17c; others unchanged.

Dressed Poultry.—Dull and unchanged.

Vegetables.—Asparagus, dozen bunches, green, colossal, $5.50; fancy, $4@5; extra, $3@3.75; prime, $2@2.75; culls, $1.50@2. Potatoes old, $11@12 per 165-pound sack. Carrots, old, $15@18 barrel. Kale, nearby, $1@2 barrel. Lettuce, L. I. $2@4; Jersey crate, $1@2.50; Jersey basket, $1@2. Radishes, nearby, 100 bunches, 50c@$1.50. Rhubarb, 50c@$1.50 per 100 bunches. Scallions, nearby, 100 bunches, $1@2. Spinach, nearby, barrel, 50@75c. Turnips, white, new, $1@2.

YORK PRODUCE MARKETS

—June 7, 1920.

This week was probably the largest so far this spring. The weather was ideal and the first home-raised produce amounting to anything was on display. A large offering of strawberries was the principal attraction. Present indications are that there will be few berries of quality sold for less than 25c per box this season.

Head lettuce is in great demand and small supply.

Growers of early cabbage have had much of the crop destroyed by some insect at the root, which no one seems able to combat. A few cherries were on the market. Butter is off quite a little, eggs are slower.

Eggs.—44@45c per dozen.

Butter.—Country, 65@70c lb.; separator, 70@80c lb.; milk, 12c quart.

Poultry.—Hens, 30@35c pound; dressed, $1@2.50 each; not plenty.

Vegetables.—Potatoes, 30@70c ½ peck; up to $4.50 per bushel; lettuce, 5@10c hd.; cabbage, 5@6c head; radishes, 5@7c bch.; beets, 4@7c bunch; onions, 4@6c bunch; lima beans, 40c quart; soup beans, 30c qt.; celery, 5@15c stalk; rhubarb, 3@5c bch.; asparagus, 8@12c bunch; spinach 20@30c ½ peck; ham, 45@50c; whole, 40@55c.

Fruits.—Apples, 60@80c ½ peck; strawberries, 30@45c box, cherries 15@40c box.

Retail Grain Market.—Wheat, $3.25; corn, $2.25; oats, $1.50; rye, $2.25; bran, $3.50 cwt. Middlings, $3.75 cwt.

Wholesale Grain Market.—Wheat, $2.90; corn, $1.80; rye, $1.85; oats, $1.20; bran, $60 per ton; middlings, $70 per ton.

BALTIMORE PRODUCE

—June 7, 1920.

Butter.—Creamery, Western, separator extras, 57@58c; do. firsts, 55@56c; do. Western prints, ½-pound, extras, 59@60c; do., firsts, 57@58c; do., 1-pound extras, 59@60c; do., firsts, 57@58c; nearby creamery, extras, 50c; do. firsts, 48@49c; dairy prints, Maryland, Pennsylvania and Virginia extras, 41@42c; do., firsts, 40@41c; store-packed, firsts, 42c.

Eggs.—Western Maryland and Pennsylvania nearby firsts, 40c; Eastern Shore, Maryland and Virginia firsts, 40c; Western (Ohio), firsts, 40c; West Virginia, firsts, 40c; Southern (North Carolina), firsts, 39c.

Live Poultry.—Chickens, winter, under 2 pounds, pound, 60c; do., spring, 1¼ to 1½ pounds, pound, 70c; do., old roosters, pound, 20c; do., old hens, over 4 pounds, pound, 36@37c; do., small, pound, 35@36c; do., white Leghorn hens, pound, 35@36c; do., young white Leghorns, pound, 55@60c. Ducks, Muscovy and mongrel, pound 28@30c; do., white Pekins, pound, 30@32c; do., puddle, 4 pounds and over, pound, 30c; do., small, poor, pound, 27@28c. Pigeons, old, pair, 45@50c; do., young, pair, 45@50c.

PITTSBURGH PRODUCE

—June 7, 1920.

Butter.— Prints, 59½@60c; Tubs, 59@59½c; Cooking, 48@50c; Ohio, 54½@55½c.

Cheese.—New York full cream, 33@35c.

Cheese.—Wis. Swiss, 58@60c; Philadelphia cream, dozen, $1.

Eggs.—Fresh, select, 48@49c; Specials, at mark, 44@45c; Current receipts, 40@41c; do., candled, 44@[illegible].

Potatoes.—Round $10.50@12.00 per 150-pound sacks. Carrots, new, doz. 50@65c; Beets, new, dozen, 75@90c. Lettuce, Ashtabula, basket 50@60c; parsley, dozen 50@$1. Onions, Texas, yellow, $1.25@1.75 cwt.; white, $1.75@2.50 crate; cabbage, Texas, 2½@3½c pound. Sweet potatoes, $2.75@3.25 hamper. Turnips, $2.25@2.50 bushel. Radishes, 25@35c dozen. Rhubarb, 20@30c bunch. Spinach, home-grown, 50@75c bushel. Asparagus, Del., bunch, 10@25c.

Fruit.—Apples, $3@5 box. Strawberries, 24 quart crate, $5@6.50.

NEW YORK HAY AND GRAIN

—June 7, 1920.

Feed.—Increased offers of mill feed from the West with some improvement in the car situation give the feed market an easier tone, as many believe that the recent high prices have been due largely to the slow distribution resulting from transportation difficulties.

Quotations: City feed, bran, $64; middlings, $66, in 100-pound sacks; red dog, $76, nominal, in 100-pound sacks; Western spring bran, $61; standard middlings, $64; flour middlings, $68; red dog, $74, all in 100-pound sacks, 30-day shipment. Oat feed, $42; rye middlings, $60; white hominy feed, $71, all in 100-pound sacks. Cottonseed oil meal, $73; linseed oil meal, $67, in 100-pound sacks.

Hay and Straw.—There is a better feeling in the market. Offerings are still ample at all harbor points but buyers are taking hold, and while prices are no higher there is very little stock now obtainable under the outside quotations. Straw steady and unchanged.

Hay—Large bales. Timothy—No. 1, $40@42; No. 2, $37@40; No. 3, $32@35. Shipping, $28@30; No grade, $20@26; Clover. Mixed—Fancy, $36@39; No. 1, $33@35; No. 2, $28@30; Shipping, $27@29. Straw Large Bales—No. 1 rye, $18@19; No. 1 oats, $20@25; No. 1 wheat, $18.

Wheat.—No. 2, red, $3.08.

Corn.—No. 2 Yellow, $2.19¾; No. 3, Yellow, $2.18¾.

Oats.—All grades, $1.33@1.35.

Rye.—F. O. B., $2.48½; Barley, feeding $1.75.

PHILADELPHIA HAY AND GRAIN

—June 7, 1920.

Baled Hay and Straw.—Receipts, 96 tons of hay and 1 car of straw; quiet and unchanged. We quote: Timothy hay, No. 1, none here; No. 2, $44@45; No. 3, $41@42; sample, $35@37; no grade, $30@32; clover-mixed hay, light mixed, $43@44; No. 1, mixed, $41@42; straw, No. 1 straight rye, $17.50@18; No. 2 do., $16.50@17; No. 1, wheat straw, $16@16.50; No. 2 do., $15@15.50.

Bran.—Weak at late decline. We quote: Car lots, including sacks: Soft winter bran, Western in 100-lb. sacks, per ton, $62.50@63; spring bran, in 100-lb. sacks, per ton, $62@62.50.

Corn.—No. 2 yellow, $2.05@2.08.

Wheat.—No. 1 red winter, $3.23; No. 2, ditto, $3.20; No. 3, do., $3.17; No. 4, do., $3.13; No. 5, do., $3.09.

Oats.—No. 1 White $1.27@1.28; No. 2, do., $1.25@1.26; No. 3, do., $1.23@1.24; No. 4, do., $1.21@1.22.

PITTSBURGH HAY AND GRAIN

—June 7, 1920.

Conditions have about returned to normal as far as delivery is concerned but shippers have some difficulty in securing cars for loading. The consequence is that the demand is stringent, arrivals very meager, and no indications whatever of any surplus arriving. Market strong and looking higher.

Oats and other grain coming in more freely. Market on these commodities dull and slow sale. We quote:

No. 1 Timothy, $45@46; Standard Timothy, $44@45; No. 2 Timothy, $43@44; No. 3 Timothy, $40@42; No. 1 Oat Straw, $18.50@19; No. 2 Oat Straw, $18@18.50; No. 1 Wheat Straw, $18@18.50; No. 2 Wheat Straw, $17.50@18; No. 1 Rye Straw, $18.50@19; No. 2 Rye Straw, $18@18.50.

PHILADELPHIA LIVESTOCK

—June 7, 1920.

Receipts for the week ending June 5th, were as follows:

	Beef Cattle	Sheep and Lambs	Hogs
Totals for week	1,878	5,582	8,926
Previous Week	1,750	4,541	10,552

Calves.—Receipts of calves were 2,597 head against 2,574 head previous week.

Beef Cattle.—The market for steers ruled firm and higher, with demand fairly active. Other kinds were in moderate supply and steady with demand fair. We quote as follows: Steers, fair to good $12.50@13.75; common to fair, $11.25@12.50; cows, western, per lb., good to choice, corn fed, 9@10½c; do. dairy, 8@9½c; do., fair to good, 7@9c; common to fair, 5@7c; calves, extra to choice, $17@18; do., fair to good, $14@16; do., common, $10@12; do. heavy and rough, $7@10. Tennessee, $14@15; other southern, $8.50@12.

Sheep and Lambs.—Sheep were in moderate supply and demand at steady prices. Lambs was more freely offered and easier. We quote: Sheared sheep, wethers extra $10@10.50; do. good to choice, $8.50@9.50; do., medium, $7@8; do., common, $3.50@5; ewes heavy, fat, $8.50@9.50. Lambs, spring choice, $16@20; sheared choice, $17@17.50; do., medium grades, $14@16; do. culls and common, $10@13.

Hogs.—The market for western stock was dull and prices were easier in sympathy with weaker outside advices. We quote: Best western, $16.50@17; hogs, good $15@15.50.

City Dressed Stock.—There was a fairly active demand for steers, heifers and cows, and prices were slightly higher. Other kinds were generally steady. We quote: Steers, 19@23c; heifers, 18@21c; cows, 12@16c; calves, city dressed, choice, 26@28c; calves, country dressed, 23@25c; lambs, spring, choice, 36@40c; lambs, winter, [illegible]; [illegible] 36c; sheep, 15@22c; hogs, 22[illegible]

LIVESTOCK MARKETS

—June 7, 1920.

New York.—Cattle.—No trading.

Calves.—Receipts, 425; steady; veals, $15@18; culls, $12@14; skim-milk calves, $11@12; little calves, $10@12.

Sheep and Lambs.—Receipts, 3,375; irregular; Virginia lambs, $18.75@19.50; sheep unchanged.

Hogs.—Receipts, 2,490; steady at $15.25@15.75; pigs, $14@14.50; roughs, $12.50@12.75.

Lancaster, Pa.—Cattle.—Receipts, 1,835; trading active; prices steady; good to choice steers, $12.75@14.75; common to medium steers, $10.25@11; smooth and fat bulls, $10.25@10.60; medium to good bulls, $9.75@10.25; common to medium bulls, $8.75@9.75; smooth and prime heifers, $10.25@11.25; common to medium heifers $9.25@10.25; good to choice cows, $9.10@9.75; fair to good cows, $7.60@9.25; common to medium cows, $4.60@5.25; stock bulls, $8.60@9.75; good to prime calves, $16.75@17.25; medium to good calves, $15.25@16.25; common to medium calves, $14.25@15.25.

Hogs.—Receipts, 166; market slow; prices lower; good to prime, $15.50@16; lights, $15@15.50; roughs, $11@12.50; stags to sows, $8@10.

Pittsburgh. — Cattle. — Steady; supply light; prime, $13@13.50.

Sheep.—Steady; supply light; prime wethers, $9.50@9.75; culls and common, $3.50@5.50; lambs, $8@16; veal calves, $16@16.50.

Hogs.—Lower; supply, 40 double decks; prime heavies, $14.25@14.50, medium and heavy yorkers, $14.75@14.85; light yorkers, $13@13.50; pigs $11.50@12; roughs, $10@10.75.

PHILADELPHIA DAIRY MARKET

—June 7, 1920.

Butter.—Receipts, 2,331 tubs. The market showed no important change, but as usual on Saturday there was little disposition to trade in a wholesale way. We quote: Fresh, solid-packed creamery, fancy, high-scoring goods, 58@60c the latter for jobbing sales; extra, 57c; do., extra firsts, 54@56c; firsts, 49@52c; seconds, 44@46c; garlicky, 40@43c; sweet creamery, choice to fancy, 59@61c; fair to good, 50@58c; ladle packed as to quality, 41@45c; packing stock, 38@41c; fancy brands of nearby prints were jobbing at 66@68c; good to choice, 58@65c; fair, 55@57c.

Cheese.—Quiet and unchanged. We quote: New York whole-milk flats, held, fancy, 32c; specials higher; ordinary to good, 25@31c; current make, best, 29c; common to fair, 24@28c; jobbing sales of fancy held goods, 33@34c.

INTERSTATE MILK PRICES

—June 7, 1920.

The basic price for 3 percent milk within 10 miles of Philadelphia is $3.28 per 100 pounds, and one cent per hundred less for each 10 miles distant. Four cents per 100 pounds is paid for each one-tenth of one percent fat above 3 percent. These are prices for the basic quantity or less. The price for amount exceeding the basic quantity is on the basis of 66c for 3 percent milk.

TOLEDO CLOVERSEED

—June 7, 1920

Cloverseed.—Prime, cash, $25; October, $23.85; December, $22.85.

Alsike.—Prime, cash, $25; October, $26.10; December, $25.10.

Timothy.—Prime, cash, 1917, $5.40; 1918, $5.40; 1919, $5.50; September, $5.82½; October, $5.70; December, $5.70; March, $5.85.

NEW YORK MILK MARKET

—June 7, 1920.

The local demand is much improved owing mainly to better weather conditions. Surplus is no more than normal for first week in June. The rate for June in 200 mile zone for 3 percent milk is $2.81 per 100 lbs.; add 4c per 100 lbs. for each additional one-tenth of one percent butterfat.

Receipts of milk and cream in 40-quart cans for the week ending June 5th, 1920, were as follows:

Railroad	Milk	Cream
Erie	41,961	4,487
Susquehanna	9,941	196
West Shore	17,870	1,344
Lackawanna	60,247	1,560
N. Y. Central (long haul)	183,530	4,924
Ontario	48,122	1,475
Lehigh Valley	61,279	2,530
New Haven	6,820	50
Pennsylvania	12,016	482
Other Sources	6,000	250
Totals	449,806	17,798
Same week last year	188,201	18,466

TOBACCO MARKET

—June 7, 1920

With an abundance of tobacco plants and favorable transplanting seasons it is not surprising that tobacco markets suffered slight declines. But many things can happen within the four months growing season and it is well noted that often the most favorable start ends in opposite results. It must be conceded however, that practically the full intended acreage will be planted and [illegible] that the acreage will be increased in some sections.

On the other hand there will be [illegible]

Facts in BLACK & WHITE

Value of a Purebred Holstein Bull

Do you realize in what a short time you can transform the character of your herd by the use of a purebred Holstein bull?

Each well chosen sire should give at least 50 percent of his character to the next generation so that the direct descendants of the fourth generation retain only a little over six percent of the original blood and nearly 94 percent is of your own choosing. No man has any excuse for milking unprofitable cows when he can easily get into the all-year milking class of Holsteins.

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KEYSTONE BEAUTY PLUM JOHANNA No. 191646

At 4-10-20, 365 days—25787.5 milk; (4.02%) 1294.7 butter

At 3-3-23, 365 days—22496.8 milk; (3.94%) 1100.9 butter

2 years under full age—48284.1 milk; 2403.6 butter. The youngest cow in the world to have two consecutive records averaging over 24,000 lbs. of 4% milk in a year.

Bull calves $100.00 and up. GEORGE E. STEVENSON & SONS, Clarks Summit, Pa.

Holstein Cows and Calves

No hired help, must reduce my milking herd of 70 reg. Holsteins. 20 grades. Come at once and get first choice and a bargain. 40 reg. heifer calves, all ages. 18 reg. bulls, grade heifers. ¾ Holstein heifer calves $20 each, express paid in lots of 5. Farm 19 miles south of Syracuse. John C. Reagan, Tully, N. Y.

MAPLE LAWN HOLSTEINS

High grade heifer calves, $25 ea. safe arrival guaranteed shipped C. O. D. I have the finest line of reg. and grade cows in central New York. Wire me when you will be in Cortland; my farms and offices will give you quick, efficient service. For immediate sale 100 heavy producing cows, all young, will freshen in next 60 days. Everything in Holsteins.
C. W. Ellis, Jr., Maple Lawn Farms, Cortland, N. Y.

Registered Berkshires Big type service boars from litters farrowed in Sept. and Oct. 1919. Four grandsons of Epochal's Progress, sired by a son of Matchless Lee 8th. One grandson of Old Forge Successor sired by Maybelle's Baron Duke. Three grandsons of Superior Emblem, sired by Winona Lee Champion 6th. Here are eight extra good young boars. Good enough to head any herd.
EZRA J. NOLT, R. 2, MT. JOY, PA.

STEVENS' HOLSTEIN FARM OF CORTLAND, N. Y.

King Korndyke Sadie Vale Jr., No. 20301, two nearest dams averaging 36 pounds of butter in 7 days, heads my herd. Butter records from 17 pounds two-year olds to 34 pounds at full age. Also high grade Holstein calves, either sex, $20.00 each. Write your wants. PAUL H. STEVENS, Prop.

We will give the Use of a Finely Bred
Registered Holstein Bull Calf
for 3 years to any responsible farmer. Write for our plan. Mugget Hill Farm, Charlton, Mass.

Reg. Jerseys Bull and heifer calves sired by Interested Sayda's King, whose dam, F. taine Sayda's Queen produced 15,200 lbs. of milk 638 lbs. of butter in one year. Priced from $50 up. CHAS. A. LEONARD, TROY, PA.

HOLSTEIN FRIESIAN HEIFER AND BULL CALVES Purebred registered and high-grade. Price $20 up. Splendid individuals and breeding. Write us your requirements. BROWNCROFT FARMS, McGraw, N. Y.

Ayrshires Three young Registered Ayrshire Cows to be sold. Two bred to son of Finlayston, one granddaughter of Finlayston. CHARMARIE FARMS. Buck Hill Falls, Pa.

SUNNYBROOK GUERNSEYS
40 head, free of tuberculosis, bull calves for sale. EDWIN B. MAULE, COATESVILLE, PA.

Brown Swiss Pure Bred Bulls for sale. Fine as silk. Come and see them. G. EUGENE BOWN, FORKSVILLE, PA.

GUERNSEYS Heifers and [illegible] by a son of Imp. King of The May. Locust Lawn Farm, Bird-in-Hand, Lanc. Co., Pa.

Ayrshire Bull Calves From high record A. R. Dams. ROBERT TEMPLETON & SON, ULSTER, PA.

MILKING SHORTHORN BULL CALVES of the best breeding. Also a few females for sale. C. M. KENNEDY & SONS, ULSTER, PA.

Registered Holstein and Guernsey bulls from calves to serviceable age. 250 animals in the herd. BONNYMEADS FARMS, R. D. I, Harrisburg, Pa.

Ayrshire Bull and heifer calves for sale; or will exchange for good tdgs. WM. J. W. BECHTEL, Bechtelsville, Pa.

Registered Holstein Friesian Cattle Sons of the great Finderne Sir Valdessa a 37 lb. bull for sale. MILLARD E. BASEHOAR, Littlestown, Pa.

Reg. Holstein Bull Calves, from officially tested dams and a 38 lb. sire. Write for prices [illegible] Walter M. CRUTTENDEN, Forty Fort, Pa.

HEAVY TRACTOR DOES GOOD WORK

It has been three years since we purchased our tractor for the purpose of threshing and general contract work. We did not intend using it on the farm at all, it being a three and one-half ton tractor when not loaded with water and fuel, and our farm being small and mostly hilly we considered it not worth while.

After we got used to it we found it could be used to a very good advantage in some of our small fields. It enabled one to plow altogether different than can be plowed by teams and could keep it up until the job is finished.

In the spring of the year one must take great caution with a team to break them in to the work without getting sore necks or shoulders at a time when they are very tender and such a thing can be easily done especially when the work is pressing. But not so with the tractor. Groom it every morning the same as you would a horse, fill it with good oil, clean fuel and water, and see that everything is in first class shape, with a good man to run it that cares as much for it as a team, and then watch the results.

The tractor will go humming around the field all day long without any rest except an occasional stop to turn down hard oilers and if the day is hot and sultry, that is when it will do its best, and it doesn't care how long it is until noon or night.

A three plow tractor plows on an average of ten acres a day and the fuel cost will hardly exceed the cost of extra feed for the teams.. Count the time saved by the tractor and you will come out in advance.

Again, the engine comes in fine play during harvest when the weather is the hottest—and the binder seems like a horse killer, but with the tractor the field need not be very level but what it will pull two as easy as one and not stop until it is finished.

Since purchasing our tractor we have used it to an advantage in ways that we never thought of using it before. Last summer we built a new barn and the tractor was called on to skid heavy timbers from the woods that would have been too hard a task for our small and only team, but the tractor performed the stunt easily on high gear.

In the future we expect to move some of our out buildings, hog pen and corn cribs included and with the aid of a few timbers, and hard wood rollers, cable chains, and the tractor, we know no reason why we cannot do the job, either on a straight pull or with block and tackle, and save the time and trouble of dismantling them.

However, the tractor can be overlooked and abused as easy as a team. Many men are no judges of the amount a horse should do and the same can be said of men with tractors. I have known some to start a tractor to work and run it without care until it stopped and hence a big repair bill.

In buying a tractor the best and most serviceable machine is the one that stands squarely on four wheels and with a low center of gravity so it will not tople or upset. Another feature to look into is a slow speed engine to insure long life and smooth power on the belt.

The tractor is the farmer's best horse when it comes to grinding feed, sawing wood, filling silos, and doing many other useful jobs around the farm and it is deserving of a good warm, dry, stall in winter as well as the horse, for the duties it performs.—M. E. M., Northumberland County, Pa.

FARMERS IN NATIONAL CHAMBER OF COMMERCE

Suitable agricultural organizations will be invited to join the Chamber of Commerce of the United States on the same basis as the commercial and trade organizations now holding membership in the National Chamber under the recommendation of the eighth annual meeting of the Chamber held recently at Atlantic City.

The agricultural resolution adopted by the convention reads:

"The agricultural interests of the United States are in their intrinsic nature neither separate nor destinct from the industrial and commercial interest and the welfare of each is dependent upon the other. As a producer, purchaser, seller, and employer, the farmer exercises business function precisely comparable to those of other producers who are classed and class themselves as business men. To draw a line of cleavage between agriculture and business is unnatural, unhealthy and injurious to both parties of the same interest and the Board of Directors is advised and instructed to establish in the General Headquarters of the Chamber an Agricultural Department on a basis similar to those departments created under the revision of the by-laws adopted by this annual meeting, and it should invite the membership of suitable agricultural organizations on the same basis as the commercial and trade organizations now holding membership in the Chamber. As soon as the membership of agricultural organizations is sufficient to justify it the Board of Directors is requested to present proposals of amendment to the by-laws for the purpose of giving to the interests under the Chamber's agricultural department the same representation on the Board of Directors as is now provided for in the other departments of the Chamber."

AUTOMOBILE FIGURES

Canada is now the second nation in the world in the manufacture of automobiles, number of cars owned and the per capita distribution. The United States takes first rank, with Great Britain third.

Figures show that one person in every fifteen in the United States owns an automobile, while one in every twenty-three is the percentage in Canada. In Great Britain but one person in every 268 owns a car. The percentage in France is one to 102, one to 684 in Germany, one to 1,000 in Italy, one to 2,700 in Austria and one to 5,300 in Russia. The total number of cars registered in this country is approximately 7,100,000, in the Dominion 350,000, and in England, 180,000.

Husband was creating quite a disturbance in the kitchen when wife said, "What are you doing, John?" "Opening a can of tomatoes," was the short answer. "What are you opening it with?" asked friend wife. Hubby answered angrily, "With the can opener; what d'ju'spose?" "I thought you were opening it with a prayer," was the sweet rejoiner.—Madison News.

Hotbeds and coldframes will need ventilating on warm days. Open the sash on the side away from the wind.

BABY CHICKS

Three Million for 1920, delivered anywhere by parcel post. Catalogue free.

Immediate Delivery on the Following Breeds.

Barred Rocks — B C Brown Leghorns
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Write today for delivery dates on other breeds.

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Martin's White Wyandottes $25.00 per 100. Ringlet or Parks Barred Rocks. Famous Anconas. Quality S. C. Reds $22.00 per 100. Eglantine S. C. White Leghorns $18.00 per 100. 25 and 50 lots, same price per chick. Order from this add.
SUNNYSIDE POULTRY FARM, Copper Hill, N. J.

ORDER LEADER'S CHICKS NOW.

White Leghorns, $16 per 100. Barred Rocks, $18 per 100. Safe delivery and full count by parcel post prepaid guaranteed. These chicks are bred from hens with profit paying qualities including quick maturity fixed in them by years of breeding for that purpose. Ready for shipment May 25, June 2, June 14. Cash with order. No order accepted for less than 100.
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Black Diamond Minorca Farm, Mt. Bethel, Pa.

Registered Berkshires Spring Pigs $15.00 each. Bred sows $50 to $75. L. C. TOMKINS, Elleston, Lyc. Co., Pa.

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Hay and all farm products wanted. Daily demand at good prices. GIBBS & BRO., 325 North Front St., Philadelphia, Pa. Estd. in 1844.

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Best and largest herd in East.
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FLEMISH GIANTS FOR SALE. 8 months old, $3 each. 6 months old, $2 each.
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Chester Whites and HAMPSHIRE SHEEP. Write your wants. We can please you. TWIN BROOK FARM, Newville, Pa.

Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Chaped Teats.—One of our cows is troubled with chaped teats, besides her udder is inflamed. H. L. T., Pittsford, N. Y.—Dissolve all the boric acid water will take up, then apply to udder 2 or 3 times a day. When the sores heal, apply one part oxide of zinc and six parts petrolatum twice daily.

Horse Out of Condition.—We bought a horse four weeks ago, did light work with him, noticed he passed some worms. I gave him one dose of tobacco, it seemingly helped him for a while, but now he has stocked hind legs and is not thriving. I applied camphor liniment to swollen legs and thought it helped him. One year ago he was fleshy, now rather thin. A. P., Atlantic Co., N. J. Mix equal parts powdered gentian, salt, cooking soda and powdered sulphate of iron—give him a tablespoonful at dose in feed 2 or 3 times a day. Increase his feed, change it occasionally. Hand rub legs twice daily.

Cow with Five Teats.—I have a cow that has the fifth teat. I never milked it, but two days ago I noticed this fifth quarter is caked and am at a loss to know what to do with it. She had had 3 calves and at no time has this part of udder been caked. F. B., Lutzville, Pa.—Apply one part fluid extract of pokeroot and eight parts olive oil, or lanolin to caked part twice daily. Another very good remedy is equal parts tincture of iodine and camphorated oil. This should be applied once or twice a day. Hand rub caked part and strip out the fluid twice daily.

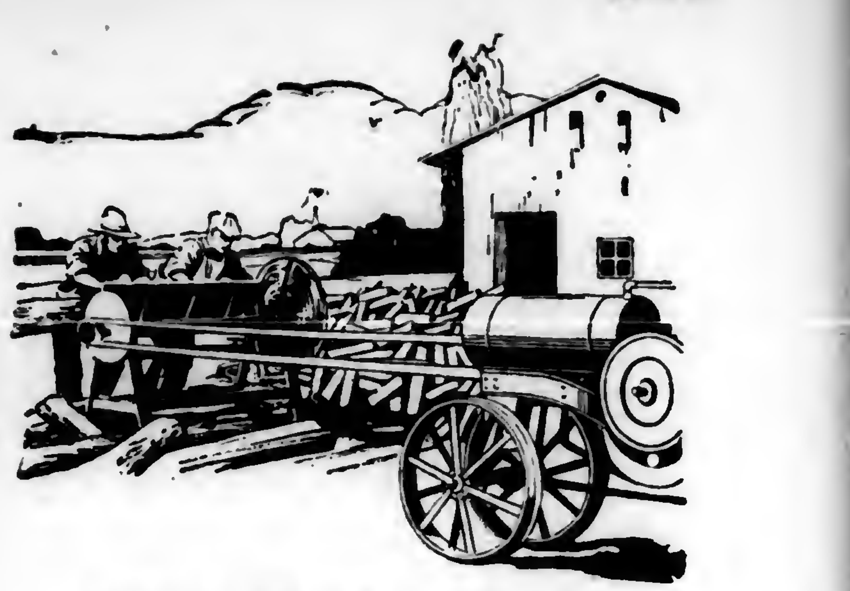
Driving Mare Scours.—I have a mare that is fed timothy once daily and alfalfa twice a day; also fed equal parts corn and oats, but whenever she is driven on road she scours. J. W. H., Bucks County, Pa.—Discontinue feeding alfalfa and drive slow. Feed oats and timothy, water before feeding grain. I don't believe it necessary to give her drugs.

Congested Udder.—Does it harm a cow to milk her before she comes fresh? One of my cows seems to have caked udder and we thought best to milk her, but it has not helped much. H. K. F., Cranesville, Pa.—Dissolve two ounces of camphor gum in one pint of olive oil and apply to caked portion of udder twice a day. It is not considered good practice to milk a cow before she comes fresh. In this kind of case cut down feed supply and exercise the cow.

Garget.—On the third of last November my cow was treated for milk fever; since then one-quarter of udder has been producing lumpy milk and the quantity has reduced very much. W. O. M., York, Pa.—Apply equal parts tincture of iodine and camphorated oil to diseased quarter once a day. She should be milked clean twice daily.

Pigs Have Fits.—Have a young sow that had five pigs six weeks ago; three of them have been troubled with fits since they were born. This sow was stiff in her hind quarters before she farrowed and I thought her back was weak. While the fit lasts I can hear their hearts beat. J. H. B., Elizabeth, W. Va.—Give each sick pig enough castor oil to clean out stomach and bowels. Increase their exercise and keep the bowels open. I am inclined to believe the fitty pigs will recover, but both the mother and pigs need some exercise.

Good wool on the sheep will not be good wool in the market, unless it is properly handled. There's more to marketing wool than merely shearing it and stuffing it in a bag.



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THE H.M. SPAHR BREEDING ESTATE, Dept., C. Woodsboro, Maryland.

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Write for prices or come and see the fine bred gilts and young sows ready for breeding in the Fall, that we are offering at bargain prices. The bred gilts are part of our foundation herd. For reference—our satisfied customers.
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Hampshires Eastern Quality Herd, National Swine Show and State Fair winners. Also Guernsey cattle. Free Cir. Locust Lawn Farm, Bird-in-Hand, Box 2, Lanc. Co., Pa.

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Good Berkshire and Poland China Pigs from Spring Litters, also a few open gilts, bred gilts, and bred sows. Write for prices.
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sired by a son of Big Nellie 2nd, Grand Champion sow of the National Swine Show. Reg. free.
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Large Type Reg. Berkshires of all ages for sale. Select a breeder from a large litter. Pay when you see stock. No cash in advance.
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All of the above are pure bred cattle with proper registration papers. Address inquiries to
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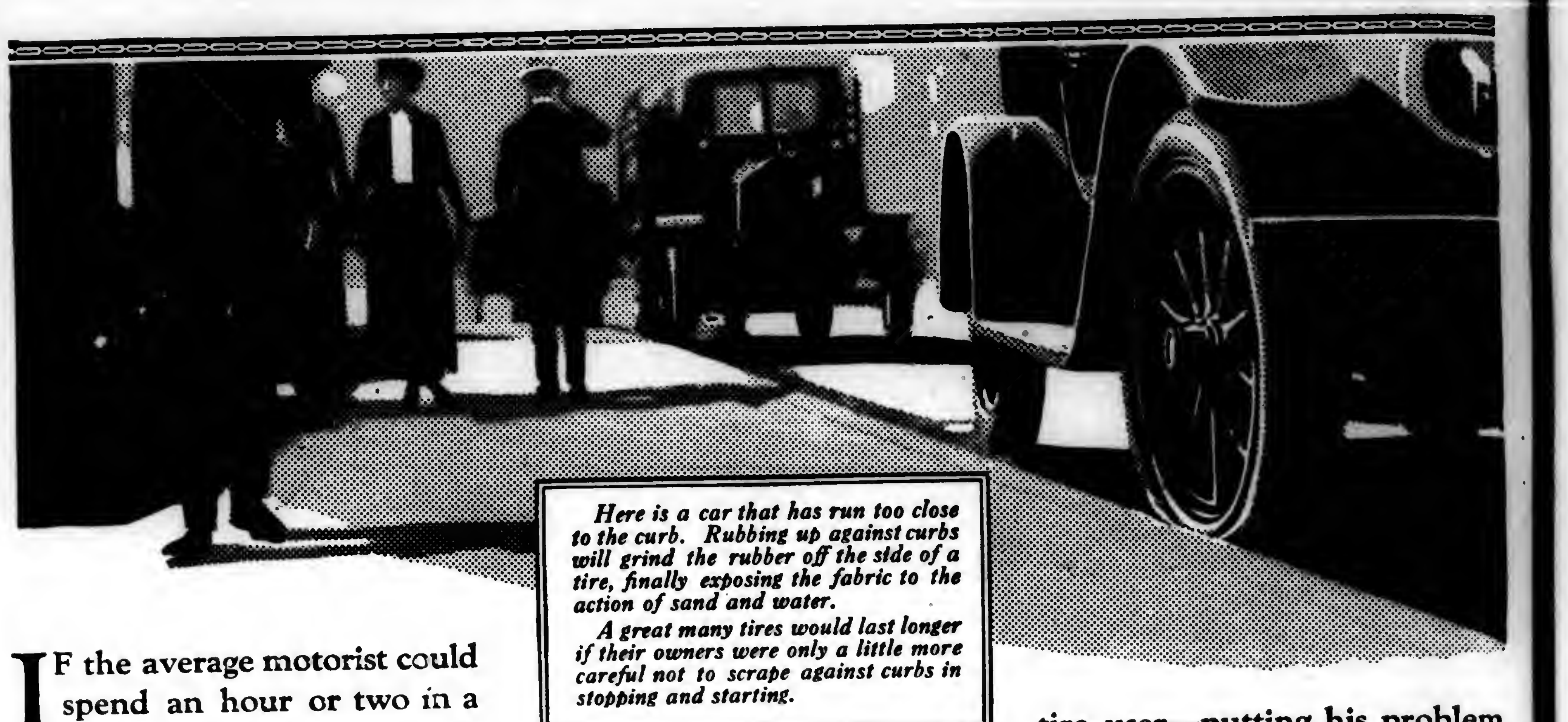
BRADFORD COUNTY LIVESTOCK BREEDERS' ASSOCIATION.

Forty million tires for 1920 What kind of tires are they



Here is a car that has run too close to the curb. Rubbing up against curbs will grind the rubber off the side of a tire, finally exposing the fabric to the action of sand and water.

A great many tires would last longer if their owners were only a little more careful not to scrape against curbs in stopping and starting.

IF the average motorist could spend an hour or two in a vulcanizing shop—watch the tires coming in for repair with all their weaknesses showing—talk to the shop manager away from the cheers of the tire salesmen—

He would see what comes of thinking too much in terms of "concessions" and "allowances."

• • •

Concessions and allowances are what the irresponsible tire dealer lives on.

He finds it easier to convince a man that he will make good on a tire if it goes bad than to convince him that it won't go bad.

What practical motorists are looking for today is good tires —not tires that may have to be made good.

And they are going more and more to the dealer whose business is based on *quality* instead of on chance.

• • •

The United States Rubber Company stands back of that kind of a dealer with all the tremendous resources at its command.

It has staked a larger investment on quality than any other rubber organization. Its first thought has always been of the tire user—putting his problem before the problem of markets.

Every important advance in tire manufacture has come from the United States Rubber Company—the *first straight-side* automobile tire, the *first pneumatic* truck tire, the *grainless rubber* solid truck tire, for instance.

The U. S. guarantee is for the *life of the tire,* and not for a limited mileage.

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Nearly every man pays for U. S. Tire quality, but he doesn't always get it.

If he did the country wouldn't need forty million tires this year.

United States Tires

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Fifty-three Factories

The oldest and largest Rubber Organization in the World

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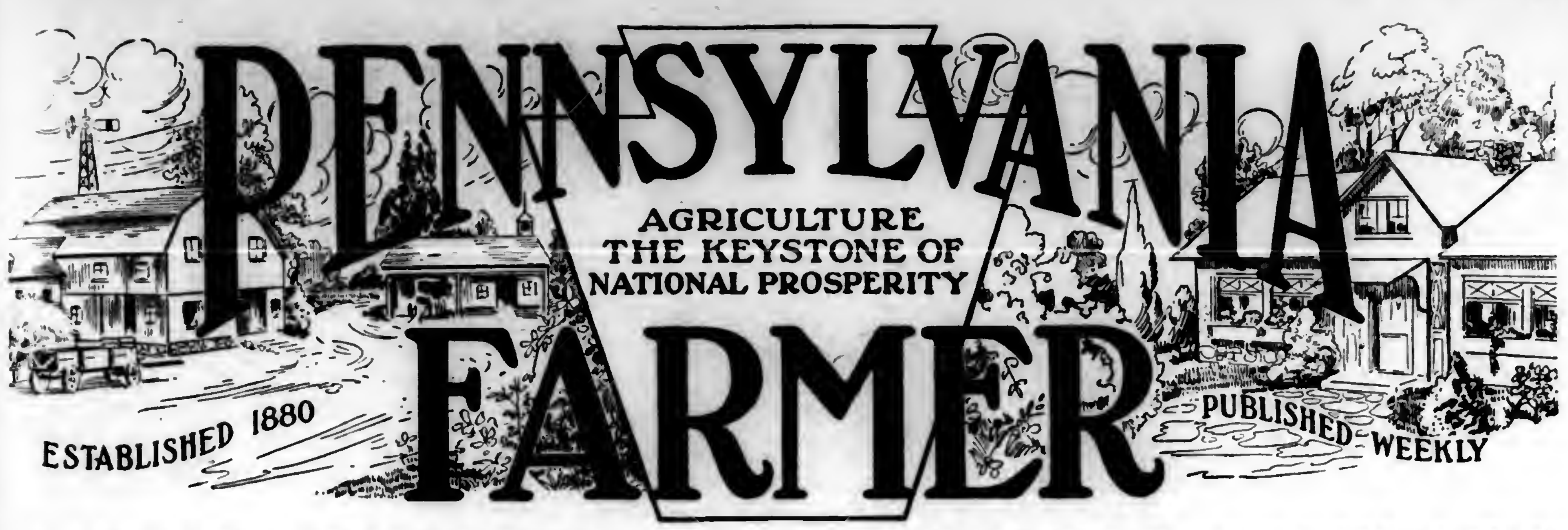

PENNSYLVANIA FARMER

AGRICULTURE THE KEYSTONE OF NATIONAL PROSPERITY

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75 Cents per Year

Home Bureaus and Their Value

A Discussion which Tells of the Helps and Possibilities of Home Bureaus

By Mabel G. Feint

New York

Note.—The following article, written by a farm woman of New York, describes the possibilities as well as the activities of the Home Bureau as it is working in that state. Some readers may disagree with a few of the writer's comments, but we feel that the majority will find many helpful suggestions in the article.—Editors.

In those counties where the work of the Home Demonstration agents has been best established it is often said that the best results of this work cannot be put down in black and white. Tho some of these results are intangible and hard to express yet they are so very real and so far reaching as to elude the efforts of the most imaginative statistician.

Not a small part of the good done by the agents is the wholly unconscious service they render in raising the standard of ideals held by the women with whom they work. The agents for the most part have individual qualities out of the ordinary. The colleges that train these workers require such qualities as the basis of their work. The result is that country women with whom the agents are thrown unconsciously lift their ideals of personal conduct of child training of daily living of their duty to society and of what constitutes real home making. This seems hard to believe, yet reflection on the standards that prevail before this work came to particular localities and comparison with the things the women achieve, and do now, is very convincing.

It could not well be otherwise when one of these trained workers with perhaps an assistant or two, as in the writer's county at the present time, give their whole time to a study of the problems of rural homes, and bend their best efforts night and day towards uplift of conditions.

The Grange has a position unequalled today in its influence in Legislature circles and in the hearts of its members. It has done unmeasured, wonderful work in a social and educational way. Yet in the 47 years it has flourished in this state, with its women members and officers and its home economics committees, it has never done for the women of the farms what the Home Bureau has done in its short existence. Neither has it done for the men of the farms or for their business more than a fraction of what the Farm Bureaus have done in a few short years.

Some mistakenly loyal Grange members resent the development of the Home Bureau and of the Farm Bureaus, and openly advise against their support, being jealous of their influence and their hold on the people. And what a foolish jealousy it is! Both of these services were created largely by Grange members to meet a need the Grange had never and can never meet. There is no reason in the world why there should not be harmony in the work of these organizations. Indeed these bureaus can put over much of their good work thru the machinery of the Grange.

There is very good reason why the Grange has never come into the lives and business of the farmers and farm women as do these bureaus. No trained, paid workers who are expected to give their entire time to the problems of farm life have ever been put into local Grange work. State and National grange officers are paid for their work. Consequently, their parts of the great Grange organization always thrive, and function efficiently. But locally, all officers and members have work of their own to do, on which their bread and butter depends, and they can do very little, in the [illegible] towards solving the multitude of local and general farm problems.

So let us be happy not only that we have the Grange, but that we have these two carefully organized bureaus, to teach us how to conduct the business of farming and the business of life on a higher and more efficient basis.

Farm women of the east know how to cook. The agents are not trying to teach this. They somtimes do each what selection of foods to make. It is often the case that a farmer knows how to give his live stock a balanced ration and does not know or practice giving himself one. Many children and it is now known definitely that there are more of them in the families of the well to do than in the very poor are undernouished for lack of a balanced ration. I know of one high school in a wealthy residential town, with a parent-teacher association in which the mothers certainly want their children to have the best. Yet the primary teacher in that high school, who has also had training in the work for school nurses, says that the children from the best families are suffering from under-nourishment. She pointed out to me 1 white faced tot whose doctor had told the mother the cause of the child's condition was the wrong choice of food. He ordered sweets cut out of her diet, as she had eaten far too freely of them. Yet the very day before that child's lunch consisted of a big section of black chocolate cake with a heavy black icing, a doughnut, two ginger cookies, a sugar cooky, and a tart. The teacher herself had offered to trade a wholesome sandwich for one of the sweet foods, and the child had eagerly accepted. Mothers haven't known what a balanced ration is, and far too many do not now. But there are coming to be many cases where the mother knows better how to choose balanced food than the father does, and where she is tactfully substituting simpler and better meals and raising the health standards of her family.

The work in teaching women how to eliminate needless labor, so as to have more time for rest, reading, the home life and the making of a fuller home life for all her family is perhaps the [illegible] to its results. This is the work that is [illegible] contented women on the farms. [illegible] will lead the boys and girls [illegible] life is better [illegible] to city life [illegible] it. In this state [illegible] moved to the cities [illegible] in most of these cases it could be found that the wife was the one that

The American Library Association Takes Libraries to Farm Folks wanted to make the change.

Many people regard the work of the Home Bureaus as a strictly rural benefit. The high cost of living is largely attributable to the fact that production per capita has decreased. This exodus of farm families to the city is a national calamity, decreasing the country's supply of necessary food at an alarming rate. In all the broad scope of farming territory known to the writer there are very few homes that have not sent permanently from those homes to the city from one to four or more boys or girls. After a taste of the conveniences of city homes how many of them are going to return to the old homesteads?

Of course the city conveniences cost more. But they are willing to pay extra for them. They know they will pass thru life but once, and why deny themselves these things that make life more worth the living.

In teaching farm women and men how to make life worth living the Home Bureaus are doing a public service while the Farm Bureaus teach how to run a more profitable business and thus furnish the wherewithal that so often has been impossible for use in making farm homes comfortable.

Farm women are also learning how to dress becomingly with as little expense as is comparable with her needs. A nearby county's Home Bureau reported $500 saved to its members in dressmaking and $650 in millinery. Twenty-five lessons in home nursing were also given in that county last year. This year already the writer's Home Bureau has held three week-long clothing schools and two extension schools in health subjects. Many other events of this kind will take place during the year.

A thriving rural Sunday school in one of the district schools of the county is another outgrowth of the work attracting attention because of its common sense methods and its ideals for the spiritual development of the boys and girls and adults of the community. A large number of girls are receiving instruction in sewing, cooking and homemaking in junior classes.

Recognition and development of local leaders has perhaps the most to do with the success of the work, next to the agent herself. Those societies that meet irregularly, that are at a loss to know what to do when they do meet, that are few in number and lukewarm in spirit need a live leader, who will point out the multitude of interesting things there are for such clubs to do to day, and the business like and efficient ways to do them.

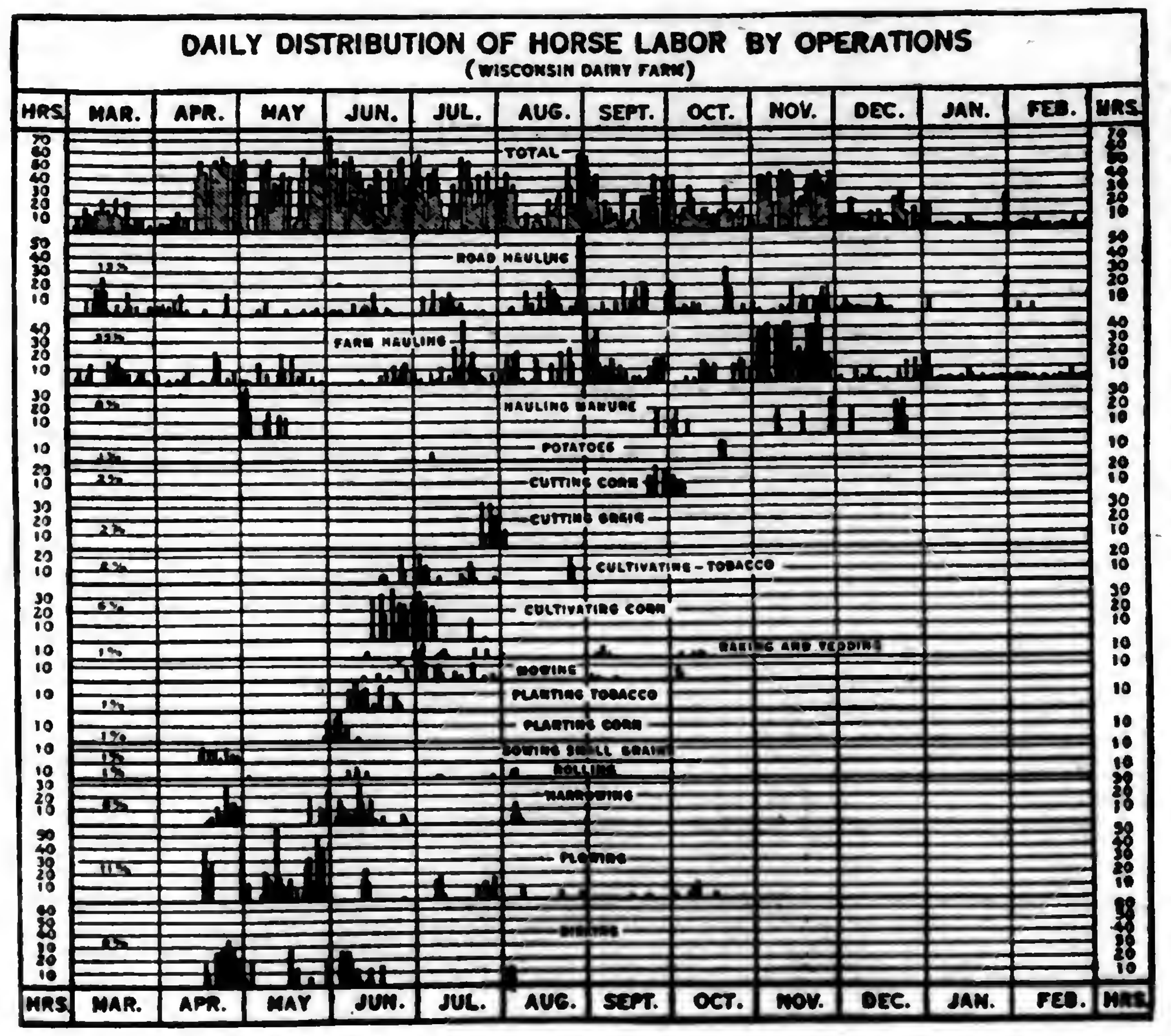
CHOICE OF POWER

The choice of sources of farm power depends upon their relative profitableness. To determine which is the more profitable it is necessary to consider many factors, among which are the power requirements of the farm, the size of the power units required, the quality of work accomplished the displacement of one form of power by the application of another, the total possible utilization of each form of power, the comparative cost of operations with the different forms of power, the relation between the kind of power and the effectiveness of man labor, and the effect upon the profits of the farm as a whole.

The chart shows how the work horses were used on a Wisconsin dairy farm. Six horses were used on this farm. The crops grown were about 50 acres of corn, 50 acres of small grain, 30 acres of hay, and 10 acres of tobacco. This combination of crops created a rather uniform demand for horse power during the spring and summer months. During the winter, however, the horses were idle a great deal of the time, because the work at this time of year was mostly live-stock chores which did not require much horse labor.

Attention is especially called to the time of the year when the various operations were performed and to the amount of horse labor each required. Altho most of the field work came during the spring, hay, tobacco, and alfalfa demanded considerable power thruout the summer. The percentage of total horse labor required by each operation is shown by figures on the left side of the chart. These figures are especially helpful in analyzing the amount of horse labor that was done with different-sized teams. Altho nearly all the various operations were at times done with two horses, hauling, corn and tobacco planting and cultivating, as well as mowing and raking hay, were regular two-horse operations, while plowing, disking, harrowing, etc., were usually performed with the larger power units. Two-horse operations, therefore, made up about 58 percent of the total power demand during the year.

Convertible Body For Small Car



Size of the Power Units

Not all farm operations require the same amount of power. On some of them, like planting corn, raking hay, and others, are usually considered one-horse or at most two-horse operations in most sections of the country, while plowing, disking, grain cutting, etc., are coming more and more to be performed with larger power units. This fact, together with the necessity at times of carrying on two or more operations simultaneously on different parts of the farm, is a very important factor from the standpoint of farm organization, for it makes it necessary that the farm power plant be made up of several independent power units.

Average "Horse Day" Misleading

The figures usually quoted from cost of production studies for the average horse workday range from two to four hours a day. Data of this sort have led to much agitation to rid the farm of idle horses, and such agitation has undoubtedly done much good by calling the farmers' attention to the importance of giving this matter serious consideration. Upon closer investigation, however, it has been found that this average is almost meaningless as an index as to whether or not an individual farmer is guilty of keeping more horses that necessary. One reason why the average is not a fair standard of measurement of comparisons of this kind is that the most profitable combination of enterprises may require a large number of horses for only a short period of the year, under which conditions it is necessary to have enough power to handle the work at this time, even tho many of the horses may be idle during the greater part of the year. The average, under these conditions, may, therefore, be exceptionally low and still it may be the best of management to continue this form of organization. Another reason for discrediting the average as a means of measuring the efficiency of power utilization on any given farm is that in power organization it is chiefly a question of combining enterprises that will require all of the available farm power for the largest number of hours.

In the Wisconsin dairy farms, the demand for a large number of horses is shown to be in April, May June and July. During these four months the full number of horses were used 29 days, while they all were used only six and one-half days during the other eight months. The heavy demand for four horses in November was due to using tow wagons for husking standing corn, which was an important part of the 71 percent of the work performed with two-horse teams. In studying this chart the question at once arises: To what extent would it have been possible to spread the work out during the period of heavy labor demand so that four horses might have done the work? April shows ten days of full use of all horses, May nine days, June seven, and July four days. Were it feasible to use say, four horses more continuously and get the work done satisfactorily, there would be far fewer horses on the farms. However, the seasonal and weather conditions that limit the hours within which most operations must be performed make such plans in most instances impracticable.

This illustration has been used to call attention to a few of the many important phases of the farm power, problem. It shows how horses are being used on Wisconsin dairy farms to furnish power. With the introduction of practical types of mechanical power the farmer must face the question of whether he should substitute the tractor for some of his horses and to answer this question he must have comprehensive data as to all the facts involved.

HANDY BODY FOR CAR

This photo shows a small car with removable rear seat and truck platform in place. This change can be made in five minutes by removing two belts. I use two and three pulley blocks to remove and let down rear end.

I have carried as much as 1100 pounds this way. The fenders must be fastened to frame of car. I have not noticed that the body has been weakened in two years of service. It makes a light handy truck and saves the rear seat from abuse.—H. A. V. K., Bradford Co., Pa.

Willie had swallowed a penny, and his mother was in a state of alarm.

"Helen," she called to her sister in the next room, "send for a doctor; Willie had swallowed a penny!" The terrified and frightened boy looked up imploringly. "No mamma," he interposed, "send for the minister." "The minister?" asked his mother, incredulously. "Why the minister?"

"Because papa says he can get money out of anybody."

Butchering Sheep for Home Use

Methods of Preparation Used to Increase the Summer Supply of Fresh Meat

W. H. Tomhave

State College, Pa.

The average per capita consumption of all meat products by the people in the United States is about 154 pounds a year. This is divided as follows:

Pork, 69 pounds; lard, 12 pounds; beef, 59 pounds; lamb and mutton, 6 pounds; veal, 8 pounds.

This would indicate that beef and pork are the chief meat products of the American people. They consume ten times as much beef, and twelve times as much pork, as lamb or mutton. There is no apparent reason for this low consumption of lamb or mutton, except that people have not been educated to consume this meat product which is less subject to disease than any other farm animal. There are fewer lambs condemned under Government inspection than any other class of meat animals. Sheep are not susceptible to communicable diseases of any kind, and thus produce the healthiest kind of food. Lamb is also highly digestible, extremely palatable, and nutritious.

There are a great many farms upon which there is very little fresh meat during the summer, and where a supply of fresh meat would be a welcomed variety in the diet. With the increase in the number of lambs on the farms of the country, lamb and mutton should become a more universal food product. In many sections there is a prejudice against the use of lamb or mutton, which can be overcome by a better knowledge of how to dress lambs for home use. The following account may be of assistance and make possible the greater use of lamb on the farm.

Place to Slaughter

In dressing mutton or lamb, it is important that a dry place for the work be selected. The sheep should be kept off feed for about 24 hours prior to slaughtering, and a dry place selected, as it is very difficult to secure a clean carcass when the fleece is dirty. The work should be done rapidly and the viscera removed promptly. Much of the "sheep flavor" of mutton is due to the generating of gases from delayed dressing.

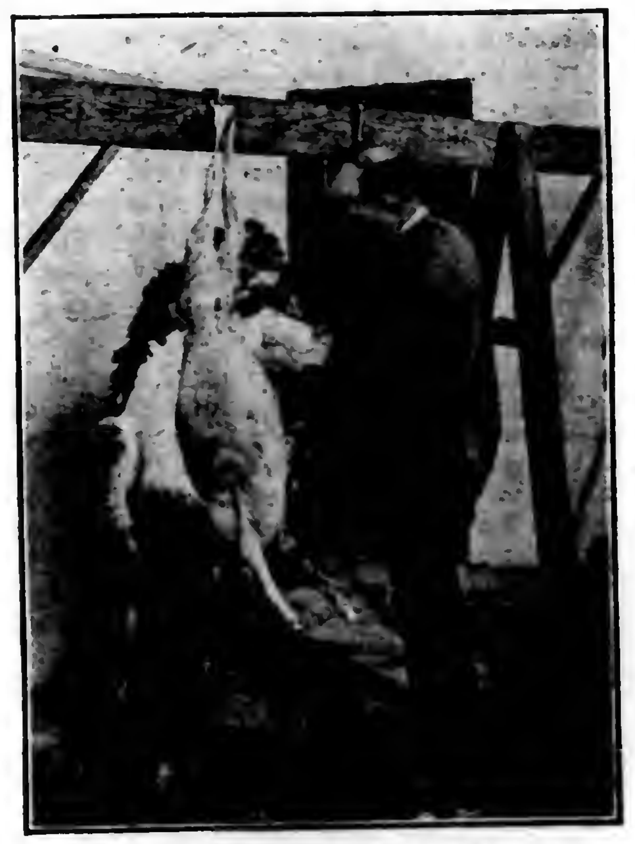
A platform six inches high upon which the slaughtering is done helps considerably in keeping the blood off the fleece. During the summer, slaughtering may be done on the grass. A mature sheep or lamb can generally be easily handled, consequently, there is no need of tieing or stunning, before killing. Care should be taken in catching the sheep that it is not handled roughly. Grasping by the fleece on any portion of the body will cause bloody or inflamed spots which will hurt the appearance of the carcass. The best way to catch the animal is by the neck with one hand, and at the root of the tail with the other, or it may be grasped by a flank or a hind leg just above the gambrel joint. The sheep should then be thrown on the left side by reaching underneath the body and catching the left hind foot and pushing the sheep over so that it falls on its left side. It can then be easily held in position by placing a knee on the sheep's right shoulder.

Sticking

In sticking, place the left hand over the mouth and draw the head well backward. With a straight bladed killing or skinning knife, cut just back of the jaw bone where the angle is made with the neck bone. The cut should be made close to the vertebra, the knife being pushed thru to the opposite side and the cut made outward severing the windpipe, juguiar veins, and flesh which surround it. The neck should then be dislocated at the atlas joint to render the sheep insensible to pain. This is accomplished by placing the left hand under the jaw and the right hand over the top of the poll so as to get a good leverage, then break the neck with a quick jerk upwards and backwards. The spinal cord should be cut when it is exposed at the atlas joint. The sheep should be held in place so that the blood does not get on the outside of the fleece.

Skinning

Begin skinning by removing the tongue from the head. This is done by skinning the lower side of the jaw bone and cutting on the inside to loosen the tongue. As soon as the tongue is removed, it should be washed and put away in a clean vessel. The sheep is then rolled on its back and the right front leg held between the knees. Remove a strip of the fleece over the front of the knee, cutting well to the toes and down over the neck in front of the brisket. A strip of pelt is taken from the other front leg in the same manner, meeting the cut in front of the brisket so as to leave a triangular piece of the pelt covering the brisket. In making these openings, the knife should be held flat so as not to gash the carcass. The right foot is placed on the neck and the triangular piece of the hide pulled up over the brisket with the left hand. If the pelt is opened as directed, the pelt covering the brisket can be more easily removed than when the opening is made directly over the brisket. The pelt is removed from the fore flank and underline by fisting. This is done by grasping the pelt with the one hand, closing the other tightly and thrusting it forcibly between the pelt and the body, leaving the membrane covering the outside of the carcass. This is easier and more rapid than removing the pelt with a knife. Fist over each side of the undealing back to the rear flank. The pelt is then allowed to drop back over the brisket so as to keep the carcass clean while the pelt is removed from the hind legs. Next remove a strip of pelt from the back of one of the legs, cutting past the dew claws, being careful not to cut the tandons found on the outside of the legs by which the carcass is to be hung. This strip of pelt is removed clear to the tail. Remove the toes at the lower joint. Repeat this operation on the other leg, leaving the triangular piece of hide on the cod and over the thighs. This is pulled loose in the same manner as that over the brisket using the fist to remove the skin over the cod and rear flank. The carcass is then ready to be hung up. Tie the tendons of the hind legs together with a cord sufficiently strong to hold the weight of the carcass.



"Fisting" the Pelt From the Body. Note Position of Hand

Place to Hang the Carcass

A rack of some kind about six feet high is used for hanging the carcass to complete the dressing operation. Grasp the carcass just in front of the thighs, which will straighten the hind legs, making it possible to hang it over a hook or nail. This can easily be accomplished by one person if the carcass is not too heavy. With a knife remove the front feet, cutting across the ligaments of the joints just above the dew claws. In lambs the front feet are removed as what is known at the "break or straight joint." This joint identifies a lamb carcass. In case of matured sheep, this joint cannot be broken, and the feet are removed at the round joint. Split the pelt thru the mid-line and let it drop back over the carcass, being careful that no part of the wool touches the carcass to stain it. Fist back over the sides and up on the leg over the loin and shoulders, as near the back bone as possible. Repeat this operation on the other side.

The membrane which covers the outside of the carcass should not be broken. When this is broken, there is difficulty in keeping the carcass from spoiling, and it also gives the carcass an unattractive appearance. It is often necessary to use the knife in removing the pelt from around the dock or tail. Loosen the rectum by cutting around it on all sides. This is practically the only place that it is necessary to use the knife in removing the pelt after it has been opened. The pelt is then pulled over the back, down to the base of the head. The head is removed by cutting it off at the atlas joint. With a hot, damp cloth, remove any particles of blood or dirt that may be on the outside of the carcass. Also, cut into the chest cavity just in front of the brisket, loosening the gullet and windpipe at the same time providing free drainage for the blood that may have accumulated in the lower part of the chest cavity.

Open the abdomen by inserting the knife just in front of the cod or pelvic bone, cutting thru the membrane down to the breast bone. In making this cut, the knife should be held between the forefingers which are inserted into the abdominal cavity, but the knife should not project beyond the fingers. With the thumb on the back of the knife, force it downward, and with fingers as a guide, there is no danger of cutting the internal organs. In case of lambs, the caul-fat which surrounds the pauch may be removed and put inside the pelt to keep it warm to facilitate spreading it over the hind quarter of the carcass when finished.

Next remove the pauch and intestines from the abdominal cavity, leaving the kidneys which lie close to the back bone, undisturbed. If the liver is not removed with the pauch and intestines, it should be taken out before the diaphragm, separating the abdominal and thorasic cavity, is cut. The pluck is removed by cutting the diaphragm where the connective tissue joins the muscular membrane. It is loosened both on the upper and lower sides of the chest cavity. This will permit pulling the pluck up thru the opening made thru the midline of the abdomen, and it will not be necessary to split the breast bone.

With a cloth wrung out of hot water, remove any particles of blood or dirt that may be found on the inside or outside of the carcass. If the caul-fat is to be used, take it out of the pelt and spread it over the hind legs, thus adding to the weight of the carcass and providing a greater amount of fat for roasting this portion of the carcass. The front legs should be folded back and securely fastened with skewers. Remove any scrag ends that may be left on the neck.

Cooling

It is necessary to thoroly cool the carcass. It should be hung in some place where it can be quickly cooled and where it is without exposure to flies, insects, or dust. The cellar is often the best place available during the summer. Where cellar room will not permit, the carcass may be hung in the top of a well or cistern or it may be hung out of doors on a cool night, out of reach of dogs, cats and other animals. Free circulation and a dry atmosphere are conditions which, if provided, will add greatly to the appearance of the carcass.

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Our job is to serve our readers. Whenever and wherever we can help you, write us.—The Editors.

The Republican Platform

BELIEVING that our readers are interested in what the political parties declare their principles and purposes when they go before the people in November we print below a digest of the platform adopted by the Republican convention last week. Since farmers are especially interested in what is proposed concerning agriculture we give that plank in full:

Agriculture.—"The farmer is the backbone of the nation. National greatness and economic independence demand a population distributed between industry and the farm, and sharing on equal terms the prosperity which is wholly dependent on the efforts of both. Neither can prosper at the expense of the other without inviting joint disaster.

"The crux of the present agricultural condition lies in prices, labor and credit.

"The Republican party believes that this condition can be improved by practical and adequate farm presentation in the appointment of governmental officials and commissions; the right to form co-operation associations for marketing their products and protection against discrimination; the scientific study of agricultural prices and farm productions costs at home and abroad, with a view to reducing the frequency of abnormal fluctuations; the uncensored publication of such reports; the authorizations of associations for the extension of personal credit; a national inquiry on the co-ordination of rail, water and motor transportation with adequate facilities for receiving, handling and marketing food; the encouragement of our export trade; an end to unnecessary price fixing and ill-considered efforts arbitrarily to reduce prices of farm products, which invariably result to the disadvantage of both of producer and consumer, and the encouragement of the production and importation of fertilizing material and of its extensive use.

"The federal farm loan act should be so administered as to facilitate the acquisition of farm land by those desiring to become owners and proprietors and thus minimize the evils of farm tenantry, and to furnish such long-time credits as farmers may need to finance adequately their larger and long-time production operations."

Industrial Relations.—The justice of collective bargaining is recognized as a means of promoting goodwill. The right to strike against the government is denied but the rights and interests of government employees should be protected by law and tribunity. In public utilities an impartial tribunal is recommended, but its decisions should not be legally binding. Compulsory arbitration is not advocated for private industry.

Federal Bureaus.—A thoro reorganization of federal bureaus is urged and with a view to eliminating duplicating machinery.

Taxes.—A reduction of the tax burden is promised as is also a simper form of income return. No declarations are made as to the system by which taxes are to be raised.

Banking and Currency.—This subject is treated in an undefinite way with the exception of the following sentence: "We urge all banks to give credit preference to essential industries."

Railroads.—Government ownership and operation of railroads is opposed. There should be no speculative profit in rendering the service of transportation, but the incomes should be sufficient to pay a fair return upon actual investment, and to keep employees employed at fair hours and in satisfactory living conditions. The transportation act lately passed is commended.

Regulation of Industry.—Existing federal legislation against monopoly and restraint of trade is approved. It is declared that the Federal Trade Commission is not now accomplishing its proper work, and the persecution of business is opposed. The resumption of trade with every nation with which we are at peace is pledged.

International Trade and Tariff.—This plank differs in spirit from all previous convention platform planks upon this subject. It is stated that the unsettled condition of the times makes it impossible to forecast the future, but the protective principle is reaffirmed, and a revision is pledged as soon as conditions make it necessary.

Merchant Marine.—A merchant marine, owned by American capital, manned by American seamen and flying the American flag is recommended. It is also recommended that all ships of the American merchant marine should pass thru the Panama canal free of tolls.

Immigration.—An immigration policy is urged which will insure that the number shall not exceed our equipment for prompt assimilation. Selective tests, with special care as to physical and mental fitness, should be applied as near as possible to point of embarkation. The existing policy of exclusion of Asiatics is commended.

Free Speech.—The following is quoted from this plank:

"We demand that every American citizen shall enjoy the ancient and constitutional right of free speech, free press and free assembly, and the no less sacred right of the qualified voter to be represented by his duly chosen representatives, but no man may advocate resistance to the law and no man may advocate violent overthrow of the government. * * * An adequate public hearing before a competent administrative tribunal should be assured to all."

The Service Men.—The platform is silent upon the question of a bonus to ex-soldiers. It favors liberal legislation for those disabled and for the dependents of those killed or incapacitated.

Woman Suffrage.—Professes a welcome to the women into the aaffirs of government and the activities of the Republican party, and urges the remaining Republican legislatures to ratify the amendment.

Education and Health.—The platform indorses the principle of federal aid to the states for vocational and agricultural training; approves of a thoro system of physical education of all children up to the age of 19 years, including health supervision and instruction.

Child Labor.—The party declares for a federal child labor law and for its rigid enforcement. If the present one is defective they will seek other means to prevent the evils of child labor.

Women in Industry.—This plank favors the principle of equal pay for equal work in all the branches of federal employment; also, the limiting the hours of employment engaged in intensive industry, the products of which enter into interstate commerce.

Mexico.—The treatment of this subject is limited to criticism of past methods but is silent as to concrete recommendations.

Armenia.—The party expresses sympathy for the people of Armenia but opposes the acceptance of a mandate for any country in Europe.

Treaty and League of Nations.—In spite of the expectation of the public that a definite declaration acceptable to the majority of the party would be made, this is the weakest plank of the entire platform. Nothing definite is declared beyond the words, "The Republican party stands for agreement among the nations to preserve the peace of the world."

The tenth ballot resulted in the selection of Warren G. Harding of Ohio for president, and Calvin Coolridge of Massachusetts, for vice-president.

Our Washington Letter

When Congress adjourned on June 5th, it left behind in committee or on the calendar of the House or Senate, several bills of considerable importance, at least from the farmer's standpoint. Among these measures that failed to pass were the Capper-Volstead bill legalizing farmers' cooperative marketing associations, the Kenyon-Anderson packer control bills, the cold storage bill, the Vestal basket standardization bill, the pure fabrics bills, and the Kahn-Wadsworth Muscle Shoals nitrate plant operation bill.' But much progress has been made with all these bills, and they are in an advantageous position for early action in the next session.

Farmers are expressing much regret that these very important measures did not get thru during the session just ended, especially the packer control and collective bargaining legislation. T. C. Atkeson and A. M. Loomis of the National Grange, Gray Silver of the American Federation of Farm Bureaus, Charles M. Lyman of the National Board of Farm Organizations, R. F. Bower of the National Farmers' Union, and other Washington representatives of farmer organizations have made an aggressive and far from fruitless fight for the success of these bills. They have faithfully and intelligently represented their organizations at the hearings and conferences with congressional committees, and it is evident that they have made a good impression upon Congress, which will be a valuable aid in promoting farm legislation during the coming session.

* * *

The Truth in Fabric Bill, designed to prevent deceit and profiteering that result from the selling of fabrics containing shoddy as "all wool," did not get out of committee, owing to a delay in printing a report of the hearings. Congressman Burton L. French, of Idaho, who introduced this bill, tells me that many representatives in Congress are hearing from their constituents urging the enactment of the measure and that if it could have been brought before the House for a vote the probabilities are that it would have passed.

* * *

The Interstate Commerce Commission has made an appropriation of $125,000,000 of government funds, immediately available, for the use of the railroads in the purchase of new rolling stocks. The money will be advanced out of $300,000,000 revolving fund provided in the transportation act. Of this amount $75,000,000 will be used toward the purchase of 20,000 refrigerator cars for the movement of the fruit crops. When these have been provided, funds will be available for other freight cars. It is aimed to bring about an early improvement in freight traffic conditions in time to facilitate the movement of farm crops and live stock.

* * *

Farmers who come to Washington from all parts of the country are pleased with the decision of the Supreme Court in favor of constitutional prohibition and the Volstead enforcement act, and removing all uncertainty as regards the legal status of prohibition. There may be some sentiment in opposition to prohibition and its rigid enforcement in the cities, but it is evident from the opinions of farmers who visit the nation's capital that no such sentiment is to be found in the open country.

* * *

A joint commission of the House and Senate will make an investigation of the personal rural credits system of Europe during the summer. In discussing this matter, Representative Louis T. McFadden, chairman of the House committee on Banking and Currency, says: "The rural credit bill before the Banking and Currency Committee provides for the establishment of a co-operative system of farm credits in this country, based on personal security. It provides for one central bank, forty-eight branches, one for each state, and innumerable local associations. The central bank will have a capital of $25,000,000, with a sinking fund created to reimburse the government for the capital advanced. Each branch will have a capital of $50,000.

* * *

The rural credit bill is said to include in its provisions the best features of the European system. It follows the French plan in limiting the activities of the proposed banks to the use of bills of exchange, or to banking with bills, as distinguished from the system of banking with deposits, thus enlarging the outlet for productive agricultural paper, and reducing the expenses of management of our entire banking on credit system.

A sub-committee of the House Immigration committee has been appointed to go to the Pacific Coast this summer to investigate the Japanese immigration question. Bills are now pending in committee to exclude Japanese immigration from California, Oregon and Washington, and it is predicted that the report of this sub-committee will be followed in the December session by efforts to pass these bills. It is the purpose of the promoters of this legislation to prohibit Japanese children in this country from acquiring citizenship.

* * *

George M. Fox, vice president of the Iowa Farm Bureau Association, and Ray Emmert, of Des Moines, have been in Washington for the purpose of taking up with the Income Tax Division of the Treasury Department needed reforms in methods of making income tax returns. The Iowa Bureau, has been working with the Federation of Farm Bureaus for some time in regard to this matter and has some very definite ideas to present, which when adopted would materially simplify and make more satisfactory the entire income tax proposition as it relates to the farmers. The United States Department of Agriculture is also making investigations along this same line, and conferences are being held with the Department of Agriculture as well as with the Treasury Department.—Elmer E. Reynolds.

HARRISBURG LETTER

Will Ask People in.—Plans are maturing at the State Department of Agriculture to conduct what it is hoped will be the most effective educational and advisory campaign conducted by the State and it is the idea to begin just as soon as the summer series of farmers picnics, exhibitions and kindred gatherings start. Secretary of Agriculture Fred Rasmussen has outlined a plan for a unique agricultural tour, rather different from the forty-miles-an-hour automobile journeys conducted during the ambitious period of a recent state administration. The secretary is going himself and is not a candidate for any office. He is not going to take with him State officials and attaches who are no more familiar with the fine points of agriculture than they are of Babylonian grain regulations, but the idea is to visit every county to get into touch with its farming life. The secretary is aiming to get first hand information on the products of each county, altho by reason of his educational and official work he is already familiar. The data obtained will be used in planning future work. The secretary is just home from Iowa where he attended college gatherings and met many of the leaders of agricultural science from other states. He was one of the speakers on "What Pennsylvania has done."

Call For Harvest Hands.—State officials have been strongly urged to repeat their call for harvest hands for this summer and arrangements have been made whereby some of the branches of the State government will cooperate with chambers of commerce and other bodies in an effort to get persons raised on farms willing to go back to help out during the summer and also to encourage the college boy and girl farm work movement which was tried out during the war.

Back to Work.—The State government is getting back to work after its experiences with the Republican national convention at Chicago. While the Pennsylvania folks did not get what they wanted at the remarkable gathering the Keystone staters were more upon the map than in many a year and had it not been for some inside double crossing there it not much doubt but what it would have been able to overcome traditional reluctance to give anything to a sure thing state. It is to be hoped that the clashes occurring in Chicago will not take the form of a contest for control of the state organization with consequent upsetting of morals of the state government, which is commencing to show the fruits of business reorganization and which if maintained will be the strongest kind guarantee of success.

Going After Legislators.—It is very apparent that various interests - from manufacturing to labor, to say nothing of rum—are going after legislators who will sit in the general assembly meeting in Harrisburg next January. There are already signs of bi-partisan contests being set up for control of votes and the state administration will have all its wants to do to maintain a good working majority. Many of the matters which Governor Sproul pledged in his inaugural have been carried out, and well done, too, but there are a few which require additional legislating to make completely effective. The governor will be here the greater part of the summer.

Summing Up Conditions.—Experts of the State Department of Public Instruction are summing up their observations in the schools of the State and will make a detailed report to Dr. Thomas E. Finegan, state superintendent, in a short time. Dr. L. L. Driver, in charge of rural education, believes there will be a number of important consolidations of schools this year and the results will be so striking as to bring about a general move in that direction. Several districts have been selected to serve as models.

Nearing the 1,000 Mark.—When the contracts planned for this month and July are let the State Highway Department will have let close to the 1,000 mile mark of new construction in two years or at least that immense amount of mileage will be under contract. There are few states which are doing anything like it and at Chicago officials of various states manifested the greatest interest in what Pennsylvania was doing and planned. It is interesting to note that the road contracts let in some of the western states have been at prices which would have been regarded as scandalous a few years ago. Labor, material and freight prices have revolutionized the road building business.

Fruit Holding Up Well.—Late reports indicate fruit is holding the favorable position it had at the first of the month and state officials who have given the closest attention to the reports believe the state will be able to show a valuable crop, provided the labor will be at hand to pick and pack.

State Market Reports.—The State market report offices will be extended to Western Pennsylvania within a few days. The Pittsburgh office is to be opened this week, the necessary quarters having been secured and it is the hope that it will be made one of the most valuable owing to the opportunities for quick sales. The several offices in the eastern part of the state have been specializing on crop reports lately.

Grange Ideas Submitted.—John McSparran, master of the Pennsylvania State Grange, made a favorable impression upon the members of the platform committee of the Republican national convention. He submitted some of the ideas of the Pennsylvanians, while he did not get all of them across, a strong declaration favoring agriculture was adopted.—Hamilton, Harrisburg, June 13.

COUNTY NOTE

Cumberland County, N. J.—The recent rain was greatly needed and did untold good. The help problem is the hardest one to solve this year. Strawberries are going to market and selling for 25 and 30 cents. The bees are the only ones willing to make long days. The N. J. Beekeepers' Association held an open air meeting at the Apiary of Archibald S. Lupton, June 3rd. Every hire was opened and thoroly examined. The main palations were by novices under the direction of State Bee Expert Elmer G. Carr, of New Egypt. The president, Richard D. Barclay, of Riverton, was in charge of the meeting. It was the second largest meeting of the kind held by the Association. The South Jersey section is a wonderful one for the production of honey. There are enough flowers to produce sweets with out buying a pound of sugar. Honey on strawberries cannot be beaten for deliciousness. The crowd was served with lemonade sweetened with extracted honey. About 50 beekeepers entered the apiary at the beginning of the first session. There were more black bees than Italians and a majority of the people wore veils, but there were a few who stayed in the midst of operations all day without any face or hand protection.—C. J. S.

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Trailmobile
Trade-Mark Reg. U. S. Patent Office

Load behind puts you a trip ahead.

Cuts transportation costs and increases profits on both short and long hauls.

Capacities from 1/2 ton to 5 tons.

Any style body. Pneumatic or solid tire .

Can be equipped with pole or shafts for use with horses.

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The Trailmobile Co.
Philadelphia Office:
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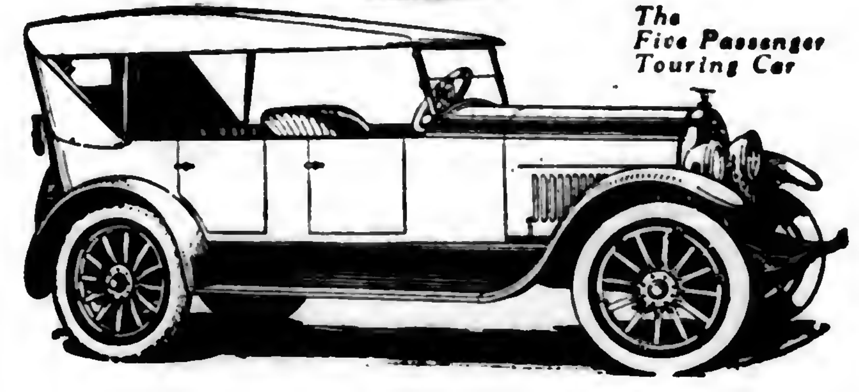
DAVIS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"Built of the Best" has been the policy of Davis, Car manufacturers for over ten years. Even to the hand applied finish, with the added lasting quality that keeps them looking new—the policy of quality construction at a moderate price has been maintained. Continental Red Seal, 6-cylinder motor; Timken axles; Delco lighting and starting; Stewart Vacuum System, all testify to the high character of units used and to the entire construction. It is a powerful, dependable car—roomy, easy driving and exceptionally economical with tires an gasoline. Especially built for country road use. Send for catalogue.

Murray Motor Sales Company
833 North Broad Street, Philadelphia

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CREAM SEPARATOR
And That's The
DE LAVAL
For Forty Years
The World's Standard

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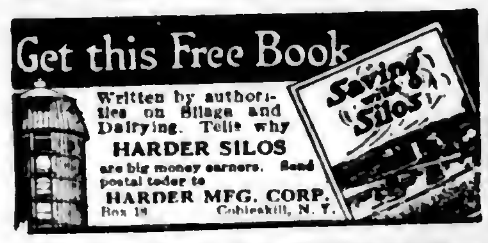

Written by authorities on Silage and Dairying. Tells why HARDER SILOS are big money earners. Send postal today to
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Box 18 Cobleskill, N. Y.

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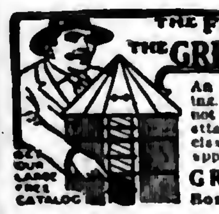
An unobstructed Continuous opening. Doors absolutely tight but will not swell. Permanent steel Ladder attached to Front. Everything first class and prices right. Prices on application.
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"I'm going where the work ain't so hard"

THERE is one milker that never leaves you in the lurch—never quits—never is tired, cross or uncertain and that can be depended on to handle the milking to perfection day in and day out, year after year. It's an Empire!

Over a million cows are milked daily with Empires and if they could talk they'd tell you that they like its gentle, uniform action as well as their owners like the profits it enables them to make by cutting down the time and cost of milking and making them independent of the hired help problem.

See the nearest Empire dealer—or write us for Catalog 25-M
EMPIRE CREAM SEPARATOR CO.
Bloomfield N. J.
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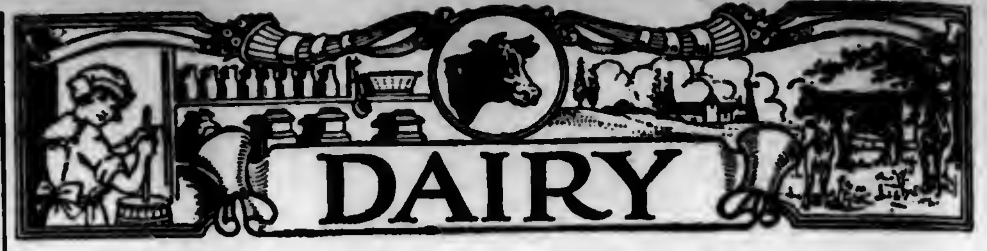

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You can't work effectively and fight flies at the same time; neither can the cows. Spraying will help.

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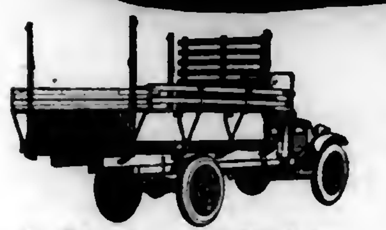
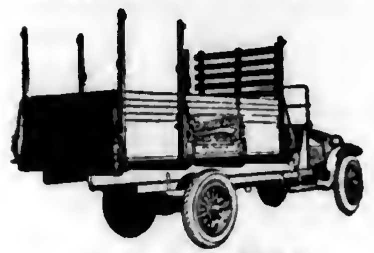
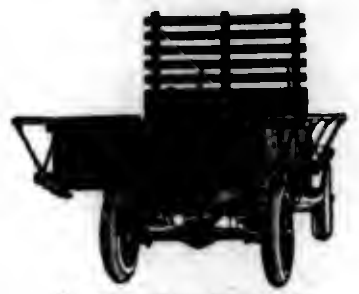
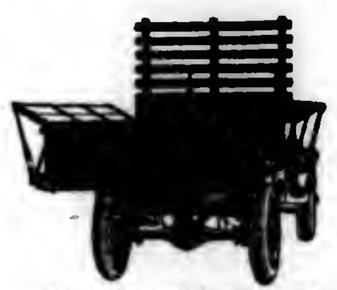

For Baskets, Crates and Boxes


Grain Tight Body


Handling Hay, Straw, etc.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There is a larger proportion of payload weight to truck weight in a Commerce Chassis, A truck built of the stuff Commerce is made of could not fail to make good—**and they have for ten years.**

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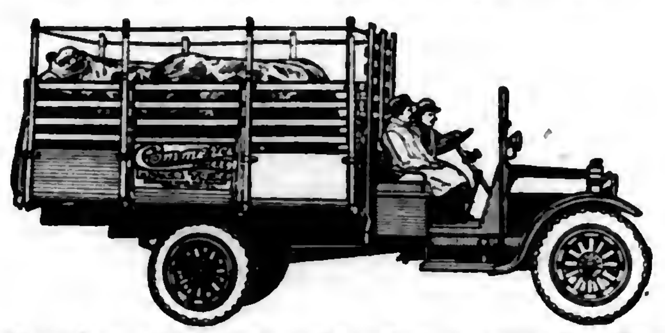
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DAIRY

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GUERNSEY BULLS

The proportion of Guernsey bulls to Guernsey females that were recorded in the Herd Register of The American Guernsey Cattle Club during the fiscal year 1919-1920 was 64 percent. If as many bulls as females has been imported from the Island of Guernsey the percentage would have been higher. According to the statements issued by the U. S. Department of Agriculture, a larger percentage of all Guernsey bulls are registered than bulls of any of the other dairy breeds.

You can't work effectively and fight flies at the same time; neither can the cows. Spraying will help.

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The Modern Truck for the Farm

The ponderous, slow, costly solid Tire truck is out of date for farm use. Commerce trucks carry loads up to 2 tons capacity on big pneumatic cord tires that cushion truck and load, inerease speed reduce gasoline, oil and repair costs.

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The farmers of America without any special efforts on our part were quick to realize the value of the Commerce truck—during the past 2 years this 10 year old factory sold 60 per cent of its output for farm work. We are the largest producers of 1 to 2 ton capacity trucks in America.

Commerce trucks are scientifically designed, sold on their merit by a Company that is strong financially and assured of continued success.

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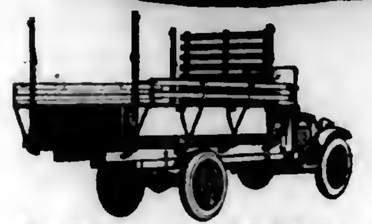
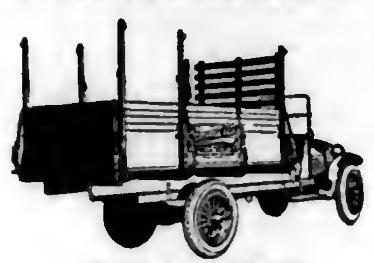
Fully Equipped Speedy Dependable Pneumatic Cord Tires
A Wide Range of Bodies to Select From

THE COMMERCE MOTOR CAR CO., DETROIT, MICH.
Tenth Year Manufacturers of Motor Trucks


For Baskets, Crates and Boxes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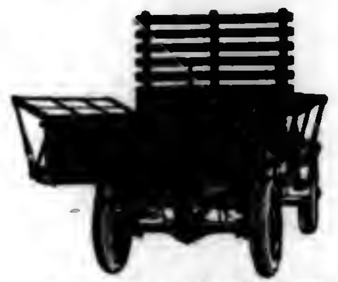
Handling Hay, Straw, etc.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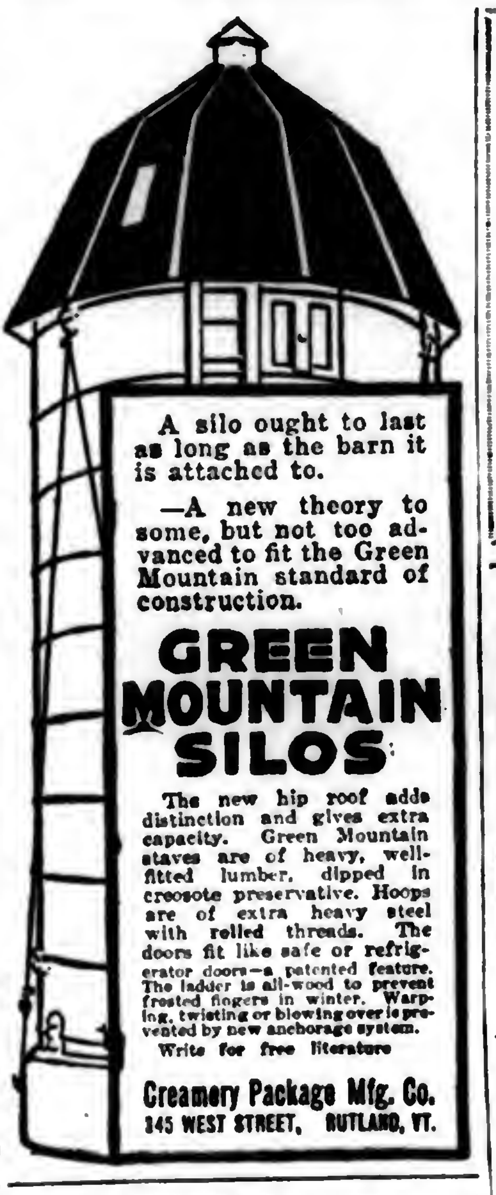
Stock Rack with Watertight Under-Body—the other four illustrations are this same body which can be instantly converted by one man with no tools into the types shown herewith



A silo ought to last as long as the barn it is attached to.
—A new theory to some, but not too advanced to fit the Green Mountain standard of construction.
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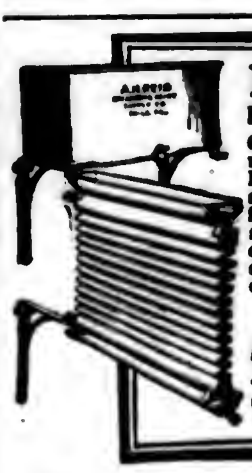

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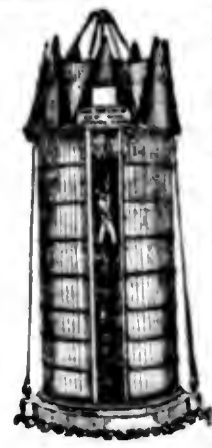

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HORTICULTURE

CONTROLLING THE CODLING MOTH

By J. P. STEWART

Preparing Spinch For Market

The usual advice and practice followed by most commercial orchardists in controlling the codling moth, is to spray with lime-sulphur solution and lead arsenate immediately after the petals fall, and again about ten days or two weeks later with the same materials. In case there is special danger, this application may be again repeated about the last week in July or the first week in August.

Fortunately, in the average season and on varieties such as the York imperial which are not especially subject to infestation by this pest, the above practice may be all that is needed. In any event, the time of the first and third of these applications cannot be changed materially, as they are based on definite habits and facts which these two applications have been very carefully adjusted to meet. The second application, however, is the one that is usually put on altogether too blindly, and hence is the point at which the greatest improvement is capable of being made.

This second codling application is intended to cover the foliage and to be in the best possible condition to poison the young worms during their brief preliminary feeding on the foliage before making their way to the fruit. The present general advice in regard to it, however, assumes a very much earlier appearance of these worms, however, than practically all exact studies of the matter indicate to be the case. Unfortunately, we have no definite data on the exact date of emergence of the adult moths in the commercial apple-growing sections of Southern Pennsylvania and adjacent territory, but from similar studies elsewhere, we can safely expect that no considerable number of young worms will appear before at least four weeks, and more probably five weeks, after the petals fall, in an average season.

In Western New York, for example, where this matter has been under close observation for the last eight or nine years, the records show that the first eggs are usually laid there about June 28; that the rate of egg-laying usually rises to a maximum from about July 1 to 15, and that it then gradually declines to the end of July. Since it takes about a week as a rule for the first eggs to hatch, and the petals are usually off in the region named by June 1st, it is evident that practically no young worms will appear there before five weeks after petals fall, and that they will continue appearing for fully a month after that. In cool season, such as the present, the activities of this pest will be delayed even more.

These results and conclusions are fully corroborated by the similar studies in Erie County, Penna., by Hammer; by those in New Hampshire by Sanderson; and by those in Illinois by Forbes and his associates. Practically all the careful students of this particular pest are agreed that the new crop of worms seldom or never appears earlier than four weeks after the petals fall, and yet the current advice and practice in connection with the second application which is designed especially to catch these worms, is to get it on fully two weeks too early. This mistake has resulted in at least one definite epidemic or worminess, in southern Illinois, and it undoubtedly is responsible for much of the worminess that regularly appears in many of our orchards in spite of earnest efforts to overcome it.

The possible importance of a correct timing of this second application, moreover, may be appreciated when it is known that in experimental work in New Hampshire, more than seventy-five percent of the worms were killed by this application alone, when it was correctly timed.

Best Way to Time the Second Application

In the absence of special scientific advice each season, and in view of the fact that temperature exerts such a potent influence in the matter, the very best way for the orchardist to determine the right time to make the second application for the codling moth is to collect several of the overwintering larvae or worms, and keep them under observation, preferably in a simple breeding cage under orchard conditions, until the moths which develop from them begin to emerge. An ordinary, tight wooden box, with a little dirt in the bottom and some mosquito wire netting tightly fastened over the top, or preferably around the sides with the top left on, will be all that is needed for the breeding cage, and the necessary "worms" to charge it with should not be difficult for the average orchardist to find. It is important, however, to keep it under regular orchard conditions and to have it where it can be seen regularly without too much trouble. It is also important that the owner be able to recognize the rather inconspicuous and quiet adult moths when they appear.

It is usually a couple of weeks after the first moths emerge before any young worms are hatched, so the wide-awake owner has an ample start in the race, if everything else is in readiness. We are inclined to think that the addition of this simple device to the equipment of the average commercial orchard, and its regular use in a more accurate timing of the second spray for the codling moth would be one of the biggest and most paying improvements in current spraying practice that we can suggest.

TO PROTECT RASPBERRY PLANTS FROM ANTHRACNOSE

Every year many raspberry plants are destroyed by anthracnose. This can be prevented by spraying and clean up methods.

First, remove diseased canes. Second, spray with concentrated lime sulphur wash (the dry substitutes will not give results). The first spray is made before growth starts, diluting the concentrate at the rate of two and a half gallons to fifty gallons of water.

The second application is made when the new growth is six or seven inches long and the third application just before the plants bloom. For these two applications, dilute the concentrated lime sulphur one quart to ten gallons of water. Be sure to cover every portion of the plant from the ground up.

WOOLLY APHIDS ON ELM

Every year the Bureau of Plant Industry, Pennsylvania Department of Agriculture, receives many inquiries regarding the curling of elm leaves. This is due to the woolly aphid which spends most of the time on the apple, but migrates to the elm for part of the year.

Spray before the elm leaves commence to curl using one of the tobacco extracts containing 40 percent nicotine sulphate. Dilute it at the rate of one part to 800 parts of water. Dissolve and add an ounce of soap to act as a sticker and spreader.

DUST SULPHUR TO KILL THE STRAWBERRY WEEVIL

Thousand of dollars damage is done annually to strawberry beds by the strawberry weevil. This insect cuts the blossom stems so that fruit does not develop. This trouble can be entirely overcome by dusting with sulphur dust and arsenate of lead at the rate of one pound of lead arsenate to five of sulphur. Make two applications a week apart when the insects first appear.

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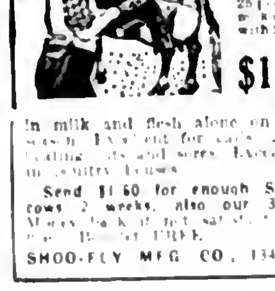

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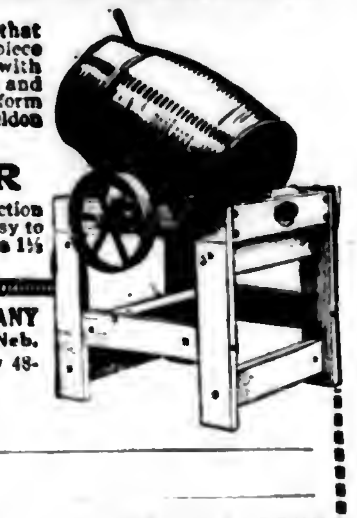

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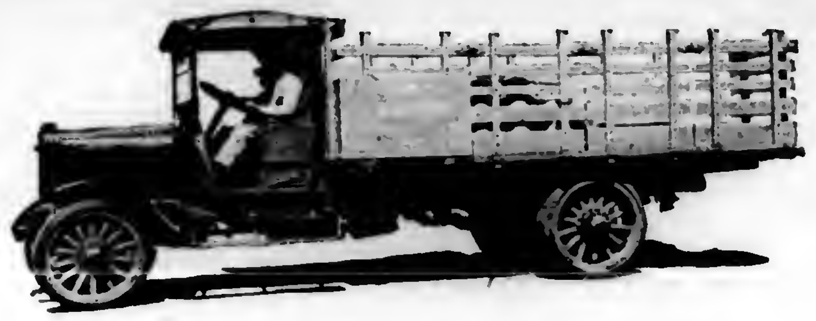

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White Leghorns, $18 per 100. Barred Rocks, $18 per 100. Safe delivery and full count by parcel post prepaid guaranteed. These chicks are bred from hens with profit paying qualities including quick maturity fixed in them by years of breeding for that purpose. Ready for shipment May 25, June 2, June 14. Cash with order. No order accepted for less than 100.
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	100	50	25
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On Sumneytown Pike, Penllyn, Pa., on Phila. & Allentown Trolley, 2 Miles Ambler or Penllyn Station, P. & R. R. R., 20 Miles Norh from Phila.
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25 REG. GUERNSEY Cows and Heifers and 5 Bulls, including 10 head of imported cows. The herd includes daughters and granddaughters of Governor of the Chene, Polly's Pride, Golden Noble's Lad, May King's Laddie of Chilmark, Brilliant of the Tiree 11, and other equally good Guernsey sires, and from dams of the best Guernsey lines, 3 cows on A. R. test.
5 REG. JERSEY Cows and Heifers, and 2 Bulls, inc. a grandson of Noble of Oaklands, and the cow Queen Rugo of Belle Farm, 300019, just finishing her R. of M. test with a fine record.
7 GRADE JERSEY cows and heifers.
All cattle tuberculin tested May 6th and 7th, 1920, and free from contagious abortion.
50 REG. BERKSHIRE hogs, incl. Epochal's Herdmaster, 262608, a son of Epochal; Majestic Leader 3rd, 237961, son of Grand Leader 2nd and grandson of Superbus, 6 young boars sired by above. Also, Opportunity, 23,705, and approx. 40 head of best quality bred sows and gilts, many sired by above boars, and bred to the opposite line. Also young stock from spring litters. All hogs double treated, spring pigs single treated.
6 High-grade Percheron and Clydesdale mares, fillies and 2 horses, 350 chickens, ducks, geese and turkeys, 20 Dorset sheep and lambs. Case 9-18 tractor, Ford and Pierce Arrow trucks, Dodge Runabout, 5 H. P. motor, 2 gas engines.
95 acres of growing corn, oats and grass, 100 bu. oats, 250 bu. corn.
3 hay wagons, cattle wagon, 3 manure spreaders and complete list of farm machinery and equipment.
22 poultry and hog houses—numerous small items.
Mr. Hanlon leaves for Australia about August 1st, and this is a complete dispersal without reserve, except on one animal. Lunch served. The Greenore Farm of approx. 150 acres is for sale as a whole or in divided form or will rent the mansion place of 53 acres with furnishings of dwelling. Details on request.

Detailed catalogue with full pedigrees of all animals mailed on request.

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Many of the best hens may be suitable for foundation breeding stock for other farmers. If these hens are of strong vigor and good laying ability they can often be sold for more than their market value to new breeders of purebred poultry who are anxious to buy them. But do not sell hens for breeding stock if those hens are not good enough for breeders. Too many new poultry keepers have become disheartened from buying cull hens and attempting to use them as foundation stock for developing a successful poultry business.

* * *

Farmers do not seem to know as much about each other's business as was the case years ago. Possibly they read more and visit less. At least a small advertisement will bring customers from a few miles from home that did not know what you had for sale until they read the advertisement. It is now the custom to look for an advertisement when you wish to buy something. You do not waste much time running around the country to find out what the neighbors have for sale. This information can be applied successfully to the selling of purebred poultry.

* * *

Give the mother hens a little green feed if they are in brood coops. Be sure that they have plenty of water every day. It is cruel to fasten up an old hen in a small hot brood coop and then neglect her. Place the brood coops in the shade and the hen and chicks will be more thrifty and mites will breed less rapidly. Keep the mother hen thrifty and she will lay as soon as the chicks are weaned or before. Neglect her and she will not return to laying condition for many weeks as the process of brooding chicks has a very devitalizing effect on a neglected and poorly fed mother hen.

* * *

It is not necessary to feed the mother hen on scratch feed that is chick size. Carry two feed buckets when visiting the brood coops. Give the chicks a handful of fine scratch feed and when they start eating slip the hen a handful of whole corn. A mother hen will never obtain a crop full of grain if she has to pick fine bits of grain in competition with a dozen thrifty chicks.

* * *

Early rising is a necessity in the poultry business if the houses are locked at night and that is also necessary. Chicks do not like early morning confinement and their growth is retarded if they cannot hunt for bugs and worms in the cool morning hours. They are also very thirsty mornings when they come away from the brooder stoves and fresh cool water should be supplied at once. Chicks will leave their feed to drink. When they lack water they do not grow rapidly. It is a cheap poultry necessity and the most important item in the ration.—R. G. Kirby, Lansing, Mich.

CAPONS AND CAPONIZING

During the months of late fall, winter and early spring, the most tender and best flavored poultry meat is the capon. It commands the highest price. The early hatched chicks of each season, those that leave the incubator in March or April, may be sold as broilers or roasters at a satisfactory price.

The cockerels that are hatched later, however, do not reach the size required for marketing until after the season of the best prices. These may be caponized so that they will remain soft, as the saying is, until they have attained large size and until the market will pay a good price for them. The age at which it is best to perform the operation depends considerably upon the breed of the chicks and upon their growth and development. As a general rule, birds of the American and Asiatic breeds which are best adapted to the purpose, should be caponized when they weigh from two to three pounds, or at the time when they first begin to develop into vigorous males. Operations performed earlier are seldom successful and attempts made after the chicks are larger and older, require more skill and even then are performed with some chance of loss.

Little equipment is needed. Good tools, manufactured for the purpose, may be obtained for $2.50 a set, and if kept in first class condition seldom give any trouble. A table or the top of a barrel may be used for doing the work.

The operation properly performed, with good tools, is not a cruel one. There is no question but that some pain is felt by the chick at the time of removing the organs, but the fact that the capon will usually take food immediately upon being released from the operating table is good evidence that the suffering is short lived. It is best for the novice to operate upon dead chickens until he is satisfied that he can do the work correctly and rapidly. Chickens that are killed for the family table may be operated on in this manner without in any way subtracting from their value for the purpose intended. A fairly expert operator has no difficulty in handling ten to fifteen an hour, while very expert caponizers claim to be able to complete the operation in three minutes.

The nature of the caponized chicken is almost opposite to that of the cockerel of the same age.

A large proportion of the food consumed by cockerels is used to maintain energy while his nature and activity build strong, hard muscle and solid flesh. The capon takes life quietly, using most of his food in the production of flesh which does not become hard and full of fiber, but remains tender for months.

The manner of feeding is not different from that required for growing market poultry of any kind. The same foods are used for building frame and flesh and for putting on the fat which are required for producing any first-class cooking fowl. At the same time that the capons are increasing in weight, their flesh is also increasing in value so that the gain is in a manner two-fold. They are usually placed on the market when seven to nine months old.—C. A. Umoselle, Atlantic Co., N. J.

WHY PEOPLE HAVE BAD LUCK WITH CHICKENS

Every year with the advent of spring, thousands get the "chicken fever" and they incubate a lot of the little fluffy fellows.

A problem now looms up—their care—and here is where they fall down. The young of all animals require frequent and small feedings. Too many housewives have a hard and fast rule of 3-times-a-day feeding; and worse yet, at irregular hours. The chicks almost famish until a late hour for their first feed. They are then thrown aplenty and they gorge themselves.

Water is also given them and left expose to the hot sun until the next feed which may be any where from 12 noon until nearly 2 P. M. some days sooner, another day later. Fresh water may be given them, but not unvoidably that will come with the evening feed.

This is the routine and when it continues it is safe to say disaster is not very far off. Indigestion and bowel troubles take their toll and their little dead bodies are mute evidence of the ignorance or carelessness of the attendant. Poultry literature giving the experience of the successful, abounds in almost every mail but these people heed it not judging by their method.

Thus they continue from year to year despite the fact they have the opportunity for greater possibilities. They remain in the old rut and each season, before snow flies, they are fortunate if they have saved five percent of their flock and they dolefully repeat the old cry, "I had bad luck with my chickens this year."—Observer.

PLANTING THE WINDBREAK

As a protection for the poultry and colony houses we planted a windbreak this year of Norway Spruce about eighteen inches high. On the west, which is the direction of the prevailing winds we planted a double wind-break. The rows are six feet apart and the trees ten feet apart in the row. They are planted alternately and when well developed will furnish a good protection.

Norway Spruce are reported very satisfactory unless the soil is very moist. White Pine is also extensively used. We like the Spruce the best because they seem a little more attractive in appearance and denser in growth.

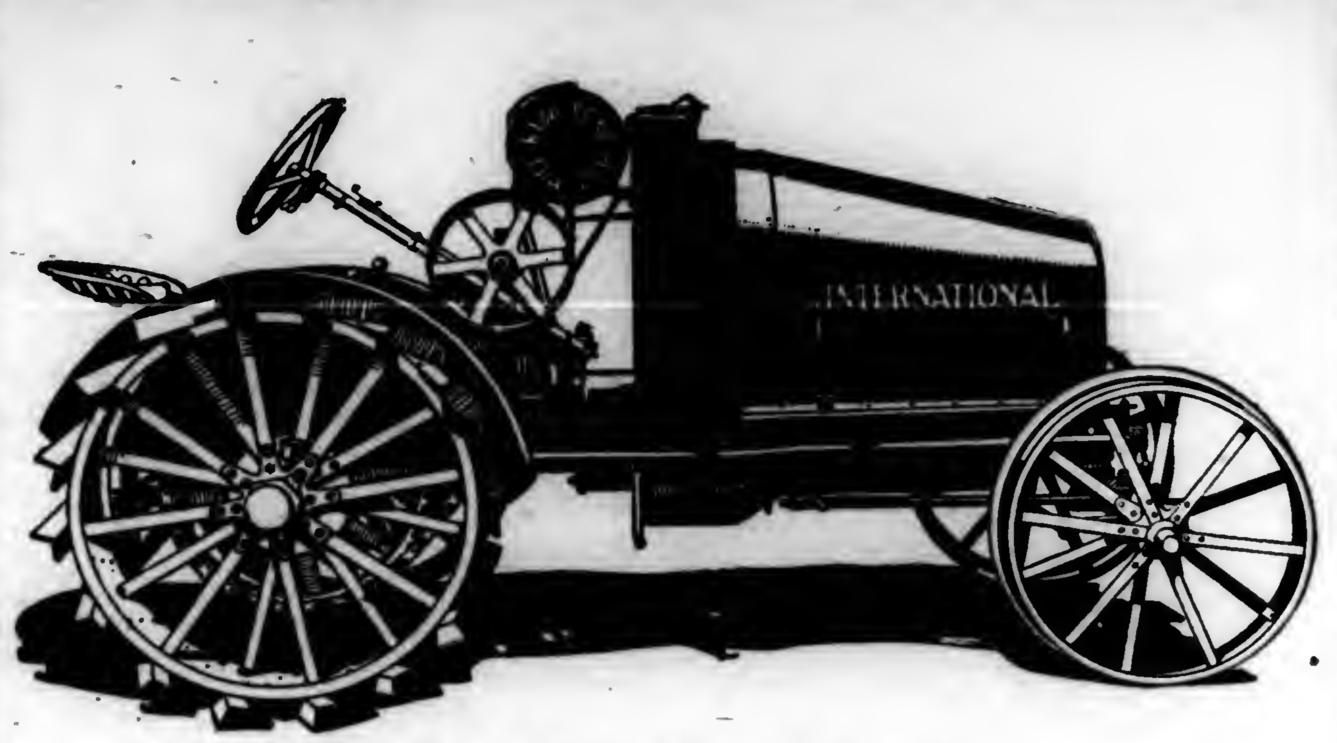
In planting the young evergreens it pays to keep the roots very moist. The seedlings can be placed in a tub of water until planted. The moisture on the roots helps the dirt to stick to them. If planted in a sod field it pays to hoe around them once or twice the first year. This keeps the grass from choking the young trees and helps them to start a rapid growth.—R. G. K.

He had had bad luck fishing, and on his way home he entered the butcher shop and said to the dealer: "Just stand over there and throw me five of the biggest of those trout!"

"Throw 'em? What for?" asked the dealer in amazement.

"So I can tell the family I caught em. I may be a poor fisherman, but I'm no liar."

Spray, O farmer, spray with care,
Spray the potato, peach and pear;
Spray for scab and spray for blight,
Spray, O spray, and DO IT RIGHT.



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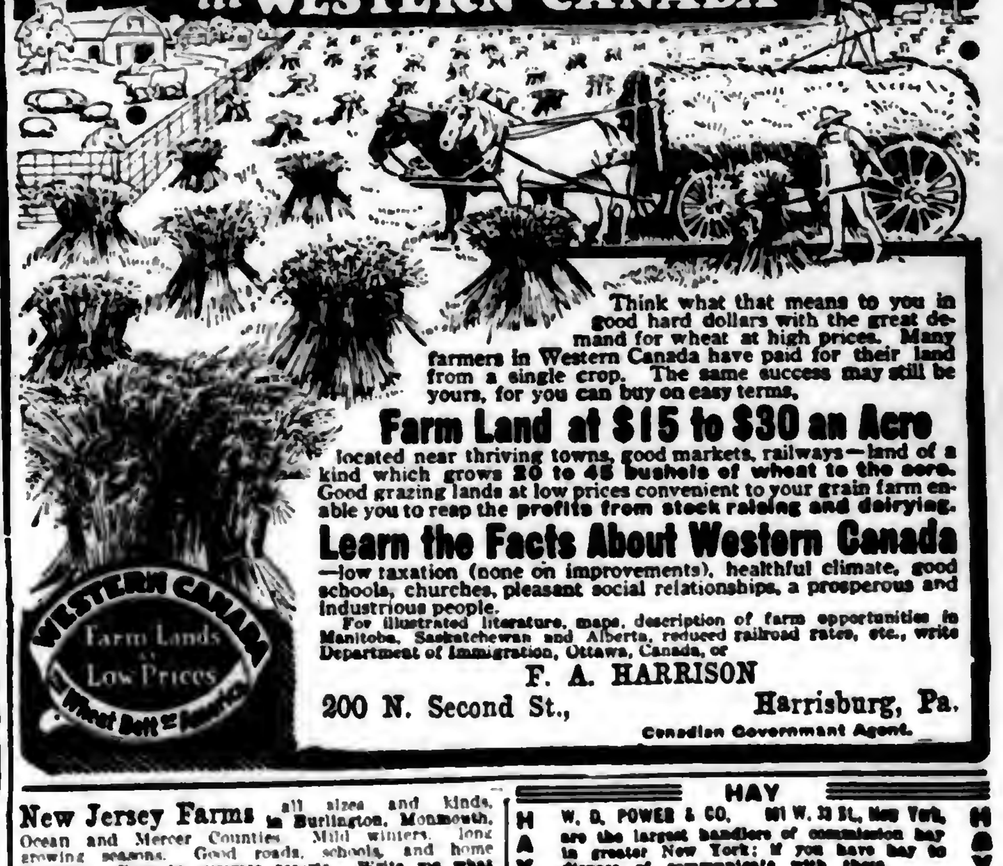

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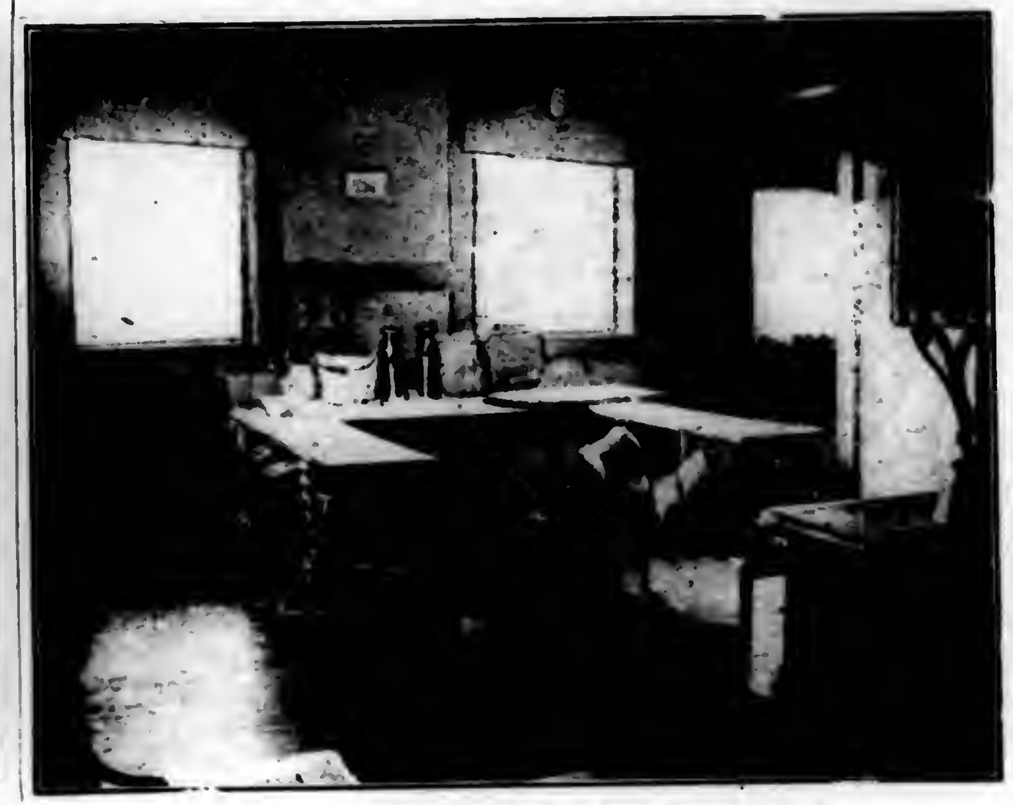
HOUSEHOLD

HANDY KITCHEN ARRANGEMENT

How many women, I wonder, have kitchens planned by men whose one idea was to get in the stove, sink, table, and chairs, with no thought as to the best relation to each other, to the windows, and to the dining room to save the time, energy and health of the housewife?

For those who have visions of a better kitchen here are a few suggestions: The accompanying picture shows my kitchen arrangement, which has proved a real saver of time and labor. The first consideration was the size; 14 x 16 was decided large enough for the desired arrangement of the fixtures. A larger kitchen would have been a waste of space, and would mean unnecessary walking, while a smaller room would have made it too crowded.



Mrs. Leadbetter's Handy Kitchen Arrangement

At one end of the room are two large windows, which gave a restful view of the lawn and excellent light for the entire room. Opening thru the wall on the right are two doors, one between the kitchen and the dining room, and one leads into the pantry, in which are the refrigerator and a large window. The other door opens into a large linen closet. On the opposite side of the room a door opens onto the screened porch, and at the other end of the room a door opens into the back hall. A door also opens directly from the porch into the back hall, hence it is not necessary for people going from the porch to other parts of the house to go thru the kitchen. This saves a great deal of dirt and confusion in the kitchen.

Placing a sink in the middle of the floor so there will be no chance for dirt to collect behind it was a new idea, but I insisted on it, much to the disgust of the plumbers. This sink with its drain board is not only cleaner, but saves spattered walls, is well lighted, being in front of the two windows, and is handy to the cooking center, thus saving many steps. It is just far enough away from the end wall to place an ordinary kitchen table between the two.

Extending from the sink and drain board lengthwise of the room either side, thus forming a hollow oblong to work in. Around the top shelves hooks are screwed to hold cooking utensils, pans, etc. The tops of the benches and the sink are on a level, and of such height that I can stand erect while working at them. They give excellent working space. On the lower shelves are spaces for other pans, covers, and things that can' not be hung up, for materials used around the sink, etc.

On one end of the table, between the sink and the wall, is kept cooking materials. On the other end I lay the mixing board, which when not in use hangs conveniently by, with the rolling pin, biscuit cutter, etc., on hooks in the window sill. Since the table is between two windows, it gives good light for mixing.

At the open end of the oblong formed by the sink and shelves is my kitchen range. This has a warming oven, on top of which I keep salt, pepper and other materials in constant use around the stove. If yours is not such a stove or if you use an oil stove, have a few shallow shelves put up back of the stove to hold these things.

Amount of Time It Saves

When we realize that a little care in arranging a kitchen can save a quarter to half a mile a day in getting three meals, you will understand why I spent so much thought on my kitchen plans. Thus arranged, the distance from my stove to the sink is short. There is working space on the shelves for mixing things, and it is only a step to the sink, where I can reach across to the table behind for any dry ingredients. When it is necessary to use the mixing board I need step only to the table where all dry ingredients and sink are still within each reach.

To make the working space even smaller one could have the shelves wide enough for the mixing board, and in that way would not need to go out of the inner space for anything. Or by using a kitchen table with a drawer and an "over shelf" with hooks for cups, spoons, etc., in place of one row of shelves, and the are two long two-shelf benches on lower half of a kitchen cabinet in place of the other row, one could reduce the working space to a still smaller unit. The space under the window could be devoted to a couch, which would add another strength saver.

Beauty in One's Kitchen

I wanted my kitchen as artistic as it is handy. So I painted the lower part of the walls a pretty Dutch blue, and the upper part buff. Quaint little colonial pictures in blue hang on the walls, and on the floor is a blue and tan rag rug to stand on while I work in the open square. The woodwork and floors were finished in the natural color of the wood. And in the corner of the room between the stove and the linen closet, I have a comfortable rocking chair to drop into for a brief rest.—Mrs. J. C. Leadbetter, Oswego County, N. Y.

HELP ON THE WASHINGS

Over-tired and over-busy mothers compelled to do their own laundry work should make soap and water and boiling do most of the work. Soap well each soiled piece and spot with some good naptha or soft soap, roll tightly and placed in cool or tepid water over night; if very much soiled, rub slightly with the hands or on a rub board, place in cold water to which is added some good washing powder (sal soda is effective and inexpensive), and let be until they come to a boil. I let very dirty clothes boil a few minutes, for it loosens the dirt wonderfully and "sweetens" the garments also, especially in warm weather when people perspire freely.

As to the ironing, remember that sheets, towels and all every-day underwear, men's every-day shirts, overalls, and all hosiery, if you take care when hanging them upon the line to dry, to straighten them properly, will be smoothed sufficiently, and ready to fold right from the clothes line. Don't crowd them hit and miss into the basket, and expect them to look smooth. Each piece must be carefully folded as it is removed from the line, then laid flat in the basket. If not dry enough to be put away, you can air them in the house. How sweet sheets smell when treated this way! The hot iron removes all this sweetness from the clothing, besides removing lots of uncalled-for strength from the busy housewife.—Mrs. Dana Burchard, Tioga County, Pa.

CARE WITH DRINKING CUPS

"Will you say something about drinking cups," a woman recently asked a lecturer on hygiene. "There are so many persons who are so careless."

She was right; there are still many persons who are careless about drinking cups. Many mothers seem to think that they can not harm their children by giving them drinks out of the same cups which they themselves have used.

If a mother has a cold and drinks from a glass and then gives her child a drink from the glass she is almost sure to transfer germs of the disease to the child. A mother may have germs of other diseases in her mouth of which she is not aware. If she lets her children use the same cups or spoons as she does she may pass these germs on to the children. The germs may make the child very ill when they have not affected the mother at all. It is therefore hardly safer for mothers to let children use the dishes they have used than it is to let them use the dishes of strangers.

Children should be trained from infancy to use their own drinking cups and spoons and not those of other persons. The mother can train them not to use her cup without offending any one who is sensitive but has thoughtless habits. If a child forms the habit of not using any one's cup he will not be offended when others object to drinking after him. In fact he will influence them not to do so.

Most germs live longer in places where there is some moisture than in dry places, so the drinking cup is much more dangerous than the air of a room where a person is ill.

Most persons understand today about the danger of drinking after strangers but many still have to be educated to be more careful at home. —Edith Allen.

HOME COGITATIONS

Honey, cream cheese and nuts. Try this combination for sandwich filling for next Sunday night's tea.

* * *

An overdose of sizing will often make new cotton cloth seem finer and firmer than it really is. When in doubt, boil a sample, rub in hot water, dry and examine.

* * *

They say that 50 percent of all the eggs produced in New Jersey are from the "farm flock." And it's usually the farm women who manage this flock for "pin money."

* * *

A good homemade cleaner for white straw hats is made from one ounce salts of lemon mixed with one ounce flowers of sulfur dissolved in hot water. Apply with a brush, let stand until dry, then brush thoroly.

* * *

"Expense forms for farm women" is a new household tool used in Maryland, and is proving popular because keeping account expenses is the first step in economy.

* * *

Did you ever try a turkish towel for drying cut glass?

* * *

Where do you keep your garbage can? Right by the table or sink where you want it or out on the back porch where it takes ten to a dozen steps to reach it and as many to return.

* * *

Why don't you make a wheel tray yourself or bribe the man of the house into doing it. New Jersey women should write to Mrs. Frank App, Agricultural College, New Brunswick, N. J., for instructions.

* * *

The average farm home uses annually about 2,600 quarts of milk, in butter, cheese, milk and cream.

* * *

Wear old clothes. Let patches be your badge of honor.

* * *

Blocks of wood under the kitchen table will bring it up to the right height, but raising the sink isn't so easy, therefore try using blocks of wood under the dishpan or other utensils with which you work in the sink.

* * *

Do not let the rhubarb go to waste because of sugar shortage. To eat now, stew it with sweet fruits, such as raisins, dates, or figs. For winter can a generous supply, using no sugar and barely enough water to keep it from burning onto the bottom of the kettle. With the bulk thus reduced pour it into cans, put on the rubbers and the covers loosely, set in a water bath and cook 8 minutes after the water bath begins to boil. Tighten covers as soon as you can lift them from the boiler.

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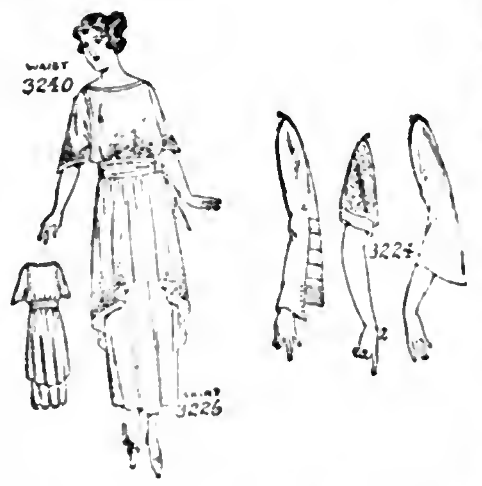
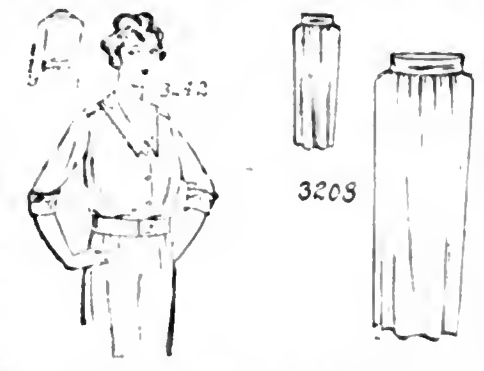
Give figures and letters of each pattern exactly as printed at beginning of each description or we will not be responsible for correct filling of orders. Give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261 S. Third Street, Philadelphia, Pa.

3240.—3226.—A Pretty Summer Frock.—Comprising blouse pattern 3240, cut in 7 sizes: 34, 36, 38, 40, 42 44 and 46 inches bust measure, and skirt pattern 3226 cut in 7 sizes: 22, 24, 26, 28, 30, 32, and 34 inches waist measure. The width of the skirt at its lower edge is 1⅞ yard. It will require 8 yards of 36-inch material for a medium size, for the entire dress of one material. As here shown embroidered linen was used. This illustration calls for two separate patterns, which cost 10 cents each.



3224.—New Sleeves.—Pattern is cut in 4 sizes: Small, 10; medium, 12; large, 14; extra large, 16 inches, over fullest part of the arm. It will require 1¼ yard of 27-inch material for No. 1, ⅞ yard of 36-inch material for No. 2, and ⅝ yard of 36-inch material for No. 3, for one pair of sleeves in medium size. No. 1 is fine for satin, silk, linen and cloth. No. 2 for lace, georgette, silk or combinations of material. No. 3 for silk or colth, wash materials and sheer fabrics. Pattern, 10 cents.

3242.—Shirt Waist.—Pattern, is cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. A 38 inch size will require 2¼ yards of 27-inch material. As here shown, handkerchief linen was used. Collar and Cuffs are embroidered in a simple stitch and are finished with "rick rack" braid. Pattern, 10 cents.



3208.—New Skirt.—Pattern is cut in 7 sizes: 22, 24, 26, 28, 30, 32 and 34 inches waist measure. Medium size will require 3¼ yards of 54-inch material. The width of the skirt at lower edge is about 1¾ yard. The plaits may be unconfined below hip or knee length. Pattern, 10 cents.

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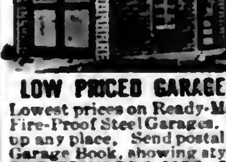

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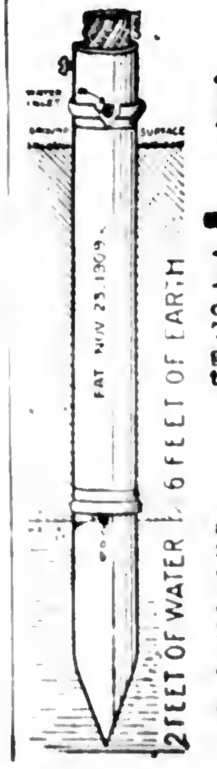

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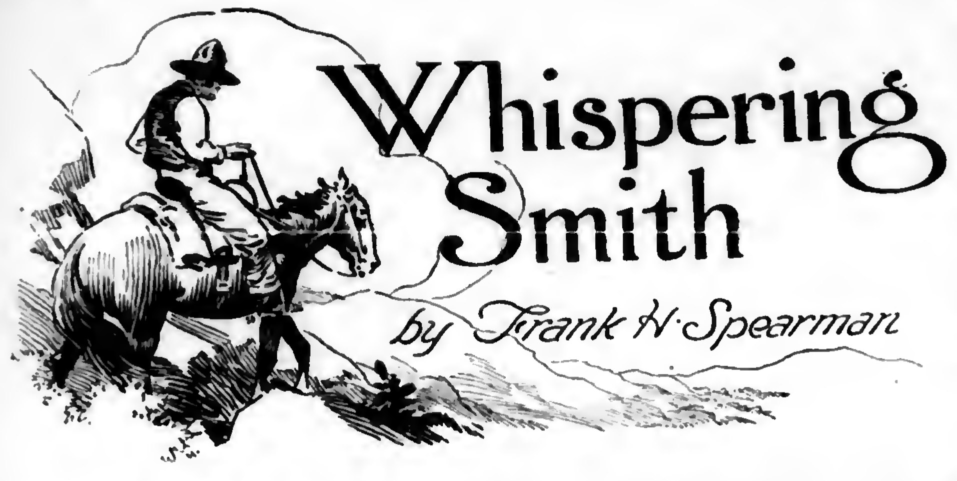


Whispering Smith

by Frank H. Spearman

SYNOPSIS OF PREVIOUS CHAPTERS

The wrecking of a heavy freight train at Smoky Creek had piled up dozens of box cars loaded with merchandise. The wrecking crew, lead by Sinclair the foreman, was at work clearing the tracks when McCloud the superintendent, arrived. It had been the custom of Sinclair and his crew to appropriate whatever their fancy suggested from the goods carried by a wrecked train. They were now loading up a wagon when McCloud arrived and stopped the pilfering. At this, Sinclair became angry and because they would not agree to stop looting were discharged. Sinclair afterwards told Whispering Smith that his mistake was in not then killing McCloud. The only one injured in the wreck was a tramp who called for help and water but Sinclair would give neither. Dicksie Dunning, of the Crawling Stone Ranch, suddenly appears upon the scene and she and McCloud become acquainted. The adherents of Sinclair tried to have him reinstated, but Phil Hailey was appointed in his place. McCloud, who had been threatened, nearly had a clash with Sinclair in the boarding house, but this was prevented by the tact of Marion Sinclair, the proprietress.

(Continued from Last Week.)

When the heavy train slowed up, two men boarded the engine and with pistols compelled the engineman to cut off the express cars and pull them to the water-tank a mile east of the station. Three men there in waiting forced the express car, blew open the safe, and the gang rode away half an hour later loaded with gold coin and currency.

Had a stick of dynamite been exploded under the Wickiup there could not have been more excitement at Medicine Bend. Within three hours after the news reached the town a posse under Sheriff Van Horn, with a carload of horseflesh and fourteen guns, was started for Sugar Buttes. The train led north and the pursuers rode until nearly nightfall. They crossed Dutch Flat and rode single file into a wooded canyon, where they came upon traces of a camp-fire. Van Horn, leading, jumped from his horse and thrust his hand into the ashes; they were still warm, and he shouted to his men to ride up. As he called out, a rifle cracked from the box-elder trees ahead of him. The sheriff fell, shot thru the head, and a deputy springing from his saddle to pick him up was shot in precisely the same way, thru the head. The riderless horses bolted; the posse, thrown into a panic, did not fire a shot, and for an hour dared not ride back for the bodies. After dark they got the two dead men and at midnight rode with them into Sleepy Cat.

he was talking with Bucks over the wires. Bucks had got into headquarters at the river late that night, and was getting details from McCloud of the Sugar Buttes robbery when the superintendent sent him the news of the killing of Van Horn and the deputy. In the answer that Bucks sent, came a name new to the wires of the mountain division and rarely seen even in special correspondence, but Hughie Morrison, who took the message, never forgot that name; indeed, it was soon to be thrown sharply into the spotlight of the mountain railroad stage. Hughie repeated the message to get it letter-perfect; to handle stuff at the Wickiup signed "J. S. B." was like handling diamonds on a jeweller's tongs or arteries on a surgeon's hook; and, in truth, Bucks's words were the arteries and pulse-beat of the mountain division. Hughie handed the message to McCloud and stood by while the superintendent read:

"Whispering Smith is due in Cheyenne to-morrow. Meet him at the Wickiup Sunday morning; he has full authority. I have told him to get these fellows, if it takes all the money in the treasury, and not to stop till he cleans them out of the Rocky Mountains." —J. S. B.

CHAPTER XI

At the Three Horses

Clean them out of the Rocky Mountains; that is a pretty good contract," mused the man in McCloud's office on Sunday morning. He sat opposite McCloud in Bucks's old easy chair and held in his hand Bucks's telegram. As he spoke he raised his eyebrows and settled back, but the unusual depth of the chair and the shortness of his legs left his chin helpless in his black tie, so that he was really no better off except that he had changed one position of discomfort for another. "I wonder, now," he mused, sitting forward again as McCloud watched him, "I wonder—you know, George, the Andes are, strictly speaking, a part of the great North American chain—whether Bucks meant to include the South American ranges in that message?" and a look of mildly good-natured anticipation overspread his face.

"Suppose you wire him and find out," suggested McCloud.

"No, George, no! Bucks never was accurate in geographical expressions. Besides, he is shifty and would probably cover his tracks by telling me to report progress when I got to Panama."

A clerk opened the outer office door. "Mr. Dancing asks if he can see you, Mr. McCloud."

"Tell him I am busy."

Bill Dancing, close on the clerk's heels, spoke for himself. "I know it, Mr. McCloud, I know it!" he interposed urgently, "but let me speak to you just a moment." Hat in hand, Bill, because no one would knock him down to keep him out, pushed into the room. "I've got a plan," he urged, "in regards to getting these hold-ups."

"How are you, Bill?" exclaimed the man in the easy chair, jumping hastily to his feet and shaking Dancing's hand. Then quite as hastily he sat down, crossed his knees violently, stared at the giant lineman, and exclaimed, "Let's have it!"

Dancing looked at him in silence and with some contempt. The trainmaster had broken in on the superintendent for a moment and the two were conferring in an undertone. "What might your name be, mister?" growled Dancing, addressing with some condescension the man in the easy chair.

The man waved his hand as if it were immaterial and answered with a single word: "Forgotten!"

"How's that?"

"Forgotten!"

"That's a blamed queer name—"

"On the contrary, it's a very common name and that is just the trouble; it's forgotten."

"What do you want, Bill?" demanded McCloud, turning to the lineman.

"Is this man all right?" asked Dancing, jerking his thumb toward the easy chair.

"I can't say; you'll have to ask him."

"I'll save you that trouble, Bill, by saying that if it's for the good of the division I am all right. Death to its enemies, damme, say I. Now go on, William, and give us your plan in regards to getting these hold-ups—yes."

Dancing looked from one man to the other, but McCloud appeared preoccupied and his visitor seemed wholly serious. "I don't want to take too much on myself——" Bill began, speaking to McCloud.

"You look as if you could carry a fair-sized load, William, provided it bore the right label," suggested the visitor, entirely amiable.

"—But nobody has felt worse over this thing and recent things——"

"Recent things," echoed the easy chair.

"—happening to the division that I have. Now I know there's been trouble on the division——"

"I think you are putting it too strong there, Bill, but let it pass."

"—there's been differences; misunderstandings and diffrences. So I says to myself maybe sonething might be done to get everybody together and bury the differences, like this: Murray Sinclair is in town; he feels bad over this thing, like any railroad man would. He's a mountain man, quick as the quickest with a gun, a good trailer, rides like a fiend, and can catch a streak of sunshine travelling on a pass. Why not put him at the head of a party to run 'em down?"

"Run 'em down," nodded the stranger.

"Differences such as be or may be ——"

"May be———"

"Being discussed when he brings 'em in dead or alive, and not before. That's what I said to Murray Sinclair, and Murray Sinclair is ready for to take home this minute and do what he can if he's asked. I told him plain I could promise no promises; that, I says, lays with George McCloud. Was I right, was I wrong? If I was wrong, right me; if I was right, say so. All I want is harmony."

The new man nodded approval. "Bully, Bill!" he exclaimed heartily.

"Mister," protested the lineman, with simple dignity, "I'd just a little rather you wouldn't bully me nor Bill me."

"All in good part, Bill, as you shall see; all in good part. Now before Mr. McCloud gives you his decision I want to be allowed a word. Your idea looks good to me. At first I may say it didn't. I am candid; I say it didn't. It looked like setting a dog to catch his own tail. Mind you, I don't say it can't be done. A dog can catch his own tail; they do do it," proclaimed the stranger in a low and emphatic undertone. "But," he added, moderating his utterance, "when they succeed—who gets anything out of it but the dog?" Bill Dancing, somewhat clouded and not deeming it well to be drawn into any damaging admissions, looked around for a cigar, and not seeing one, looked solemnly at the new Solomon and stroked his beard. "That is how it looked to me at first concluded the orator; "but, I say now it looks good to me, and as a stranger I may say I favor it."

Dancing tried to look unconcerned and seemed disposed to be friendly. "What might be your line of business?"

"Real estate. I am from Chicago. I sold everything that was for sale in Chicago and came out here to stake out the Spanish Sinks and the Great Salt Lake—yes. It's drying up and there's an immense opportunity for claims along the shore. I've been looking into it."

"Into the claims or into the lake?" asked McCloud.

"Into both; and, Mr. McCloud, I want to say I favor Mr. Dancing's idea that's all. Right wrongs no man. Let Bill see Sinclair and see what they can figure out." And having spoken, the stranger sank back and tried to look comfortable.

"I'll talk with you later about it, Bill," said McCloud briefly.

"Meantime, Bill, see Sinclair and report," suggested the stranger.

"It's as good as done," announced Dancing, taking up his hat "and Mr. McCloud, might I have a little advance for cigars and things?"

"Cigars and ammunition — of course. See Sykes, William, see Sykes; if the office is closed go to his house—and see what will happen to you—" added the visitor in an aside, "and tell him to telephone up to Mr. McCloud for instruction," he concluded unceremoniously.

"Now why do you want to start Bill on a fool business like that?" asked McCloud, as Bill Dancing took long steps from the room toward the office of Sykes, the cashier.

"He didn't know me today, but he will tomorrow," said the stranger reflectively. "Gods, what I've seen that man go thru in the days of the giants! Why, George, this will keep the boys talking, and they have to do something. Spend the money; the company is making it too fast anyway; they moved twenty-two thousand cars one day last week. Personally I'm glad to have a little fun out of it; it will be hell pure and undefiled long before we get thru. This will be an easy way of letting Sinclair know I am here. Bill will report me confidentially to him as a suspicious personage."

To the astonishment of Sykes, the superintendent confirmed over the telephone Dancing's statement that he was to draw some expense money. Bill asked for twenty-five dollars. Sykes offered him two, and Bill with some indignation accepted five. He spent all of this in trying to find Sinclair, and on the strength of his story to the boys borrowed five dollars more to prosecute the search. At ten o'clock that night he ran into Sinclair playing cards in the big room above the Three Horses.

The Three Horses still reares its hospitable two-story front in Fort Street, the only one of the Medicine Bend gambling houses that goes back to the days of '67; and it is the boast of its owners that since the key was thrown away ,thirty-nine years ago, its doors have never been closed, night or day, except once for two hours during the funeral of Dave Hawk. Bill Dancing drew Sinclair from his game and told him of the talk with McCloud, touching it up with natural enthusiasm. The bridgeman took the news in high good humor and slapped Dancing on the back. "Did you see him alone, Bill?" asked Sinclair, with interest. "Come over here, come along. I want you to meet a good friend. Here, Harvey, shake hands with Bill Dancing. Bill, this is old Harvey Du Sang, meanest man in the mountains to his enemies and the whitest to his friends—eh, Harvey?"

Harvey seemed uncommunicative. Studying his hand, he asked in a sour way whether it was a jack-pot, and upon being told that it was not, pushed forward some chips and looked stupidly up—tho Harvey was by no means stupid. "Proud to know you, sir," said Bill, bending frankly as he put out his hand. "Proud to know any friend of Murray Sinclair's. What might be your business?"

Again Du Sang appeared abstracted. He looked up at the giant lineman, who, in spite of his own size and strength, could have crushed him between his fingers, and hitched his chair a little, but got no further toward an answer and paid no attention whatever to Bill's extended hand.

"Cow business, Bill," interposed Sinclair. "Where? Why, up near the park, Bill, up near the park. Bill is an old friend of mine, Harvey. Shake hands with George Seagrue, Bill, and you know Henry Karg—and old Stormy Gorman—well, I guess you know him too," exclaimed Sinclair, introducing the other players. "Look here a minute, Harvey."

Harvey, much against his inclination, was drawn from the table and retired with Sinclair and Dancing to an empty corner, where Dancing told his story again. At the conclusion of it Harvey rather snorted. Sinclair asked questions. "Was anybody else there when you saw McCloud, Bill?"

"One man," answered Bill impressively.

"Who?"

"A stranger to me."

"A stranger? What did he look like?"

"Slender man and kind of odd talking, with a sandy mustache."

"Hear his name?"

"He told me his name, but it's skipped me, I declare. He's kind of dark-complected like."

"Stranger, eh?" mused Du Sang; his eyes were wandering over the room.

"Slender man," repeated Bill, "but I didn't take much notice of him. Said he was in the real estate business."

"In the real-estate business? And did he sit there while you talked this over with the college guy?" muttered Du Sang.

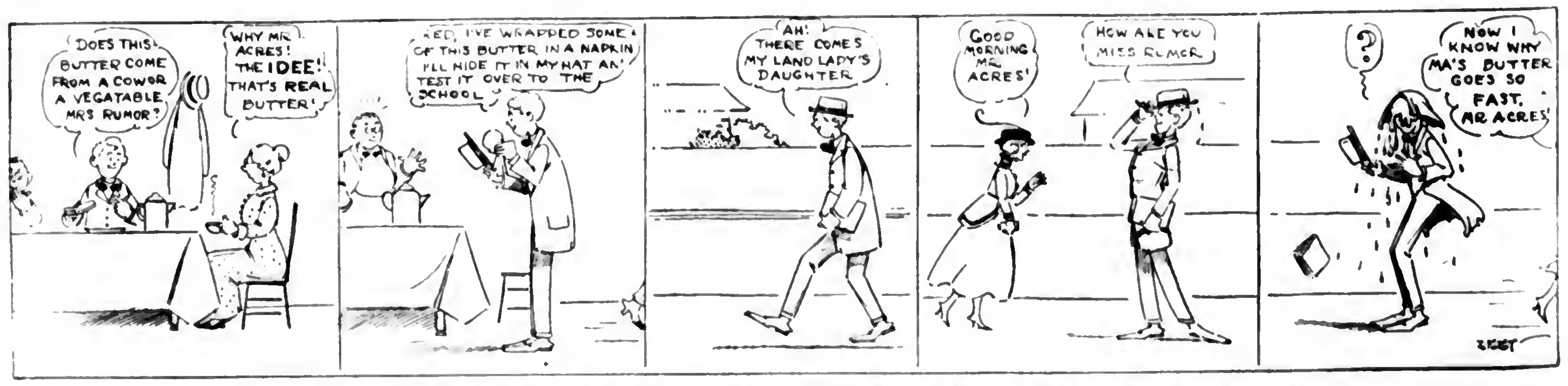
"He is all right, boys, and he said you'd know his name if I could speak it," declared Bill.

"Look anything like that man standing with his hands in his pockets over there by the wheel?" asked Du Sang, turning his back carefully on a new-comer as he made the suggestion.

"Where—there? No! Yes, hold on, that's the man there now! Hold on, now!" urged Bill, struggling with the excitement of ten hours and ten dollars all in one day. "His name sounded like Fogafty."

As Dancing spoke, Sinclair's eyes riveted on the new face at the other side of the gambling-room. "Fogarty, shucks!" he said, starting. "Stand right still, Du Sang; don't look around. That man is Whispering Smith."

(Continued Next Week.)


DOES THIS BUTTER COME FROM A COW OR A VEGATABLE MRS RUMOR?
WHY MR ACRES! THE IDEE! THAT'S REAL BUTTER!
ED, I'VE WRAPPED SOME OF THIS BUTTER IN A NAPKIN I'LL HIDE IT IN MY HAT AN' TEST IT OVER TO THE SCHOOL
AH! THERE COMES MY LAND LADY'S DAUGHTER
GOOD MORNING MR. ACRES!
HOW ARE YOU MISS RUMER
?
NOW I KNOW WHY MA'S BUTTER GOES SO FAST, MR ACRES!

AL Decides to Test the Butter He Eats, But His Gallantry Exposes Him and Explains the Loss of Butter

STORIES OF ENGLISH WORDS

Certain English words of Latin origin contain interesting pictures of past civilization that explain their meanings.

Janitor.—The Romans always had a slave who stood by the door. Since the latter was called "Janua," the term "janitor" came to be applied to him. Our janitors have a great many duties other than those connected with waiting upon the door; but this detail of Roman house management is crystallized in their name.

Pen.—The Romans were accustomed, altho in later times, to use quills for pens just as our ancestors did. So the Latin word for "feather," namely, penna," has come to us in our English word.

Caesar.—The Romans spoke of their emperors as "Caesars" and it is from this practice that the titles of "Kaiser" and "Czar" have descended.

Rival.—It seems strange that this English word which means a competitor of some sort should have come from the Latin word "rivalis," pertaining to a stream. But we can easily imagine that the neighbors who lived along the river bank and used the same source for water would sometimes quarrel about their rights and perhaps become enemies.

Pantry.—Almost any boy knows that he can find bread in the pantry. But it is interesting to discover from the dictionary that the word really comes from the Latin "panis," bread, and a suffix that means "the place where." So of course a "pantry" is a place where bread is kept.

Candidate.—This English word comes from the fact that the Roman candidate for office was accustomed to go about clad in a white toga to show the purity of his principles. The Latin term for white was "candidus," hence a person who wore this color in accordance with such an establish custom as the one just mentioned came to be called "candidatus."

Villain.—This word has come down to us from Latin thru the French and means a very wicked person. In Roman times, however, a "villanus" (from "villa," a country house or estate) was only a farm servant and often a very good man.

Military.—The Romans were preeminently a war-like nation. It is not strange, then, that they should have given us their word "miles," or soldier, which appears in the above term and others closely related to it.

Car.—The Roman peasant used to own a vehicle called a "carus." From this humble origin has come our word "car."

AN OPEN SHOP

The labor unions of Chicago have purchased a cemetery, where only members of the union may be buried. —News item.

All his life in a union shop
He'd daily earned his bread;
They buried him in a union grave
When the union man was dead.

He had a union doctor,
And he had a union nurse;
He had a union coffin
And he had a union hearse.

They put him in a union grave
When he was good and dead;
They put a union monument
Just above his head.

And then he went to heaven,
But to stay he didn't care;
He kicked because he said that some
Nonunion men were there.

He went down to the other place,
And there produced his card.
Then Satan drew an earnest face
And studied good and hard.

And then he laughed, his hands did rub,
Till he thought he'd never stop.
"Lord bless my soul," said Beelzebub,
"Why, this is an open shop."

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Markets

PHILADELPHIA PRODUCE

—June 14, 1920.

New potatoes have been gradually seeking lower levels. They are now coming from Florida, N. and S. Carolina, Norfolk section and the Eastern Shore, with No. 1 at $9@11 per barrel and No. 2s from $5@8 per barrel. As the Norfolk and Eastern Shore sections gradually increase the amount of their offerings, the stock from the southern states will get lighter. In another week the Eastern Shore and Norfolk sections will be furnishing the bulk of the offerings. The sweet potato season is fast drawing to a close and prices are practically nominal at $2.50@4.50 per hamper on the remaining stocks of New Jersey.

Vegetables.—Nearby New Jersey and Pennsylvania asparagus is meeting an active demand when the stock is fancy and green at 30@50c per bunch, but poor and white asparagus moved very hard at the much lower prices of 10@30c per bunch. Beans are again increasing in supply and prices are lower at $2@3 per bushel hamper on both green and wax. Practically all beets are from the Norfolk section and nearby N. J. and Penn. points. The Norfolks are selling at 8@9c per bunch and the nearby stock at 8@12c per bunch.

Cabbage is again higher under lighter supplies, the Norfolk cabbage selling at $3.50@5.50 per crate and the Eastern Shore at $5@5.50 per crate. Nearby Penn. grown cabbage has made its appearance and sold at $3@4.25 per barrel today. Norfolk and Pennsylvania and New Jersey carrots are in good demand at 8@10c per bunch. Penn. grown cauliflower is selling up to 10@12c per head but some is immature and selling down to 5c per head.

Nearby grown kale is in fair supply and about steady at 75c@$1.50 per barrel. N. J. and Penn lettuce are in free supply and selling at the low price of 50c@$1.50 per box for the N. J. and $1@2.50 per barrel for the Penn. The weather is too warm for mushrooms and many are arriving so poor as to be almost worthless, and prices take the wide range of 25c@$1.75 per 3-lb. basket with now and then some extra fancy up to $2.

Onions are practically down and out at the time being and moving very slowly at $1@1.25 per bushel crate for the best. Parsley is gradually seeking lower levels under the increasing supplies and selling at the present writing at $3.50 per hamper. New Jersey is supplying practically all the peas needed for the market at 75c@$1.25 per ⅝-bushel basket. Peppers remain practically unchanged at $3@3.50 for fancy and $1.75@2.50 for choice. Nearby rhubarb holds up very well at 4@6c per bunch. New Jersey and Penn. radishes are in lighter supply and firm when fancy at 2@3c per bunch.

New Jersey romaine is very plentiful and only brings 50c@$1 per box while the Pennsylvania stock sells at $1@1.25 per barrel. Nearby spinach is in light supply and firm at 50c@$1.25 per box or $1.25@2.50 per barrel. Nearby new white turnips are in fair demand at 3@5c per bunch. Watercress is scarce and firm at 3@3½c per bunch.

Fruits.—As the market is now being supplied with peaches, strawberries, blackberries, cantaloupes, cherries, huckleberries, gooseberries and watermelons, the trade have a much larger variety from which to choose. The season on old apples is about over altho an occasional lot is here. Georgia peaches are plentiful at from $1@2.50 per crate, altho some which arrived in very bad and decayed condition sold below these prices. Two cars of Delaware strawberries sold at 15@21c per quart. New Jersey strawberries sold mostly at 15@22c per quart, with some extra fancy large berries at 25@30c per quart. Gooseberries are bringing mostly around 15@16c per quart. Huckleberries are selling from 15@28c per quart. New Jersey cherries are bringing from 20@30c per quart for the sweet cherries and 16@20c per pound for the sour cherries. Watermelons are arriving freely, and selling all the way from $450@700 per car.

Poultry.—The slump in the live poultry market as reported in these columns last week has been followed by another small decline. Fancy fowls are selling at 36@38c per pound and fair to good at 34@35c per pound. Old roosters are showing very little change at 22@25c per pound. The market has also declined fully 5c per pound on nearby broilers, but they are still bringing the very fine price of 55@70c per pound for broilers not leghorns, while the leghorns are selling at 40@55c per pound. Ducks are showing very little change at 30@32c per pound.

Eggs.—The advance on strictly fine eggs as reported last week did not bring out sufficient supplies to fill the market requirements, and we have another advance this week. At this writing Pennsylvania and other nearby current receipts are selling at 44c per dozen with firsts at 46c, while some inferior graded eggs only bring 41@43c. Western firsts are also higher at 42@44c per dozen and extra firsts at 46c. Some of the western eggs which will only grade about a second grade are selling as low as 35@40c per dozen and moving very slowly.

LANCASTER PRODUCE

—June 14, 1920.

Strawberries which almost glutted the market for the first time since home-growns have been offered this year, were the big feature today and despite the fact that sugar conditions have dealt canning plans a death blow, enormous quantities were moved today at prices ranging from 20 to 30 cents a box. The only new potatoes offered were found on hucksters' stands and brought from 50 to 70 cents a half peck. The quotations:

Butter and Eggs.—Creamery butter, 75c per lb.; country butter, 70@75c per lb.; fresh eggs, 45@48c per dozen; duck eggs, 55c per dozen; goose eggs, 6@7c each.

Poultry.—Dressed old chickens, $2.25@2.50 each; dressed young chickens, $1.90@2.10 each. No live fowls offered.

Vegetables.—Spinach, 20@30c per half peck; turnips, 30c half peck; new potatoes, 50@70c per half peck; old potatoes 70c per half peck; sweet potatoes, 70c per half peck; cauliflower, 20@25c per head; dried lima beans, 20c per pint; asparagus, 10c per bunch; new peas, 50@60c per half peck; new beans, 60@70c per half peck; rhubarb, 7c per bunch; oyster plant, 15c per bunch; lettuce 20@30c per head.

Fruit.—Apples, 40@60c per half peck; strawberries, 20@30c per box; cherries, 25c per quart.

YORK PRODUCE MARKETS

—June 14, 1920.

During the last week there was a larger volume of business done at the markets than during any time so far this spring. Altho the weather is very dry and hot, there is quite a little produce coming in already. Early cherries, plenty of berries, eggs, and a surplus of the butter the first for this season, with plenty of onions, beets, lettuce, etc. Berries are much lower but owing to the weather conditions it is predicted that the crop will be much less than last year and this coming week will see heavy buying for preserving. Sugar is scarce, but there are not many who do not have enough for a supply of strawberry preserves.

Eggs.—44@46c per dozen.

Butter.—Country, 60@65c; separator, 65@75c pound; milk, 12c quart.

Poultry.—Hens, 30@35c pound; dressed, $1@2.75 each.

Vegetables.—Potatoes, 40@70c ½ peck; $3.50@4.50 bu.; lettuce, 3@10c head; cabbage 5@10c head; beets, 5@6c bunch; onions, 4@6c bunch; radishes, 5@7c bunch; lima beans, 40c quart; soup beans, 30@35c quart; celery, 5@10c stalk; rhubarb 3@5c bunch; asparagus, 8@12c bunch; spinach, 20@30c ½ peck; ham, 45@80c pound; whole, 40@55c pound.

Fruits.—Apples, 50@80c ½ peck; strawberries, 15@35c box; cherries, 15@25c qt.

Retail Grain Market.—Wheat, $3.25; corn, $2.25; oats, $1.50; rye, $2.25; bran, $3.50 per cwt.; middlings, $3.75 per cwt.

Wholesale Grain Market.—Wheat, $2.90; corn, $1.80; oats, $1.20; rye, $1.85; bran, $60 per ton; middlings, $75 per ton.

BALTIMORE PRODUCE

—June 14, 1920.

Butter.—Creamery, Western separator, extras 57@58c; do., firsts, 55@56c; do., firsts, 57@58c; do., one pound, extras, 59@60c; do., firsts 57@58c; nearby creamery, extras, 50c; do., firsts, 48@49c; dairy prints, Maryland, Pennsylvania and Virginia, extras, 41@42c; do., firsts, 40@41c; storepacked, firsts, 42c.

Eggs.—Loss off.—Western Maryland and Pennsylvania nearby, firsts, 42c; Eastern Shore, Maryland and Virginia, firsts, 42c; Western (Ohio), firsts, 42c; West Virginia, firsts, 41c; Southern (North Carolina), firsts, 40c.

Live Poultry.—Chickens—Spring, under 1½ pounds, pound, 60c; do., 1½ pounds and up, pound 65@70c; old roosters, pound, 20c; old hens, over four pounds, pound, 36@37c; do., small, pound 36@37c; white Leghorn hens, pound, 50@55c. Ducks—Muscovy and mongrel, pound, 28@30c; white Pekins, pound, 30@32c; puddle, 4 pounds and over, pound, 30c; do., small, poor, 27@28c. Pigeons old, pair, 45@50c; do., young, pair, 45@50c.

NEW YORK PRODUCE

—June 14, 1920.

Butter.—Steady; receipts, 9,067 tubs. Creamery, higher than extras 55½@56c; extra (92 score) 55c, first (88 to 91 score), 51½@54½c; packing stock, current make, No. 2, 41c.

Eggs.—Irregular; receipts, 2,380 cases. State, Pennsylvania and nearby western hennery, white, first to extra, 47@56c; do browns, extras 50@53c; other unchanged.

Cheese.—Easier; receipts, 1,651 boxes. State, whole milk, flats, held, white and colored specials, 29c; do., average run, 28c; state, whole milk, flats, current make, white and colored, specials, 25½@26c, do. average run, 25c.

Poultry.—Live and dressed, steady and unchanged.

Vegetables.—Asparagus, dozen green, $1.75@5.75; white, $1.25@4. Potatoes old, $11@12 per 165 pound sack. Carrots, May, $7@10 barrel. Kale, nearby, $1@1.50 barrel. Lettuce L. I., $1@3; Jersey crate 75c@$1.25; Jersey, basket, 50c@$1. Radishes, nearby, 100 bunches, 50c@$1.50. Rhubarb, $2@5 per 100 bunches. Scallions, nearby, 100 bunches, $1@2. Spinach, nearby, barrel, 50c@$1.25. Turnips, white, now, $1@2.

PHILADELPHIA LIVESTOCK

—June 14, 1920.

Receipts for the week ending June 12th, were as follows:

	Beef Cattle	Sheep and Lambs	Hogs
Totals for week	2,463	6,334	8,853
Previous Week	1,878	5,582	8,926

Calves.—Receipts of calves were 2,874 head against 2,597 head previous week.

Beef Cattle.—Steers higher with exceptional sales noted at a premium. Cows also firmer while veal was steadily held. Quotations follow: Steers, fair to good, $14.50@15, common to fair, $13@14.50; cows, dairy, good to 9½@10½c; western, per lb., good to choice, corn fed, 10@11c; do., fair to good, 8@10c; common to fair, 5@8c; calves, extra to choice, $18@18.50; do., fair to good, $16@17; do., common, $10@12; do., heavy and rough, $7@10; Tennessee, $15@16.50; other southern, [illegible]

Sheep and Lambs.—Sheep firmer. Winter lamb easier, but other kinds steady. We quote: Sheared sheep, wethers, extra, $10.50@11; do., good to choice, $8.50@9.50; do., medium, $7@8; do., common, $2.50@4; ewes, heavy, fat, $8@9; lambs, spring, choice, $15@19.50; sheared choice, $16@16.50; do., medium grades, $13@15; do., culls and common, $8@12.

Hogs.—Firm and higher on western stock, with offerings moderate and demand fair. We quote: Best western, $17@18; hogs, good, nearby, $14.50@15.

City Dressed Stock.—Pretty well cleaned up and market firm with some kinds a shade higher. We quote: Steers, 24@26c; heifers, 21@24c; cows, 18@21c; calves, city dressed, choice, 26@28c; calves, country dressed, 23@25c; lambs, spring, choice, 36@40c; lambs, winter, choice, 33@36c; sheep, 15@25c; hogs, 22c.

LIVESTOCK MARKETS

—June 14, 1920.

Lancaster.—Cattle. — Receipts, 711 head; again 1,835 last Monday; market sluggish; prices steady; choice to prime steers, $14.50@15.50; medium to good steers, $12.50@13.50; common to medium steers, $11.50@12.50; fair to good bulls, $11.50@12.50; medium to good bulls, $10@11.50; common to good bulls, $9@9.50; choice to prime heifers, $11@12; good to choice heifers, $10.50@11; medium heifers $10@10.50; common to medium heifers, $9.75@10; good to choice cows, $9.50@11; fair to meduim cows, $8.50@9.50; common to medium cows, $8@8.50; canners and cutters, $4.50@5.50; good to choice calves, $17@18; medium to fair calves, $15.50@16.50; common to medium calves, $14@15.

Hogs.—Receipts, 163 head; market quiet; prices firm; best grades, $15.50@16.50; lights $14.50@15.50; roughs, $11.50@12.50.

New York.—Cattle.—Receipts, 650; no trading.

Calves.—Receipts, 280; steady; veals, $15@18.65; culls, $12@12.50.

Sheep and Lambs.—Receipts, 2,925; lower; sheep, ewes, $9; culls, $5; Southern lambs $18.75@19.

Hogs.—Receipts, 2,160; steady at $15.25@15.75; pigs, $14@14.50; roughs, $12.75.

East Buffalo.—Cattle.—Receipts, 200; strong.

Calves.—Receipts, 1,000; 50c lower, $6@17.50.

Hogs.—Receipts, 3,200; 25c and 35c higher; heavy, $15@16.25; mixed and yorkers, $16.25@16.35; light, do., $14.50@16.25; pigs, $13.50@14; roughs, $12.50@12.75; stags, $7@9.

Sheep and Lambs.—Receipts, 1,000; slow; lambs, $14@19; yearlings, $8@17; wethers, $10@10.50; ewes, $3@9; mixed sheep, $9@9.50.

Chicago.—Cattle.—Receipts, 2,000; compared with a week ago, common and medium and warmed-up steers and she stock, 50c to $1.25 higher; others, $1.25 to $2 higher.

Hogs.—Receipts, 7,000; 10c to 25c higher bulk light and lightweight, $15@15.25; bulk, 250 pounds and over, $14.30@14.95.

Sheep.—Receipts, 5,000; bulk direct to packers.

Pittsburgh.—Cattle.—Steady; supply light. Prime, $14.50@15.

Sheep.—Stalled; supply light; prime wethers, $9.50@10; culls and common, $3.50@5.50; lambs, $15@19.

Veal Calves.—$16@17.

Hogs.—Active, supply, 10 double decks; prime heavies, $15@15.65; mediums and heavy yorkers, $16.40@16.55; light yorkers, $14.50@15; pigs, $13.50@14; roughs, $10@12.

PHILADELPHIA HAY AND GRAIN

—June 14, 1920.

Baled Hay and Straw.—Receipts, 312 ton of hay and 1 car of straw. Steady under moderate offerings, but trade quiet. Timothy hay.—No. 1, none here. No. 2, $43@45; No. 3, $39@41; sample, $33@37; no grade, $28@32. Clover-mixed hay.—Light mixed, $43@45; No. 1 mixed, $39@42. Straw.—No. 1 straight rye, $17@17.50; No. 2 do., $16@16.50; No. 1 wheat straw, $16@16.50; No. 2 do., $15@15.50.

Bran.—Quiet and unchanged. We quote: Car lots, including sacks, soft winter bran, western, in 100-lb. sacks, per ton, $60.50@61; spring bran, in 100-lb. sacks, per ton, $59@60.

Corn.—No. 2 yellow, $2.05@2.07.

Wheat.—No. 1 red winter, $3.13; No. 2, ditto, $3.10; No. 3, do., $3.07; No. 4, do., $3.03; No. 5, do., $2.90.

Oats.—No. 1 White, $1.31@1.32; No. 2, do., $1.29@1.30; No. 3, do., $1.28@1.29; No. 4, do., $1.26@1.27.

PITTSBURGH HAY AND GRAIN

—June 14, 1920.

Receipts of hay are extremely light notwithstanding the improved railroad conditions. There is not enough arriving to supply the demand. There is no doubt whatever that the market is going to continue strong, at least until the new crop arrives. We anticipate high prices right along. Receipts of wheat straw are sufficient to meet the demand. The market on this commodity is a little saggy but there is a scarcity of oat straw and the demand for same cannot be supplied. That market took quiet a brace within the last few days and has a better outlook. Would advise shipments of good hay and take advantage of the present market. The following prices can be realized:

No. 1 Timothy, $4[illegible]; Standard Timothy, $44@45; No. 2 Timothy, $43@44; No. 3, $40@42; No. 1 Oat Straw, $18.50@19; No. 2 Oat Straw, $18@18.50; No. 1 Wheat Straw, $18@18.50; No. 2 Wheat Straw, $17.50@18; No. 1 Rye Straw, $18.50@19; No. 2 Rye Straw, $18@18.50.

NEW YORK HAY AND GRAIN

—June 14, 1920.

Feed.—The market for spot feed was again firm but Western prices a trifle easier and the demand was slow. Arrivals on old purchases have improved somewhat and consequently consumers are not making new contracts as they consider prices too high.

Quotations: City feed bran, $64; middlings, $66, in 100-pound sacks; red dog, $70, nominal, in 100-pound sacks; Western spring bran, $58@60; standard middlings, $63; flour middlings, $67; red dog, $73, all in 100-pound sacks, 30-day shipment. Oat feed, $42; rye middlings, $58; white hominy feed, $74, all in 100-pound sacks. Cottonseed oil meal, $72; linseed oil meal, $66, in 100-pound sacks.

Hay and Straw.—Market for hay continues strong and averaging higher. Offerings are fairly ample but there is a good demand and a tendency to ask still higher prices. Straw in light supply and steady.

Hay.—Large Bales, Timothy—No. 1, $50@52; No. 2, $47@49; No. 1, $43@46; Shipping, $40@41; No grade, $25@36; Clover, Mixed.—Fancy, $47@49; No. 1, $42@45; No. 2, $39@42; Straw—Large Bales. —No. 1 rye, 22c; No. 1 oat, $23@24; No. 1 wheat, $18@20.

Wheat.—No. 2, red, $3.02.

Corn.—No. 2 Yellow, $2.05¼.

Rye.—F. O. B., $2.60; Barley, feeding, $1.70.

PHILADELPHIA DAIRY MARKET

—June 14, 1920.

Butter.—Receipts, 5,326 tubs. As usual on Saturday there was little disposition to trade in a wholesale way. The market was weak on account of lower outside advices, but in the absence of transactions in large lots quotations are nominal. We quote: Fresh-solid-packed creamery, fancy, high-scoring goods, 59@61c the latter for jobbing sales; extra, 58c; do., extra firsts, 55@57c; firsts, 49@51c; seconds, 45@47c; ordinary, garlicky, 42@43c; sweet creamery, choice to fancy, 60@62c; fair to good, 50@59c; ladle packed, as to quality, 44@45c; packing stock, 38@41c; fancy brands of nearby prints were jobbing at 67@69c; good to choice, 59@66c; fair, 56@58c.

Cheese.—Quiet and unchanged. We quote: New-York whole-milk flats, held, fancy, 28@30c; specials higher; ordinary to good, 23@27c; current make, best, 29c; common to fair, 24@27c; jobbing sales of fancy held goods, 31@32c.

INTERSTATE MILK PRICES

—June 14, 1920.

The basic price for 3 percent milk within 10 miles of Philadelphia is $3.28 per 100 pounds and one cent per hundred less for each 10 miles distant. Four cents per 100 pounds is paid for each one-tenth of one percent fat above 3 percent. These are prices for the basic quantity or less. The price for amount exceeding the basic quantity is on the basis of 6.6c for 3 percent milk.

NEW YORK MILK MARKET

—June 14, 1920.

Cooler weather and rain hurt the local demand in the early part of the week and surplus was increasing rapidly, later conditions improved and there was a much better feeling at the close. There is some buying by manufacturers of sweetened condensed milk, but export demand almost nomina The June rate in 200 mile zone for 3 per cent milk is $2.83 per 100 lbs.; 3.6 percent milk is $3.07, and 4 percent milk $3.23.

Receipts of milk and cream in 40-quart cans for the week ending June 12, 192 were as follows:

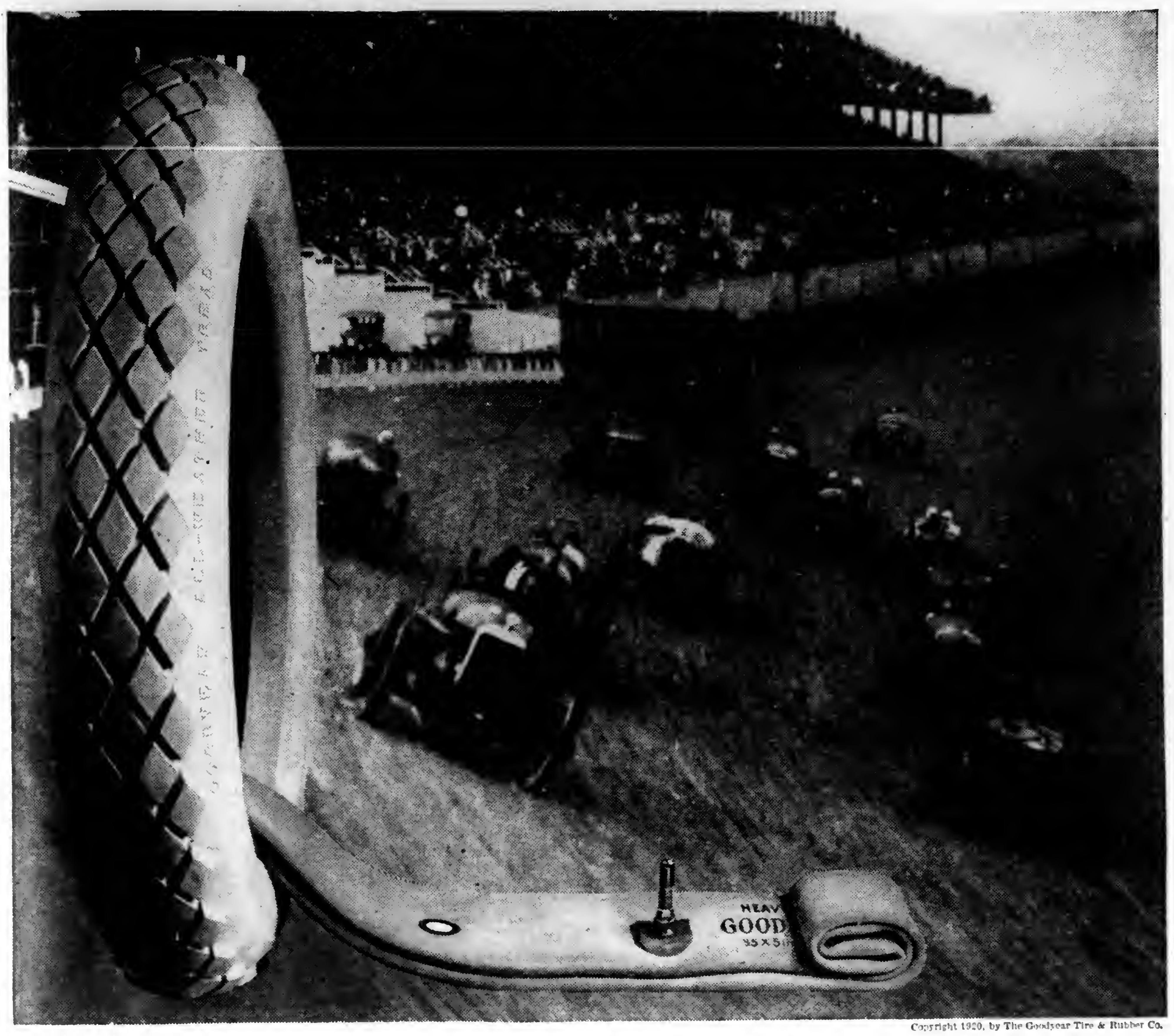
Railroad	Milk	Cream
Erie	40,274	4,51
Susquehanna	9,323	21
West Shore	16,422	1,95
Lackawanna	60,175	1,62
N. Y. Central (long haul)	188,970	5,176
Ontario	47,836	1,52
Lehigh Valley	65,832	2,5
New Haven	6,750	7
Pennsylvania	12,246	50
Other Sources	6,000	20
Totals	453,828	18,362
Same week last year	399,613	19,57

TOBACCO MARKET

—June 14, 1920.

Perspectively the most interesting featur of the local market situation is the move ment to establish an auction sales oor to a complish this the Auction Sales Compa has been organized and has called for meeting of growers from time to time has been proposed to lease certain stru tures rather than build.

It has been anounced that special atten tion will be given to instruction in prepar tion for market, management of toba soils, etc., but the matter of marketing w be paramount at all times. With such a organization as a foundation the possibilit are practically unlimited and if made per manent would result in the general bett ment of the industry.



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IN its several years' association with automobile racing on American speedways and road courses, this Company has served as both teacher and student.

Through the rugged excellence of its product it has been able to provide racing cars a means of greater speed and distance than the world had previously seen.

It has in turn exacted something far more valuable than victories, though its victories include all important speed-marks from one to six hundred miles.

Not even our last season's record of winning every official race of more than 50 miles, approaches in value the practical teachings of this experience.

The sum of the speedway's instruction, so far as it anywhere relates to better tire performance, is embodied without stint in today's Goodyear Cord Tires.

The lessons from this as from every like experimental work we follow, are faithfully translated into that quality in our products which protects our good name.

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Because Goodyear Tires and the sincere conservation service behind them afford uncommon satisfaction, more people ride on Goodyear Tires than on any other kind.

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HOGS Make 'em Grow Fast

Hog and poultry raisers in all parts of the country are using Semi-Solid Buttermilk because they know it is the "Best Hog and Poultry Feed on Earth." It gives quicker gains, earlier marketing and bigger profits. 100 per cent digestible.

Semi-Solid Buttermilk

"The Best Hog and Poultry Feed on Earth."

Just creamery buttermilk with the water removed and nothing added. The same as home churned. Contains high percentage of protein and natural lactic acid. Contains no sulphuric acid or other injurious preservatives. Natural lactic acid keeps it fresh indefinitely. Semi-Solid Buttermilk is pure enough to drink or use in batter cakes. Don't use a substitute or so-called modified buttermilk. Get the Genuine Semi-Solid Buttermilk, absolutely pure and unadulterated, for quick results.

Better Than Grain Feeds. Order a barrel of Semi-Solid Buttermilk (average weight 500 pounds). One barrel makes 1000 gallons of pure, rich, buttermilk feed. **Order today.**

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The world's grand champion herd—Home of two grand champion boars, one grand champion sow. Write for illustrated catalog. It is free. Stock of all ages for sale.

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Hampshires Eastern Quality Herd. National Swine Show and State Fair winners. Also Guernsey cattle. Free Cir. Locust Lawn Farm, Bird-in-Hand, Box 2, Lanc. Co., Pa.

REGISTERED DUROC-JERSEY PIGS

$10 each while they last, all from imported Southern stock, none better. Bargains in bred gilts, service boars, brood sows and spring pigs. C. W. Ellis, Jr., Maple Lawn Farm, Cortland, N. Y.

Blue Hogs. Shipments desired the coming summer should be booked at once. Now shipping Spring orders. These hogs are actually Blue in color. They are the largest growthiest and most prolific breeders on earth. Write for information. Mention this paper. THE BLUE HOG BREEDING CO., WILMINGTON, MASS.

Reg. Berkshire Pigs for sale at all seasons. 10 weeks old $20 and $25 each, every pig guaranteed a breeder. Blood of Successor Double and Grand Leader 2nd. They are bred right. Write for information. PINEY CREEK FARM, NORTH EAST, MD.

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Both sexes, all ages. Reasonable prices. G. NORMAN ACKER, West Chester, Pa. R. 2.

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We guarantee satisfaction.

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Berkshire Pigs, sired by States Majestic, one of the best boars ever bred by Penna. State College. Also two extra good boars ready for service. A. B. Kirsch, Nicktown, Pa.

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6 weeks old, mostly O. I. C. and Chester Whites, price $6. THE OAKS DAIRY FARM, Wyalusing, Pa.

Reg. Chester Whites. Stock guaranteed as represented or money refunded. Fine thrifty well bred stock, reasonably priced. L. D. GARRIGUES, Thornton, Pa.

BIG TYPE POLAND'S Baby herds a specialty. KEYSOR & CLELAND, Greenwich, Ohio.

CHESTER WHITE PIGS.—A fine lot now ready to ship, either singly or in pairs. R. L. MUNCE, Canonsburg, Pa.

O. I. C. Pigs, either sex. We ship on approval and register free. L. B. COFFMAN & CO., Palmyra, Pa., R. 2.

CHESTER WHITES and **O. I. C. Big Type** prize winners. Pigs $15.00 and up, prepaid. GEO. F. GRIFFIE, NEWVILLE, PA. R. 3

Reg. O. I. C.'s Booking orders for Spring pigs. Silver strain breeding. BRUBAKER BROS., Star R., Cocolamus, Pa.

Large Berkshire Swine Registered. High Grade. Prices reasonable. Write HOME FARM, Center Valley, Pa.

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Write for prices, feeding directions, etc.

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Palmyra Quarry FARMS OFFER Fine Big Type Reg. Berkshire Hogs for sale. Outstanding Pigs, either sex, with stretch, up on toes, smooth, and splendid heads, out of exceptional big sows; Rivals Champion, Lord Premier Successor and Superbus breeding. Also bred gilts, bred to our outstanding herd boar, Highwood Rival 431st. Pay when you see the stock. Satisfaction guaranteed. Galen G. Grubb, Palmyra, Pa.

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All ages. Strong and vigorous stock. When you buy you want the best, don't you? Then write us. Inspection invited. ROSS B. WITMER, LAMPETER, PA. Member Lanc. Hampshire Breeders' Co-operative Association.

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Good Berkshire and Poland China Pigs from Spring Litters, also a few open gilts, bred gilts, and bred sows. Write for prices. H. C. McWILLIAMS, SECRETARY, EBENSBURG, PA.

Large Type Reg. Berkshires of all ages for sale. Select a breeder from a large litter. Pay when you see stock. No cash in advance. DAVID WIANT, HUNTINGTON MILLS, PA.

BIG TYPE CHESTER WHITE PIGS

sired by a son of Big Nellie 2nd, Grand Champion sow of the National Swine Show. Reg. free. G. B. GINTER & SON, Carlisle, Pa., R. 9.

Reg. Duroc-Jersey Pigs Orion, Kellys Pilot Wonder and Cherry King breeding. Shipped C. O. D. and guaranteed to please. Prices reasonable. ORANGEDALE FARM, Orangeville, Pa.

BELROSE DUROCS— EXPRESS PAID Boars and Bred Sows, bred and open gilts all sizes. Prices right. BELROSE FARMS, RICHFORD, N. Y.

REG. DUROCS Large size, heavy bone, best blood lines, prices reasonable. Satisfaction guaranteed. JOHN W. COX & SON, New Wilmington, Pa.

Some of America's Best Durocs. 40 head bred and open gilts and service boars at Public Sale, December 2, 1920. SLATY RIDGE FARM, Palmyra, Pa., Box 5.

REG. O. I. C'S, all ages. Open and bred gilts at prices to move them. Black Diamond Minorca Farm, Mt. Bethel, Pa.

DUROCS. Sept. boars ready for service. Also 2 Spring boars. Sept. Gilts bred for Sept. Spring pigs not akin. All im. I. D. Jackson, R 10, Van Wert, Ohio

Reg. Big Type SPOTTED POLAND-CHINA Pigs, bred from a son of O. K.'s Pride No. 30. also 5 Reg. Holstein Bulls. H. C. Kymer, R.4, Shippensburg, Pa.

REG. DUROCS Choice Pigs, Orion and Col. Blood lines. Satisfaction guaranteed. Price reasonable. ALLEN L. METZLER, SOMERSET, PA. R 4.

Large Type Duroc. Boars and Fall Gilts. Also some fine Spring pigs. Guaranteed to please or money refunded. B. H. SAGER, BASIL, OHIO

Chester Whites Boars and Sow Pigs. Bred Sows. Collie dogs. ARCADIA FARM, BOX D, BALLY, PA.

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BIG TYPE POLAND CHINA boar pigs, sired by Liberator Boy, Revelation, and other noted sires. Prices reasonable. S. ALEX SLACK, Oxford, Pa.

Registered Berkshires Spring Pigs $15.00 each. Bred sows $50 to $75. L. C. TOMKINS, Elleston, Lyc. Co., Pa.

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Write for prices or come and see the fine bred gilts and young sows ready for breeding in the Fall, that we are offering at bargain prices. The bred gilts are part of our foundation herd. For reference—our satisfied customers.

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SPAHR'S EPOCHAL is the boar that is making Berkshire History

In him is the wonderful Epochal Blood. We are offering 8 weeks old pigs, either sex, at reasonable price. The best in the Berkshire line. Real herd header prospects, sired by Spahr's Epochal out of the real big type. Dams by Lord Bremier. Also offering some mighty fine bred sows and gilts at reasonable prices. When you get the best blood, united under the direction of expert breeding, why shouldn't the results be wonderful. We will more than please you. Call or write

THE H.M. SPAHR BREEDING ESTATE, Dept., C. Woodsboro, Maryland.

WOOL PRICES

The chairman of the More Sheep-More Wool Association sends the following information:

"There has been an extraordinary change in the situation which has developed in the last sixty days due to very stringent money conditions and various other causes. Orders had been placed by clothiers for the next heavyweight season on which the mills were busily engaged in producing. Due to conditions above noted very heavy cancellations of these orders have occurred and this has reacted all along the line and as a result of which the American Woolen Company and other large producers on account of such cancellations, are running four days a week only and unless conditions change, a considerable number of woolen and worsted mills are likely to shut down entirely. The mills therefore, have absolutely stopped buying wool and have even cancelled orders for wool previously placed. There has been a sharp decline in prices on all grades of wool and the general situation has been accentuated by a decline of 20 percent on fine wools at the London sales. Under conditions now prevailing it is practically impossible to sell wool and there is no real stable market basis of value.

"What the outcome will be it is impossible to foretell. Dealers are carrying very large stocks in medium and low wools which have been unsalable and on all grades of stock are facing heavy losses. It is decidedly unfortunate that this condition should prevail just at the time when the domestic clip is coming on the market. Under such conditions it is evident that it will be decidedly to the disadvantage of the producers to endeavor to sell their wools at the present time. It would seem the only and best policy to pursue would be to refrain from endeavoring to sell wool until the market has been stabilized and prices established on some firm basis. It is very poor business policy to force wools on the market where nobody wants to buy."—A. C. Bigelow.

HOG OWNERS NEED TO BE ON THE ALERT

With the season of the year approaching when hog cholera causes heavy losses, hog owners should be on the alert. Hogs kept in good, clean, well ventilated quarters, given good feed, fresh water, a sufficient amount of mineral matter, and kept free from lice, mange, worms and other diseases caused by unsanitary pens and yards are better able to resist hog cholera.

Special attention should be given sows at farrowing time. Good, warm, well cleaned and frequently disinfected pens many times mean the producing of good litters of strong, healthy pigs.

Cholera Spreads Easily

Hog cholera spreads very easily and travels from farm to farm in many different ways. Hogs should therefore be watched closely. At first signs of sickness, a competent veterinarian or the county agent should be called in immediately. It is of great importance in preventing losses and controlling this disease to determine its presence as soon as possible. Anti-hog cholera serum is the best preventive known at the present time; it must be used early to save the hogs and control the outbreak.

Save 2 to 3 Months Feed With Cal-Sino

By getting all the body building and pork making parts out of your feed, Cal-Sino builds up and fattens pigs to porkers in 2 to 3 months less time than without it.

The saving of feed for the extra 2 to 3 months and the extra pork Cal-Sino gets from your feed many times over pays for its small cost.

CAL-SINO is a concentrated medicinal powdered tonic—not a stock food.

It costs less for results because dosage is less.

Prove this, give Cal-Sino a good test on our guarantee of satisfaction or money back.

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"I raised four pigs from 15 lbs. to 420 lbs. average from April to December (8 months) with the help of Cal-Sino. It is the best I ever used for hogs."

If your dealer can't supply you write direct to The Cal-Sino Co., Inc., Dept. H-2, Baltimore, Md. for 60c or $1.25 box on appro. giving name of dealer

GUARANTEED

Poultry

Hummer's Famous Chicks. Large, healthy and strong. Bar. Rock per 100, $18; 50, $9.50; R. I. Reds 100, $19.50; 50, $10; S. C. B. Leghorns 100, $17; 50, $9; S. C. W. Leghorns 100, $17; Anconas 100, $31; 50, $16. Prompt delivery each week, prepaid, live arrival. E. R. HUMMER & CO., Frenchtown, N. J.

CHICKS 11 cts each AND UP Rocks, Leghorns, Reds and broilers. Money back for dead ones as far as Colorado, Texas and Maine. Pamphlet free. SANDY KNOLL HATCHERY, C. M. Lauver, Prop., Box 43, McAlisterville, Pa.

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Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Bruised Shoulder.—Worms.— My 5-year-old horse did very little work last winter. Soon after we commenced to haul out manure and plow, his shoulder got sore, perhaps on account of the collar being too large. This horse weighs 750 lbs. Is he too light to do ordinary farm work? What shall I give another horse that passes a few worms. I forgot to say there is a bunch on shoulder of other horse. E. L., Cressona, Pa.—If the bunch is movable and hard, cut it out. Dissolve ¼ lb. acetated of lead and 3 ounces of tannic acid in one gallon of cold water, then apply to sore shoulder 3 times a day. Exchange this horse for one that will weigh 1,200 lbs. The collar should fit. Give a teaspoonful salt and a tablespoonful powdered gentian at dose daily in feed to horse that has worms. Feed him enough grass to purge him.

Nervousness.— Weakness.— I have a 6-year-old mare in fair condition, but soon as I commence to work her the muscles of shoulder tremble and quiver badly. She seems to lack strength, for she able to work only 3 or 4 hours. She weighs 1300 lbs., has ravenous appetite for all kinds of food, including briars and brush. She is fed timothy and 15 quarts of ground corn and oats daily. Our local veterinary found her heart action good, but left some brown colored medicine which I am giving her. A. E. P., Montrose, Pa.—Give her one dram ground nux vomica and one ounce powdered gentian at dose in feed 2 or 3 tims a day. When she tires, rest her. Give her enough grass to keep bowels open.

Obstructed Teat.—Near the end of my cow's teat there is a growth which obstructs the free flow of milk. Without the use of milking tube, milking is not easy. What can be done for her? C. B., Readburn, N. Y.—Cautiously enlarge channel with small knife, or apply nitrate of silver, which of course has caustic effect and should not be applied to healthy tissue. In some such cases good results follow the use of tincture of iodine.

Cows Eat Garlic or Wild Onion.—Soon after my cows were turned out to grass their milk had the odor of garlic. Can anything be done to remedy this trouble? A. G. H., Rossville, Pa.—During the early part of the season it is not unusual for cows to eat garlic or wild onion and, if so, the milk will have the kind of flavor you mention. I can think of no better plan that to remove the cause by changing your cows to another pasture lot, or if you will heat the milk to a temperature of 145 degrees F. and forcing air thru it at this temperature for forty or fifty minutes. Inspect your pasture lot and if you find a limited amount of garlic and wild onion, pull it out.

Eating Afterbirth.—Two weeks ago one of our cows calved during the night. In the morning both she and calf were up and seemingly well but I failed to find the afterbirth. It must have been expelled, for the cow had not had any discharge since calving. Yesterday she acted dumpish and I am at a loss to account for her sickness, unless she ate afterbirth. H. K., Wexford, Pa.—From the history of this case I am inclined to believe you are right in suspecting the cow of having eaten the afterbirth. If so the afterbirth would pass into the paunch and stay there, rot and finally come away in strings. In such cases range cattle seem to be little affected from it, but our fine bred stock suffer more or less from the poisonous effects of it. Give her twenty grain doses of quinine three times a day. Feed her grass to open bowels.

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Give your herd a real chance to prove their worth this summer. Even a prize-winning cow will not do justice to herself if her ration does not contain the ingredients which build her tissues and make milk. Special Dairy Feed is what your cows need this summer in addition to natural pasturage. Cows fed on pasturage alone are underfed and enter the winter out of condition and with milk flows diminished. To to make each cow in your herd a good milker next winter put your herd on a ration this summer of

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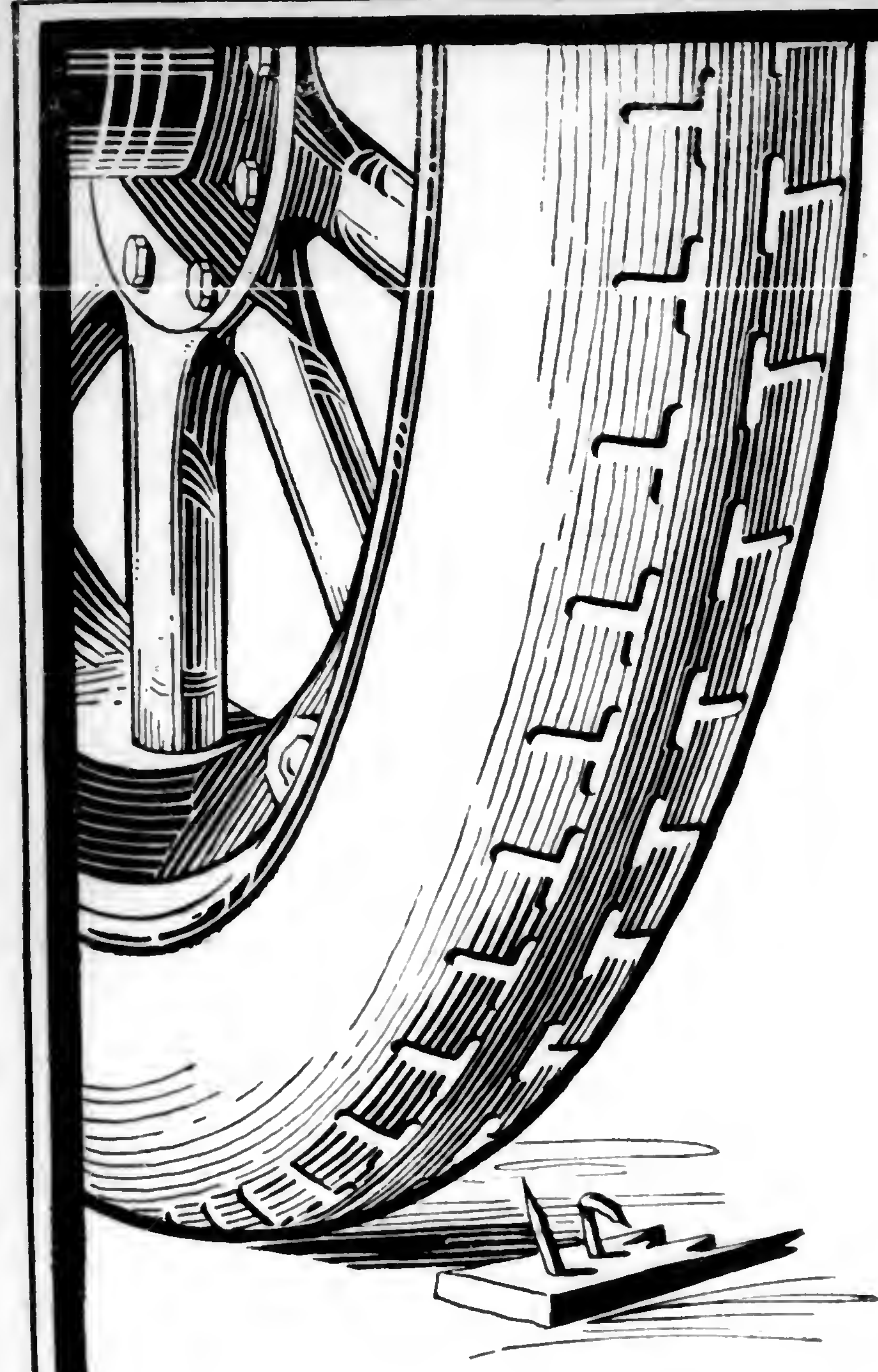

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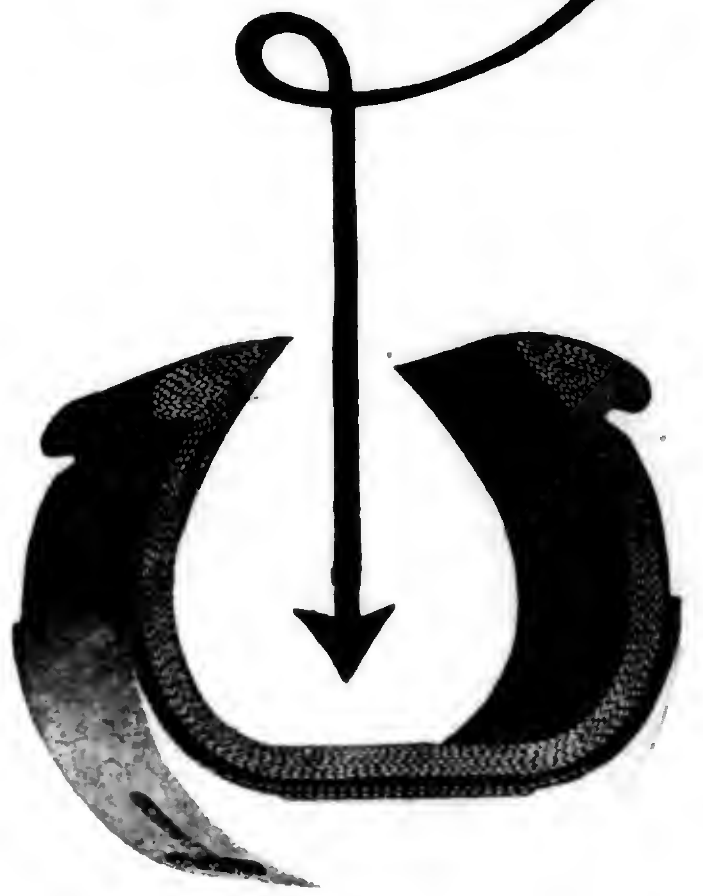

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PENNSYLVANIA FARMER
AGRICULTURE THE KEYSTONE OF NATIONAL PROSPERITY
ESTABLISHED 1880
PUBLISHED WEEKLY

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PHILADELPHIA, PA., SATURDAY, June 26, 1920.
Number 26

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PENNSYLVANIA FARMER
AGRICULTURE THE KEYSTONE OF NATIONAL PROSPERITY
ESTABLISHED 1880 PUBLISHED WEEKLY

The Lawrence
Publishing Company
Philadelphia

Why Farming is Not More Attractive

Arguments showing why Good Prices are Necessary to Insure Stable Production

On account of farm and dairy products having gone up in price the same as everything else, the farmer has come in for his share of censure for his contribution to the high cost of living. Many persons claim he has received more profits than he was entitled to and is prospering at the expense of his fellow beings.

These charges have been strenuously denied by the farmer, and especially the dairy farmer who declares that for years his business has paid but a meager return for the capital and labor put into it, and that even now it is not profitable in the sense and to the degree that other lines of business are.

Israel T Deyo, who was brought up as a farmer's boy, and who now with his brothers own the old home farm in Broome Co., N. Y., consisting of 485 acres with a dairy of over a hundred milch cows producing upwards of nine hundred quarts of certified milk daily which is delivered direct to the consumer in the city of Binghamton, refutes the unjust accusations made against the farmers of today. He quotes W. A. Levy, a member of the milk conference board who testified as a witness this fall before the special grand jury in New York regarding the price of milk. Mr. Levy is reported as having said that the "basis of cost of production given by the farmers is false; that the farmers do not have to buy feed for five months of the year, meadow grass and clover sufficing during that time; that the farmers need no labor except for thirty minutes at night and thirty in the moring for milking and therefore the price of labor is not an element of cost."

Mr. Deyo thinks Mr. Levy's ignorance was amazing as he, Mr. Deyo, knows by actual experience that except for a period of from four to six weeks, a dairy in ordinary seasons requires a grain ration to keep up production, even with grass knee high in the pastures. Some of our best dairymen feed a grain ration every day in the year. Labor on the farm is not limited to milking time. Milking is more often regarded as a part of "the chores," to be done after a full day's work.

The Dairymen's League News announces that 90 percent of the cost of producing milk is labor. But the direct cost of labor figured as a part of the basis of the monthly prices set on milk is only 40 percent of the cost of production—the real care of the herds during the year. The other 50 percent is in plowng and cultivating ground to grow corn and other feeds, use of land, etc. Take one of the commercial feeds, gluten for instance, trace it back step by step and it will be seen that wages form almost the entire cost of it. Such as hauling by machinery, wagons, transportation on the railroad and trucks, grinding, mixing and milling by men labor again.

Mr Deyo says that the drift of population for the last forty years has been away from the farm and toward the manufacturing centers, and that the cause of this steady drift of population has but one explanation; the man on the farm has not been able to get for his labor as much as the man in the shop. As a result, many farms in this country which were well cultivated and productive forty years ago, are as barren as a battlefield in Flanders today. The farms are abandoned. Not becuse the fertility of the land is exhausted, for better crop can be raised on these lands with modern methods than were produced when the land was new. But the reason is that the owner has been able to get better renumeration for his labor in other lines of employment. He believes that accompanying this drift of population, farm values have steadily depreciated. Not that a comparison of assessed values in 1875 and in 1915 proves anything, but speaking of market values—of values that are good as collateral for a loan at the bank. Forty years ago farm mortgages were regarded as gilt edged securities and were much sought after; today an investor will scarcely look at a farm mortgage.

Farm Children Deserve Better Educational Equipment and Opportunity Than the Majority Have

Mr. Deyo says "My father moved from Columbia to Broome County, N. Y., in 1850 and purchased a hill farm which my brothers and I now own, agreeing to pay for it $21 per acre. The farm was covered with stumps stone and brush. It had poor fences; the barn was a shack and the house not much better. Notwithstanding that the increased population of the city of Binghamton and its suburbs have pushed their boundaries to within a mile of our line fence, the land, if it were in the same condition as it was in 1850, without improvements, could not be sold today for what my father paid for it. We could not sell the farm of 485 acres today for the cost of replacing buildings, fencing and other permanent improvements that are on it. Still this farm is considered one of the best hill farms in the county and lies within fifteen minutes drive of the markets of Binghamton and Johnson City."

He doesn't attempt to prove that this depreciation of farm property values and the drift of rural population to the cities is deplorable. All students of American institutions agree that a prosperous and contented agricultural population is the bulwark of our institutions and the nation itself. But he does believe that the "primary cause of these two things is that the farmer has not been able, at least until the world war changed conditions, to make a fair margin of profit on his products over the cost of production. It is primarily a question of dollars and cents. The wages of the man on the farm, whether owner or "hired" man, have been much less than the wages of the man in the shop, but the man in the shop or factory is not getting more than his fair share of profits of the industry. His wages are none too high or at least they were not before the war. It follows that this equalization of wages between the man on the farm and the man in the shop must be accomplished by a leveling up, and not by a leveling down.

The farm hand will not be there at milking time unless he can see as much for his labor as he is offered in the shop. Therefore, the farmer must receive a sufficient price for his products to enable him to compete with the manufacturer in the matter of wages. There's the solution of the rural problem in a nut shell. When the prices of farm products are stabilized at a figure that will permit the farmer to compete against the manufacturer for labor and leave a fair margin of profit for his own labor and investment, then the drift of population between the country and city will not be as at present, always in one direction.

Until that condition obtains, the drift cityward will continue, but it cannot always continue. People in the cities must eat. Even the idle class depend on the farm crops. Therefore, the time must come when the demand for farm products will be so great that the farmer will receive a price for his products sufficiently large to make the business of farming attractive.

The war has tended to hasten that condition. The organization of the Dairymen's League and other similar associations have helped the movement along. Hitherto the individual farmer stood independent and alone; he has allowed the purchaser to fix the price on what the farmer had to sell and also on what he had to buy. The farmer "got it" going and coming. No manufacturer could live for a day if he permitted the purchaser of his products to fix the price at which he must sell his goods and at the same time, allow the seller of the raw material to fix the price which the manufacturer must pay.

No retail dealer could long avoid bankruptcy if he allowed the jobber to fix the price he must pay and at the same time, allowed the customer to fix the price at which the retail dealer must sell. The individual farmer who has anything to sell says to the storekeeper, "what ye payin'?" and having sold his products at the storekeeper's price, he sees something he needs and asks "What d' ye ask," and buys at that price. No business can be successfully conducted on that basis. On the other hand, the middlemen of whom it is inferred Mr. Levy is one, dictate to the farmer the price of his milk and to the consumer the price which he must pay. So he fixes the price both ways. The farmer being compelled from the nature of things, to buy at the sellers price, should, within reasonable limits, fix the price at which he sells. He must do this, or his business is doomed to failure."

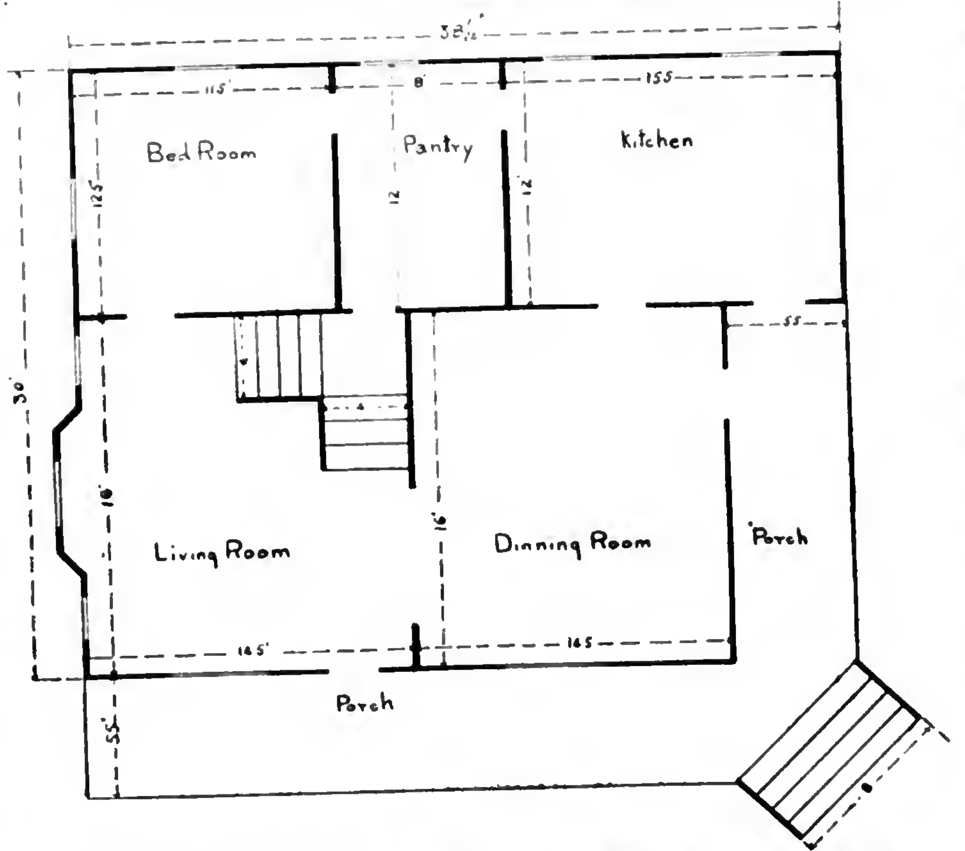
Mr. Deyo figures that the producer, like the manufacturer, must be able to add to the selling price of his output any increase in the cost of labor and material. To secure labor for the farm, the farmer must pay higher wages. He can pay higher wages only as he is able to pass the increased expenses on to the purchaser of his products.

If he can't do this, he will be unable to pay higher wages and if he can't pay higher wages, the farm boy or "hired" man will not stay on the farm, and so the drift of the rural population will continue to drift toward the city.

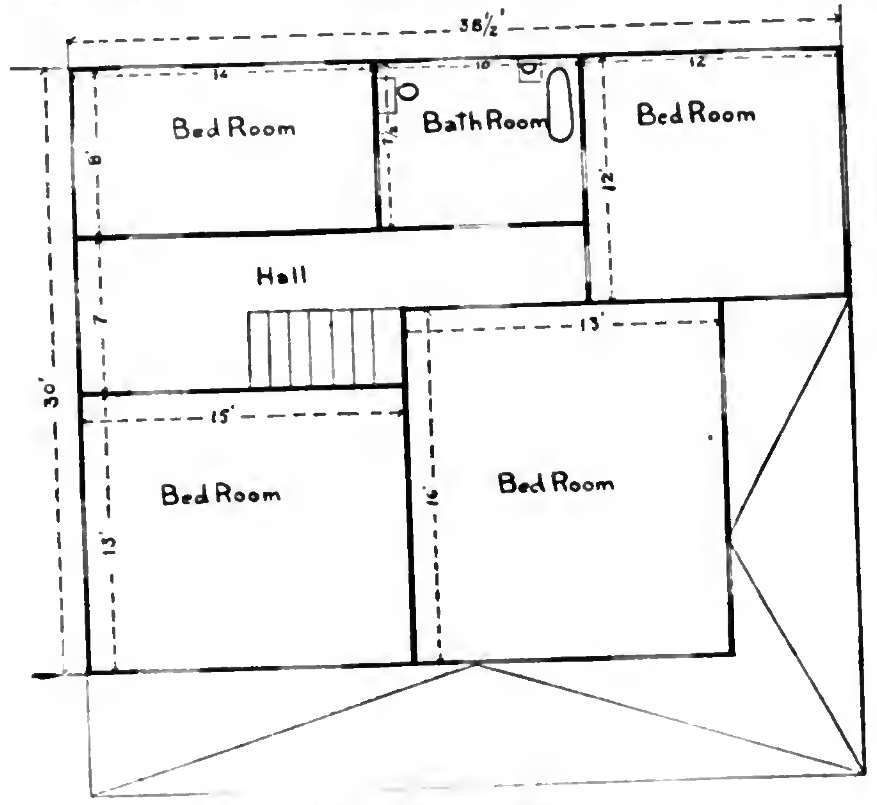
The profits of the farm have not been sufficient to hold the farmer to the business of farming. If Mr. Levy could make more money at producing milk than he makes at buying and selling milk, he would be looking for a farm.

Mr. Deyo says: "I have yet to learn of any considerable number of men who have abandoned other lines of business for farming for the profits there are in it; and those who have done so, have done so to their sorrow. It takes more experience, horse sense and good gray matter to make a good farm hand, than it does to make a good man in the shop. The man who was not brought up between the furrows has a lot to learn before he is worth his salt on the farm. Book farming without experience, is an expensive pastime. There is no money in it. Book farming, plus experience, should receive a return in dollars and cents, at least, equal to that received by those engaged in other lines of industry.

At present prices the farmer for the first time in a generation, is getting a relatively fair return for his labor and investment. The "back to the farm" movement which magazine writers have been urging may, and it is to be hoped, will be realized. No person of intelligence, who is fully conversant with conditions, wants to see the farmer get less for his products."—E. M. L. Blancher, New York.



Plan of Comfortable Farm Home By a New York Farm Wife



Plan of Second Floor

FARM BUREAU ORGANIZATION

On page 21 for issue of January 17, R. H. S., of Tioga Co., Pa., raises the question of township branches for the farm bureau. He states that being twenty miles away from the county agent he is unable to keep in close touch with the work of the organization. It is his belief that with a township organization modeled, I take it, after the lines of the county association, as one of its branches, this would produce more efficiency for the parent organization in all parts of the county.

In New York State our county's farm bureau has its offices in my home town. I am not very familiar with the system as followed in Pennsylvania, but certain good points in the New York system, covering the inquiry of R. H. S., are patent and these I am glad to pass along for what they are worth.

Strictly speaking, we have no township branches, but in lieu of these we have community committeemen and they have proved one of the solid features of farm bureau work. Every community thruout the county has a list of committeemen, appointed by the executive Committee. These men are selected from the "live timber" of each section and their names are so published that each farmer will always find it an easy matter to know who his committeemen are. When such problems arise as naturally beset every farmer at one time or another he lays it before his nearest committeeman. It is possible that the committeeman in his experience has threshed out just such a problem once himself and can go to the end of the matter and give the desired information. If not able to do so he puts it up to the farm bureau manager and he with his array of laboratory and field experts backing him from the state college, takes hold of the matter.

Thus the farm bureau's services are made available even to the small farmer in the remote corner of the county. But this is not all. Several of the community committeemen will be specialists in fruit growing; another group will be heavily interested in muck land development and vegetable production; others in dairy interests and so on. A grouping of these committeemen according to their interest in fruit, vegetables, dairy interests, etc., is also made, each township by itself. Then once a year, or oftener if need be, that particular committee will meet and make recommendations. Take the fruit committeemen for instance. These men from a given town will meet and determine what line of farm bureau effort is most needed within their area. It may be that pruning demonstrations are most needed. Such a course is recommended to the agent and in season an expert om the state college is sent in and a series of demonstrations given in that particular field. The sheep men request barn meetings and poultry interests ask for culling demonstrations in the same way.

Then once a year, usually just before the annual meeting, all the committeemen from all parts of the county get together in a big meeting and welfare work for the next year is discussed from all angels. Any committee thinking itself neglected in the annual run of events can here have its say on an open floor but these meetings are generally harmonious to a marked degree.

Any grower wishing a direct call from the county agent stands a good show of being gratified but the needed information is so often available thru the co-operation thrown about the agent that these direct calls are often found unnecessary when all the links in the chain are pulling right. The agent is that directing head who sees that all projects work along smoothly without skidding.

One important function looked after very carefully in our bureau is that of the service rendered to fruit growers, especially at that delicate period of spraying time. For this work an expert from the state college co-operates with the agent. Daily weather reports are relayed by telephone thru the committeemen to all fruit growers of their community. The expert takes the field with microscope in hand for it is his business to know all about spores. With knowledge of probable weather and the tip given by the expert the growers are prepared as one unit to apply the spray at the most efficacious moment. Last season the expert gave the word to start the pink spray on the apples without delay fully a week in advance of the usual time. It was not time some argued when no pink had yet appeared. But generally it was applied in accordance with the expert's advice. A few days ago I was talking with one of these growers and he said:

"When my wife got the phone call to go ahead with the pink spray I thought the man was crazy, but by morning I determined to put it on anyway and perhaps duplicate it later. Now that the crop is sold and in the light of what one or two growers got who did not spray at this time I consider it made $5,000 difference in my sales for the season."

The expert knew that the spores were out and busy and thru the well organized system of the farm bureau co-operating with the community committeemen all who would learn had the information at their command.—A. H. Pulver, New York.

STUDIES OF GYSUM TO BE MADE

A number of fellowships have recently been established at various agricultural colleges for the purpose of studying gypsum as a soil amendment and fertilizer. One fellowship goes to Iowa, one to New York, one to North Carolina, and two to the University of Chicago.

This means that the gypsum industry is earnest in its desire to learn the real value of its product for agricultural purposes because the support of 5 advanced students at our Universities in these times will amount to enough to buy a good sized farm.

It is assumed that the studies to be made will be free from industrial influence and that the results obtained at the various colleges will be worthy of consideration. The industry is to be congratulated for its wise selection of a means of obtaining information and it is hoped that the publication bearing on these studies will be distributed direct from the institutions making them.

Nothing is cheap unless it is good and unless it is really needed. This is a good thing to remember when reduction sales are numerous. It's easy to buy something just because "it's such a bargain."

Cutting Production Costs

Most Crops May be Produced More Cheaply With Machinery of the Right Type

A speaker in a recent big Pomona Grange meeting in New York said he objected strongly to some of the sights he saw in his trips about his home county. He told of seeing one man dropping potatoes by hand. This in some circumstances, he said might be excusable in this day. But the fact that he was followed by another man who covered the potatoes by hand with a hoe could not be excused in these times when labor is at such a premium. Simple homemade devices can be arranged for covering potatoes, if a potato planter is impossible.

This speaker believed no farmer is wise who does not own or hire machinery for planting potatoes, as well as digging them. The use of such machinery decreases the cost of production, while the output of each farm can be trebled with little more time or labor expended.

He had noticed another man dropping corn by hand and covering it with a hoe. This be condemned, unless the planting was very, very small, as of some choice variety for garden use or home consumption. Corn planting methods are even more easily worked out by machinery, and are most essential in producing big crops for silage and other uses.

The use of all sorts of practical machinery is very much to be desired today. Its high cost is to be deplored. But New York farmers believe their new joining of the leading farm organizations in one big farm supply buying agency will do much to cut down profiteering on machinery.

Good care, with free use of paint and protection from weather, with frequent repairs must also do its part in cutting down costs.

Exhibit of Corn at the Cayuga County, N. Y. Crop Contest and Seed Fair

A Scotch neighbor recently told of buying a Deering reaper 19 years ago for $130. In two years he did enough outside work to pay for the machine. He used it 19 years, doing considerable work for others, besides his own. Then it was put up at auction and sold for $90. It had the original canvases on, and ran as nice as a new machine. This is the result of good housing and care.

Another farmer had a reaper bought new four years ago. Its canvases are torn and rotted. The machine is badly rusted and warped. It recently sold for $62 at an auction and wasn't really as good a bargain as the first machine was after 19 years use, tho it had done but a small fraction of the work. The latter machine had never been housed, since it came from the warehouse.

The use of tractors is a big feature in enlarging output and cutting production costs. Carl L. Amos of Onondaga County, New York, has two 12-27 tractors on his 600 acre dairy farm at Amboy. They do all the plowing, fitting and seeding in the spring. They haul the harvesting machinery and do a lot of fall plowing—a vital thing in rushing the year's work.

The tractor is a belt machine and does much that horses could not do. To be most profitable, Mr. Amos figures that the tractor should be used 60 percent on the draw bar and 40 percent on the belt. In belt work it shells corn, saws wood, drives the ensilage cutter, and does other work that would require an engine.

He thinks his tractors are run at about the same cost as horses. The initial expense is greater. But it is soon overcome by the amount of work accomplished and the time and labor saved. He plows 9 inches deep, and with a three gang plow on each machine plows 20 acres a day. This does the work of three teams or more for each tractor, and dispenses with the need of two extra men.

He believes the tractor fits soil more rapidly and thoroly than horses can. It is possible to haul disc at an acute angle which cuts the soil more efficiently and makes the finest kind of a seed bed. If there is anything that kills horses it is this fitting of soil, or hauling heavy machinery over rough fields.

Mr. Amos thinks it important that a tractor he bought of an authorized agent, at a conveniently near service station, so that repairs can be made quickly.

Mowing Machine With Eight Foot Cutter-Bar Drawn By Tractor

John W. Gates, of Chittenango, N. Y., also has a tractor on his 275 acre dairy farm. He thought he could not use it in his rocky fields and did not intend to use it for plowing when he purchased it. At first he used it for belt work and draw bar work other than plowing. Now it is doing practically all of his plowing, doing about 10 acres a day. He finds it a good investment, but does not use it on soft or wet ground, or to haul the spreader in the snow.

On the other hand many of those who purchased tractors a few years ago are letting them stand idle now. Their complaints are various. One charge is that they spoiled the soil, made it lumpy and non-productive, due they say to excessive weight of the machine and consequent packing of the soil. There may be something in this, yet the writer believes its use when the soil was too wet was a more probable reason.

Poorly turned furrows, bad corners, and waste land in headlands and corners, are also charged. Excessive breakage of plow points is another charge. A neighbor whose machine is idle, waiting a buyer, while he is using his horses, broke $7 worth of plow points in one day last spring, in a field of not more than average central New York stoniness. Another neighbor, for vaguely expressed reasons has laid his tractor by. Both of these are the big type machines.

Another neighbor with a lighter, smaller machine, is doing wonderfully well with it. It would seem that tractors have been in a more or less crude state as yet. Smaller size, less weight, and more power are desired.—M. G. F.

DEVELOPING GOOD SEEDS WITHIN THE COMMUNITY

We must plant better seeds if we are to harvest better crops. The progressive farmer knows this. It is possible to grow better seeds if help is given to the grower in selecting and developing strains and varieties. Cayuga County, New York, has succeeded in helping its farmers grow better seeds and distribute them within the county and state, thru a local crop contest and seed fair.

The local crop contest and seed fair idea was originated in November, 1918, when the first attempt of this character was made in connection with the Annual Farm Bureau meeting. Ten ear samples of corn, and one-half bushel lots of potatoes were the main features. Ribbons were the award. To find the farms within the county growing superior crops, to show samples of the products of these farms, to standardize varieties, and to improve the seed of the crops grown, was the object of the crop contest and seed fair. Prizes were based upon a field score of the crop while growing and a sample to be exhibited at the Winter Seed Fair. The standing crop inspections, or field scores were based on these points; freedom from weeds, diseases, insects, and varietal mixtures, and uniformity of stand. This score was used at the time of the winter fair together with the sample score in making the award.

In order to promote the use of better seeds varieties were limited to those which had proved by extensive tests during the past five years that they were superior. Already this work has resulted in bringing out a variety of dent corn, Cornell No. 1, originated in the county. Green Mountains and the Rural type of seed potatoes are developing in like manner. Barley and buckwheat, the two crops in which Cayuga County leads the the state, are next in line for development and progress is looked for in the next few years—E. C. W.

This country is using its lumber three times as fast as it is growing it. The farm woodlot kept productive will store up money.

A good growth of weeds may serve a useful purpose if turned under before plants go to seed.

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VOLUME 47 NUMBER 26

Our job is to serve our readers. Whenever and wherever we can help you, write us.—The Editors.

Crop Shortage Serious

THE RECENT reports of the Department of Agriculture show that the shortage of farm labor and the unfavorable planting season have affected crop production even more than the first estimates indicated. These estimates show that the total acreage devoted to the eight leading crops is less by 23,000,000 acres than last year. In addition to this the condition of some crops, notably corn and cotton, is much below the average at this time of year. Of course, ideal weather conditions from now on would make great improvement in many lines. The most critical period in crop production, so far as labor and weather affect it, is the harvest season. A given amount of labor with modern machinery can plant and cultivate a great deal more than it can harvest and market. However, under favorable weather conditions the right cooperation between neighbors will enable them to do this work more efficiently and economically than they can do it alone.

The Wool Market

THE WOOL market situation is a most discouraging one for wool growers. The slump coming as it does just after a more or less successful effort to increase the business of sheep raising is most unfortunate. So far as can be seen, no one or class of men can be charged with manipulating the market. In fact the wool dealers are advising growers to hold their wool off the market until the situation improves. The cause of the trouble, it is said, is due to the cancellation of orders given to manufacturers for fall and winter goods. The reaction of the public against the prevailing high prices of clothing, and the general expectation of a general falling of prices cause dealers to hold back orders for future stock. Many mills are running only half time and others have closed down entirely. What the final result will be it is impossible to tell. Dealers are now carrying large stocks of medium and low grade wool and are facing a loss on this. There is also a large amount of Australian wool, accumulated during the war because of lack of shipping facilities, and this is now available. No one is willing to make predictions as to future prices, but all agree that the safe thing is to organize cooperative selling associations and provide proper storage until the mills resume full time operations.

Waste of Woman Power on Farms

THERE is usually a feeling of resentment on the part of farm people at the result of investigations and surveys of rural affairs made by others. We do not feel that this feeling is always justified, nor should farm people disregard the information and suggestions resulting from capable and honest sources. Very often an outsider or an expert will see things which our nearness and habits have rendered invisible.

The specialists in home economics in the U. S. Department of Agriculture, after a survey of 33 northern and western states, covering 10,015 farm homes, make the statement that the waste of women power in farm homes is one of the greatest menaces to rural life of the nation. Miss Ward, the head of the work, makes the statement that a reasonable amount of planning and well directed investment in modern equipment for the farm homes would prevent a large part of this wastage of the energy of the nation's rural home makers, and that a larger part of the farm income should go into improvements for the home.

The survey discloses a number of reasons why farm women do not find farm life attractive. Among them are the following: The working day of the average farm woman is 11.3 hours, the year round. In summer it is 13.2. Eighty-seven out of each 100 women have no regular vacation during the year. Half of the farm women are up and at work at 5 o'clock in the morning. Forty percent have water in the kitchen but the other 60 percent must bring it from the spring or the well. Thirty-six percent help with the milking. The average farm woman has a 7-room house to keep in order. Seventy-nine percent have kerosene lamps to keep in order. Ninety-six percent do the family washing, about half of them have washing machines and the other half use tub and wash-board. Twenty-six percent have gas or electric irons. Ninety-two percent do some or all of the family sewing. Garden work is done by 56 percent of the women, 94 percent do all or part of the family baking and 60 percent have churning to do. Eighty-four percent of the poultry flocks are cared for by the women, and 25 percent help to feed and care for the live stock, while one-fourth assist with some part of the field work.

This information is worthy of serious consideration. It comes from a wide field and includes what we know to be an intelligent and efficient part of the nation—a section that has long since passed the pioneer stage. The investigators also found that 48 percent of the farms are equipped with power for operating the machinery of the farm, while only 22 percent have this advantage in the homes. We submit that this is not only not fair but it is not necessary. Added to the regular household duties of a farm wife the figures show that too many are doing additional work that is too much and which tends to break both body and spirit. Critics sometimes say that farmers leave the farm because the "women folks" are not satisfied on the farm. Is it any wonder? Will anyone remain satisfied in any place where the day's duties year in and year out are burdensome and exacting, and where the only respite is the sleep of exhaustion?

Farmers have always assisted in passing laws for curbing child-labor in the factories, in reducing the hours of women in industries, and eliminating sweat-shop production. All this is to their credit, but, like charity, concern for human welfare should begin at home. The exercise of a little ingenuity and the expenditure of comparatively small sums would greatly reduce the percentages quoted above and thus relieve this army of overworked women of burdens that are unendurable, however cheerfully borne. We know the excuses that are always given. We can foresee the letters we will receive from those who will blame all upon "conditions over which the farmer has no control," and who perpetually excuse their own carelessness by talking about the "down-trodden" farmer's condition. We are not in any way denying the need for improvements in the world's economic affairs, but we do deny that it is impossible to improve many of the farm homes so as to relieve the most important member of the household from living her life simply as a drudge.

Our Washington Letter

Many farmers, especially in the Middle West, after several years experience in preparing their income tax returns, have arrived at the conclusion that there is room for improvement in the methods of making the returns. A committee from the Iowa Farm Bureau Federation was in Washington recenty conferring with the Income Tax Division of the Treasury Department and the Department of Agriculture, with the purpose of securing the adoption of a method which will more efficiently meet the special requirements of the farmers.

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In a report to N. P. Hull, president of the National Dairy Union, A. M. Loomis, secretary of the union, says: "I have to report the adjournment of Congress without action so far as I can discover in any way detrimental to the interests represented by the National Dairy Union. Only two bills have been introduced during this session of Congress to permit the coloring of oleomargarine in immitation of butter. There were the Dyer bill and the Sabbath bill. Neither of these bills proceeded beyond a reference to the committee on Agriculture." It must be understood, however, Mr. Loomis says, that the adjournment of Congress did not kill these bills. They will be before the committee when Congress resumes work next December, as will all other bills pending in committee. Mr. Loomis, who was recently appointed secretary of the National Dairy Union, succeeding the late W. T. Creasy, is assistant to T. C. Atkeson, Washington representative of the National Grange. His office is at 303 Seventh Street in the National Grange Washington headquarters.

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Congressman Burton L. French tells me that there is a rapidly growing sentiment in favor of his truth in fabric bill. The people are beginning to demand the truth in regard to the contents of the clothing they are buying, whether it is made wholly from virgin wool or in large part from shoddy, and they are no longer satisfied with the dealers' statement that the goods are "all wool." The Minnesota and Wyoming Republican state conventions have endorsed the French truth in fabric bill, and the Boise, Idaho, Chamber of Commerce recently adopted a resolution in its favor.

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A conference of national organizations has been called on June 25th by Federal Commissioner of Education P. P. Claxton, to follow up the citizens' conference on education recently held in Washington. Facts were presented at the citizens' meeting showing an appalling situation as regards the public schools, especially those in the country, and it is for the purpose of considering the rural school problems that the second conference has been called.

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The Plumb-plan propagandists maintain headquarters in Washington, and are making an extensive campaign for the promotion of their scheme of government-labor ownership and operation of railroads. Apparently in close affiliation with them is the Non-partisan League, the National Farmers' Council and the American Federation of Labor. Recently a meeting of farmers, railroad employes and other elements was held in Baltimore at which a Plumb plan headquarters representative was the principal speaker.

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At this meeting the Non-prtisan State League of Maryland was formed. Other meetings will be held at which efforts will be made to organize the farmers and labor organizations under the Non-partisan League standard, with the evident purpose of gaining a foothold for the North Dakota movement in the East, and incidentally promote the Plumb plan scheme. So far, I have failed to find any appreciable sentiment among Maryland farmers, either for the Non-partisan League or the Plumb plan of government railway ownership.

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Close observers of men and movements here at the capital credit the Washington representatives of the national farm organizations with having been in a considerable degree responsible for the quite liberal space given to the farmers' demands in the Chicago platform. They say that this is one of the most important results that have come from locating farm organizations headquarters in the Federal capital; that the continuous contact of the farm leaders with representative public men and their appearance at the hearings before Congressional committees, at which they have been able to present the farmers' side, has given senators and congressmen a more intelligent view of the agricultural situation, and that this is certain
better treatment at the hands of the government.

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The fact that a large political party has declared in favor of giving farmers the right of

collective marketing, and protection against discrimination, the authorization of associations for the extension of personal credit and in favor of putting an end to unnecessary price fixing are evidences that the farmers are making progress in the development of effective political influence. Interviews with farm leaders give evidence that they are going to hold the political parties to their promises; that there is to be no crawfishing with farm legislation when Congress meets in December. The Volstead-Capper farmers' collective bargaining bill, packer regulation and farm and perosnal credits legislation will be the three leading measures upon which the united farmers will demand prompt action.

• • •

Gray Silver, Washington representative of the American Farm Bureau Federation who has just returned from the Middle West, tells me that the Farm Bureau movement is making a very satisfactory growth in membership, and is extending its cooperative efforts along safe, practical lines. Its plan of pooling wool has saved the sheep raisers many thousands of dollars. In New York and Illinois the pooling of wool under the supervision of the county farm bureaus has been carried on successfully for several years, and this year the wool growers of several other states are pooling their wool, having found it to be a satisfactory method of disposing of their wool. The new move of the American Farm Bureau Federation in establishing departments of agricultural economics, transportation and publicity, and to enlarge the work of the Washington office, is looked upon as a decided step forward. The officials are now looking for a competent man to place in charge of the department of economics.

According to a statement prepared by Chairman J. W. Good of the House Appropriations Committee, a total of $4,859,890,327 was apropriated by the Sixty-sixth Congress during its session ended June 5th. Of this amount, $4,373,395,279 is for government expenditures in the fiscal year beginning July 1st, and $486,495,048 is to meet deficiencies for the present year. The Army and Navy received $855,956,962 for the next fiscal year, leaving $977,319,910 to meet all the other civil functions of the government during the same period. Agriculture, America's greatest industry, gets $31,712,784, while $10,040,655 was appropriated for the conduct of Indian affairs.

Some of these figures are amazing in their magnitude, and others in their insignificance. They are most interesting, however, when used as the basis of comparisons. Food and clothing material production may be the most important question before the public, as the economists are saying. Congressional appropriations. In view of the billions of dollars appropriated for other purposes, it is evident that the United States Department of Agriculture is justified in its complaint that it has received parsimonious treatment from Congress, when its appropriations were cut $2,185,000 below the present year's appropriation, and $6,000,000 less than the department's estimates.

Elmer E. Reynolds.

HARRISBURG LETTER

Closer Cooperation Assured.—Real cooperation between the State Department of Agriculture and State College in educational work for better farming in Pennsylvania has been assured by the two-day visit paid to the State Capitol by thirty members of the State College faculty with whom united representative officers of the veterinary department of the University of Pennsylvania, Secretary of Agricuture Rasmussen, to whose enterprise and initiative the visit and the inspection, discussion or whatever one chooses to call it, was due, is enthusiastic over the prospects. For years there has existed something, which if not antagonism, was more or less aloofness between the agricultural end of the state government and the college established primarily to teach the science of agriculture. For a dozen years, efforts have been made to overcome this feeling and several times it has been heralded as accomplished. The secretary came here from State College and after having had a year or so to work out his plans for extension of practical state aid asked the college people to journey to Harrisburg and talk it over not only with the farming end of the state government, but others with which their several lines of instruction or research had relations. It was a unique visit and while it did not attract much attention in the great building it was important to those who realized it. The visitors took home first hand information, cheerfully given, about every branch of the government and the outlines of means of cooperation which cannot help but be valuable in future work if followed up at both ends.

Future of Instruction.—Men have differed much on Capitol Hill about the way the state should take its agricultural instruction to the farmer, but lately the tendency has been toward supporting various agencies rather than carrying on separate effort. In the next few weeks steps will be taken to ascertain the ideas of farmers themselves. In some sections of the state a belief exisits that the farmers' institute has passed its usefulness, but in other counties these meetings and others held in connection with them are considered of prime importance. Some politicians in rural counties suffer liquifaction of the interior when it is suggested that the farmers' institute be abandoned. However, of late, there have been two very different lines of thought about these meetings growing up and after a tour of the state has been made some decisions can be reached.

To Meet Directors.—Officers of the State Department of Public Instruction will depend some time this summer getting into touch with rural school directors instead of taking vacations, this plan having been adopted so that a flying start might be made on the rural education advancement campaign. Conferences have been held this month on ways and means to consolidate schools and arrangements for a "model" system in various sections of the State which will be suitable for study are being made.—Hamilton, Harrisburg, Pa., June 21.

NEW YORK LETTER

Two-Day Potato Meeting.—The summer field meeting of the New York State Potato Growers' Association will be held in Cortland County August 6 and 7 at the home of the president, E. E. Hults.

Sheep Breeders From Five Counties.—A big meeting of Central New York Sheep Breeders met in Ithaca this week to plan for the pooling of their wool.

To Cut Retail Costs.—New York City is planning three big terminal markets, to cost ninety million dollars. The city will either back the project financially or pay rental of 10 percent cost of construction per year for 25 years, then to acquire ownership.

Drop in Cheese.—The Watertown and other dairy boards report a new drop of ½ to ¾ cents a pound in the wholesale price of cheese.

Progress of New Exchange.—Farmers of the state are receiving with enthusiasm the plan of joining the forces of the Grange, League and Federation of Farm Bureaus in a new big farmers' buying organization. They are buying freely of the capital stock. A million dollars' worth of which is to be floated at once.

Market Notes.—Hay has taken another big rise, due to transportation difficulties, and to the prospects of a very short crop as there has been continued dry weather. The corn crop has come up very poorly, due to low germinating qualities. Fruit generally has set full but drought has injured it some, particularly strawberries and old potatoes ever received here came in this week. Southern new potatoes, cabbage and fruit are coming in freely now. Bran and wheat feed are very hard to obtain at $3.75 per cwt. Butter is up two points, but cheese continues to drop. Egg are 45 cents per dozen in local wholesale markets. Wheat is now $3.05 per bushel.

Milk Publicity.—The recent milk show in Syracuse has increased the consumption of milk in that city 25 percent. A feature of the show there was an out of doors milk bar where milk drinks were sold in large quantities. Some of the county fairs of the state are planning milk bars to demonstrate milk drinks for the home and farm.

Feed Advances.—Since May 10 all feeds have advanced $2 to $5 a ton. The state college advises dairymen not to lay in big quantities now, unless it be oil meal.

Keeping Fit Campaign.—New York rural communities are being given instruction long needed and never before available, thru Home Bureaus and public mass meetings. Speakers of the highest class are sent by the State Department of Health and by federal arrangement to give instruction in six hygiene and education and as to the prevalence and communicability of social disease and other vitally important matters.

Farm Picnics.—County wide field days are being arranged for earlier than usual this year. Cortland County recently had a big day arranged by the Home Bureau. Erie County is to have an ox roast, sports and addresses on June 26. Prospects are good for a big attendance at the State College on June 30, July 1 and 2 to see the college work indoors and on the farm.—F.

NEW JERSEY NEWS

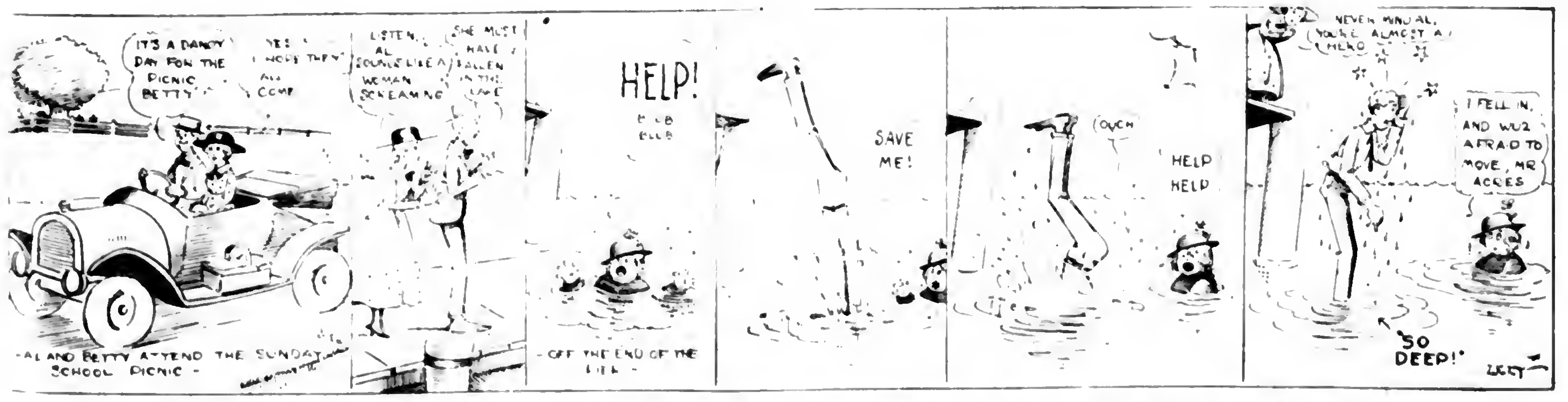
Buy Immense Farm.—An extensive deal involving farm property has been consummated in the purchase of the holdings of the Oaklands' Farm Corporation located near Trenton Junction, three miles West of this city, by the Herdlea Farms Corporation of Delaware. The purchase was from the Ferdinand W. Roebling, Sr., Estate. Mr. Roebling established the farm several years ago, and chartered it as a corporation of this state in 1917 for the purpose of conducting an exclusive dairy and poultry business. The farm consists of 400 acres with an extraordinary stock, comprising a large herd of pure-bred Guernseys and more than 4,000 hens. Heading the Herdlea Corporation is Anderson Herd, who owns and operates an extensive farm near New Hope, Pa.

Potato Growers' Tour.—Mercer County potato growers participated in the biggest potato tour ever held in the county, some twenty farms being visited. The growers gathered at Robbinsville from where they went to Hamilton Square, Haines Corner, Edgebrook, Crosswicks, Allentown, Sharon Station, Highstown, Etra, and returned by way of Highstown to the Frank Powell farm at Robbinsville. A basket luncheon was enjoyed at the noon hour at the Raeter farm near Hightstown.

Crop Prospects Good.—Crop prospects in New Jersey at the present time are good. Corn and potatoes are growing well and are being cultivated, while the planting of corn and late potatoes has just been completed. Cutting of grass and rye is commencing, and both of these crops are promising. Oats in most instances are very good, and wheat is fair and improving. Apples and cherries are promising, peaches are fair, and pears poor. Strawberries are about done in the Southern sections of the state. Cranberries are about as usual at this season of the year, while truck is mostly good. A fine acreage is being set out in sweet potatoes, tomatoes and peppers.

New Milk Powder.—Experiments with a dried milk powder being conducted by the United States Public Health Service in Boston have been so successful, that babies of the tropics are now assured of a supply of milk as wholesome as that which comes from the best American dairies, according to Surgeon-General H. S. Cummings, of the United States Health Service, in an address before a conference to the Child Hygiene Bureau of the New Jersey State Department of Health held at Asbury Park. "Aside from making possible the saving of thousands of babies' lives thruout the world," Dr. Cummings added, "it will enable the dairymen to use profitably large quantities of milk which formerly have been wasted."

Caterpillar Campaign.—Prizes for participation in a caterpillar campaign conducted by the Trenton public schools have been awarded to the pupils having the highest number of cocoons collected to their credit. The first prize has been given to Ethel Zidalis, of the McClellan School, who colected 1,009,000 cocoons. She was given a pair of field glasses. A splendid record in the campaign was made by the children in the Hewitt School.—Kelly.


IT'S A DANDY DAY FOR THE PICNIC BETTY
YES I HOPE THEY ALL COME
AL AND BETTY ATTEND THE SUNDAY SCHOOL PICNIC
LISTEN AL SOUNDS LIKE A WOMAN SCREAMING
SHE MUST HAVE FALLEN IN THE LAKE
HELP!
SAVE ME!
OUCH
HELP HELP
NEVER MIND AL, YOU'RE ALMOST A HERO
I FELL IN, AND WUZ AFRAID TO MOVE, MR ACRES
SO DEEP!

Al Acres and His Best Girl Go to the Picnic and Al Almost Becomes a Hero—At Least He Takes a Plunge at It.

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Red Seal Dry Batteries

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Pumping Outfit Complete

2¼ H. P. Engine — No. 4 Heavy Duty Pump Jack, 16 ft. 2 in. Belting, Webster Magneto. F. O. B. Nearest Shipping Point.

$81.40 Complete

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in milk and flesh alone on each cow in a single season. Excellent for galls. Allays itching. Aids in healing cuts and sores. Excellent for lice and mites in poultry houses.

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SHOO-FLY MFG. CO., 1342 N. 10th St., Phila.

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Get Factory Prices on all Paints. We guarantee quality. We Pay the Freight.

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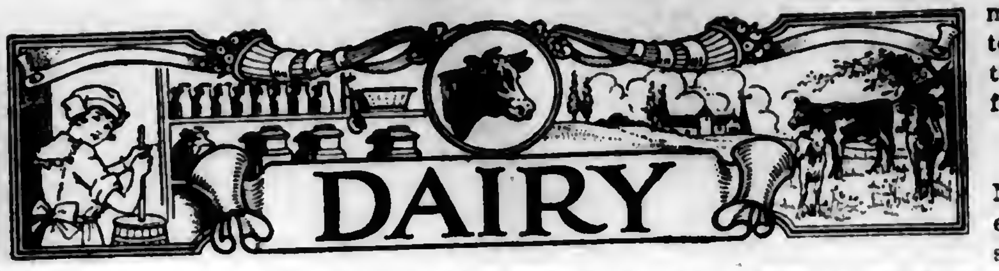
GREEN MOUNTAIN SILOS



NEW YORK MILK PRICE AGREEMENT

An agreement has been reached between the Dairymen's League and the New York Milk Conference Board, whereby the dealers' organization has recommended to its members that they buy the farmers' milk not only for the month of June, but for every succeeding month until October first. The best part of this agreement is that for the first time in months the prices agreed upon cover the cost of production and will give the dairymen a more hopeful attitude toward their own business.

The price for June is $2.83; for July, $2.95; for August, $3.35; and for September, $3.65. These prices are for three percent milk at the 200-210 mile freight zone, with the usual differentials for freight and butterfat. The prices for the four months total, .135 cents higher than those for the same period last year.

Clean, Light Airy, Well Ventilated Stables Are Necessary to Best Results

The trouble between the dairymen and the dealers has been brewing for several months. Farmers have been extremely dissatisfied with the prices which their milk brought during the winter and spring as they were under the costs of production; but they accepted these prices because they realized that market conditions were bad and because they were not looking for trouble with the buyers of milk. Their last straw of patience was exhausted, however, when the dealers sent the dairymen an ultimatum demanding that the farmers accept a price plan which would bring the price of milk for June and succeeding months far under the prices which were received last year, and so low that thousands of dairymen would continue to lose money. This demand of the dealers came, notwithstanding the fact that market conditions have continued to improve since April.

The practically unanimous opposition of the dairymen was probably the chief reason for a satisfactory settlement of the difficulty. Not in many months have farmers been so aroused as they were over this attempt on the part of the dealers to continue to buy their milk far below the costs of producing it. Thousands of meetings were scheduled by farmers and many of them were held before the good news reached them that an agreement had been made. No one who attended one of these meetings would long be in doubt as to the determined sentiment of the farmers for fair play.

The agreement covering four months instead of one will do much to stabilize the whole industry. Both farmers and dealers can make their plans some time in advance because they know what the prices for the next few months are going to be.—E. R. Eastman, Editor, "League News."

TEAM WORK

One of the finest illustrations of team work has just been put over in New York state. May 17th, the Governor announced that he would hear arguments on the repeal of the daylight saving bill. Some four hundred or more farmers were on hand to urge the signing of the repeal. It is good to know that they have the aid of the State College, and to notice that Babcock and Stowner of the Farm Bureau Federation; Lowell and Giles of the Grange, national and state; Manning and Eastman of the Dairymen's League with others were on hand. The main body was composed of farmers who work and manage farms and they were the chief force. All were connected with farmers' organizations, and what is more they organized their forces before going before the Governor. It was decided what points to present and who should present them and to make talks short and to the point. All was systematically arranged. It could hardly have been done two years ago.

It is not to report success that I am writing this, for success with the Governor was out of the question. Success was desired to be sure, but such drill in cooperative effort is worth while.

• • •

When representatives of the Grange, the League and the Bureaus met and decided to enlarge what is now called the Grange Exchange, they thought it best to put in charge of the feed department an expert feed man. They will have a warehouse and will deal as directly as possible with mills and other producers and will sell direct to local organizations or local farmers. It is by coming together that they are at something in the course of a year or two. It is too early to do too much talking, and there are going to be innumerable obstacles, but if they stay by it as they have begun, failure is hardly conceivable.

• • •

It is true that a Governor from New York City can hardly be expected to see much in common with upstate people, especially farmers and it is not strange that our Governor vetoed the daylight-saving repealer. This, with the other legislation vetoed, and the beer and similar bills approved, together with the regulation laws for farmers which were advocated, can hardly do anything except turn country people against the Governor.

The action by the farmers at the hearing, however, was fortunate. It demonstrated that farmers can do things, and it lined them up as ready to act when the time is ripe for it. The schooling in affairs of state may be all the more helpful because they were turned down after making an entirely winning argument for their cause. They will follow it up later—H. H. Lyon, Chenango Co., N. Y.

CLINTON, WAYNE COUNTY, PA.

At the completion of the ninth month the Clinton Cow Testing Association again leads in the county with the most honor cows. Out of 390 cows tested 56 qualified for the honor roll, producing either over 40 pound butterfat or 1200 pounds milk each.

The registered Holstein herd of J. J. Genther's headed the list in the production of milk and was second in the yield of butterfat. G. H. Knapp's herd of grade Jerseys and Holsteins lead in the yield of butterfat. Mr. Knapp has recently installed a mechanical milker.

One registered Jersey and three registered Holstein bull calves were placed as future herd leaders. One of the finest herds of registered Holstein tuberculin test stock was bought and distributed among the members of the association. This herd consisted of 19 purebreds and 6 grades, and trace their breeding largely to Calantha Johanna Lad, King Segis Pontiac Alcartra and King Massasolt, a promising young sire which was raised and is owned by G. Smith & Sons, of this county.

The ten best cows were as follows:

Name of Owner	lbs. m.	lbs. b.
R. G. Erk	1244	56
R. G. Erk	1247	47
Geo. Gaylord	1171	58
G. H. Knapp	1186	51
J. J. Genther	1458	53
J. J. Genther	1354	59
J. J. Genther	1882	52
Geo. Curtis	1598	51
F. S. Wildenstein	903	48
W. F. Hauenstein	854	47

The following men also had cows in the honor roll: L. L. Derrick; J. A. Dann & Son, W. E. Rude; A. H. Curtis & Son, M. J. Hauenstein; Geo. Hauenstein, W. S. Martin, F. S. Wildenstein, Geo. Wildenstein.—Ken. S. Bailey, Tester.

REPORT OF OHIO COUNTY W. VA. COW TESTING ASSOCIATION

MONTH OF MAY

Number of cows tested, 285; number of herds, 24.

Highest production of butterfat—Gyp—Grade Jersey—Owned by H. C. Garrison. Record: Fresh April 17, 1920. Milk, 1370.2; test, 5.8. Fat, 79.47.

Highest production of milk—Polly McKean 2nd. R. Holstein, owned by Home View Farm. Record: milk, 1509.7 lbs.; test, 3.4 lbs.; fat, 51.33 pounds.

Waddington Farm—Highest cow (not including cows on official test) Imported Lady Victorine IV. Milk, 1605:8; test, 4.5 lbs.; fat, 72.26 lbs.

Honor Roll of High Producing Cows

Gilmer Lyons, 3; J. W. Guess, 3; W. A. Guess, 10; Dr. J. E. Buchanan, 1; Mounts & King, 1; Carl Clendennin, 1; Harry Garrison, 3; A. J. Varner, 5; J. B. Atkinson, 4; Roy Hill, 4; D. G. Atkinson, 4; D. W. Coffield, 6; Hugh Dodds, 2; W. C. Supler, 3; J. F. Atkinson & Sons, 1; Lester Whitecotton, 2; Home View Farm, 10; W. H. Nichols, 2; Waddington Farm, 5.

These cows produced 40 pounds butterfat or 1000 pounds milk or better.—Luke W. Frame, Tester.

DISHONEST TESTS APPREHENDED

During 1919 the Bureau of Dairy Products of the Division of Farms and Markets of the New York State Department of Agriculture investigated the use of the Babcock test with thoroughness in 1290 instances.

Inspection as given by the bureau includes examination of the apparatus, glassware, acid, composite samples methods of keeping and other points. It was found that in 1066 cases there was complete compliance with the law. In 148 cases conditions were remedies and in 76 cases reports were held for further investigation.

This is good work and one that should be called for much more frequently by the farmers that it now is. It is well to let all milk dealers and cream buyers know that frequent tests are going to be made to corroborate their tests. More farmers should own a Babcock testing outfit and use it often enough to keep tab on the tests they are getting. The heading dealers and buyers encourage this, and the result is increased confidence and cooperation with their patrons.

The bureau issued 769 licenses for the operation of the test and renewed 2299. The Bureau conducted 67 examinations for those desiring to obtain licenses to test milk and cream and issued 502 cheese brands and 817 licenses to those having charge of milk gathering stations.

During the year the bureau also made 1487 inspections of cheese factories, butter factories, and milk plants. Of these 1403 were reported in good sanitary condition, and 84 were given notice to remedy conditions.

Evidence in cases of violation of the law regarding tests were submitted to the Legal Bureau for such action as facts warranted. These were cases dealing with milk, butter, certified milk, cheese, cheese moisture content, cream inaccurate testing, linseed oil. Condensed milk evaporated milk, oleomargarine, turpentine, illegal use of milk bottles and cans, unsanitary conditions, failure to obtain licenses, failure to take out bonds, etc.

One of the regrettable features of the cooperation of the legal department with the dairy department for the good of farmers and consumers is the delay incident to red tape. After complaint is made often a case runs on without check for weeks or months before legally halted, to the great loss of the farmers and perhaps to the loss of consumers. Amendment of present status to secure prompt action on such complaints would be greatly appreciated by the people.

There has been a scarcity of applicants for examination to secure licenses for giving the Babcock tests. This is work well within the range and capability of women. A few young women have qualified for the work and have given excellent success.—M. G. F.

SMALL FEED MILLS

The miller who complained recently that farmers had grown crazy over cooperation was very badly mistaken as to the cause as well as the extent to which cooperation is carried. Farmers do pull together more systematically today than they once did, on precisely the same principle that they no longer plow with a crooked stick. But they haven't kept pace with other "industries. If they had they would long ago have been as fully organized as are bankers, merchants, or even city laborers. It is very doubtful if any decided move in that direction would have been made at this time had the need been less imperative.

For years the organized milling industry has been pressing the dairy man more and more, until it became practically impossible to feed cows without in some way becoming partially independant of the feed mill. Many farmers solved the problem by cutting their dairy to a point where they could raise all their own feed, and installing a small home feed grinder. Where this plan was not feasible, the only alternative was a neighborhood cooperative mill. The mill was not the outgrowth of a selfish desire to corner all the profits, but rather the inevitable result of increasing feed prices which were forcing the cost of milk production so far above the price of milk on the market. It isn't always, perhaps not often, the little retailer who does the "grabbing" but if the wholesaler is skinning the retailer, so that he, in turn, must skin the farmer to keep his own head above water, it bankrupts the dairyman just the same, and he is in no wise responsible for the ill-fortune of the retailer.

Time is an important factor on the farm in these days (despite the ages and ages we're saving by the daylight saving law) and it means much to a busy man to be obliged to take a grist to mill during rush seasons and perhaps wait half a day to get it ground while he could grind it himself in his own mill after supper or while his horses rest.—E. M. A., Chautauqua Co., N. Y.

Where Butter Profits are Made or Lost

YOU know better than we can tell you that the bowl of the separator is the place where butter profits are made or lost. Right there you have the big fundamental reason why over a million dollars were spent in bringing the bowl of the EMPIRE-BALTIC to its present state of perfection. Years of constant study and experiment on the part of the world's foremost centrifugal engineers stand back of the EMPIRE-BALTIC—the Separator with the Million Dollar Bowl.

And here's what we have accomplished: A bowl that is absolutely self-centering and self-balancing—a bowl that is free from vibration. We have solved the problem of self-centering and self-balancing by the unique method in which the bowl rests on the flange of the spindle instead of on top of it—it adjusts itself.

Vibration unfailingly shakes the cream back into the milk after it has been separated. Possibly you thought that a bowl free from vibration could not be manufactured. But we have accomplished it, in the EMPIRE-BALTIC—the Separator with the Million Dollar Bowl.

Many other exclusive features make the EMPIRE-BALTIC stand out as an above-the-ordinary separator. For instance, the rope neck-bearing absorbs all shocks and wear and tear—the ratchet coupling avoids the "jerk in turning"—the great simplicity of the driving arrangement means easier turning and smoother running—the oiling system is as simple as it is efficient, and so on.

Your experience enables you to judge separators as accurately as you can judge cows. Knowing this, we ask you to call on the nearest EMPIRE-BALTIC dealer. And—get the complete story of the Separator with the Million Dollar Bowl by writing for our literature 104-S

EMPIRE-BALTIC THE SEPARATOR WITH THE MILLION DOLLAR BOWL

The "Family Coat of Arms" of the leading line of Dairy Machinery—EMPIRE.

Empire Cream Separator Co., Bloomfield, N. J.

Manufacturers of Empire Milkers and Gasoline Engines

Chicago, Syracuse, San Francisco and Toronto, Canada

EMPIRE-BALTIC

The Separator with the MILLION DOLLAR BOWL

SAVES ITS COST IN ONE WEEK

Cools and aerates milk—removes odor—halts germ growth—stops waste and loss. Genuine Improved Champion Recommended by leading creameries and producers. Write for free folder.

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FARQUHAR CIDER PRESS

This Hydraulic Press will work up your apple cull into profitable cider. You can also make money pressing for your neighbors.

Our high pressure construction gets all the juice with minimum power and operating expense. Sizes 15 to 400 barrels a day, suitable for individual and merchant service.

Illustrated Catalog free on request.

A. B. Farquhar Co. Ltd., Box 146, York, Pa.

We also make Engines and Boilers, Sawmills, Threshers, Implements, etc. Write for descriptions.

Public Sale of Registered Cattle

Owing to a shortage of help we will sell at public sale on Wednesday, June 30th, at 1 o'clock p. m., on our farm 1 mile west of Lansdale, Pa., our entire herd comprising 21 registered Jerseys headed by Stanley's You'll Do 134,245 bred by T. S. Cooper & Sons. The young stock are all by him out of excellent cows. The Brown Swiss, are four registered cows, one bull, one heifer and three calves, also a few grade heifers. Write for catalogue and attend this sale.

CHARLES S. JENKINS

Kill All Your Rats New method. Better than poisons. Inter-State Rat Virus produces a deadly disease in rats. Spreads to the last rat. Harmless to man and animals. Don't fail to write for information.

INTER-STATE RAT VIRUS CO., 217 Broad Street, York, Pa.

SEE THE

Stevens Holstein Farm Consignment

AT THE TYRONE, PA., SALE, JUNE 28

I am consigning several head of choice purebred Holsteins to the sale at Tyrone, Pa., on June 28, 1920. These include daughters of King Segis Hengerveld, granddaughters of King Segis and Ormsby Korndyke Lad, and a seven-months-old bull, sired by a son of a 34-lb. three-year-old and she a daughter of a 33-lb. son of Pontiac Korndyke. Most of these offerings are in calf to King Korndyke Sadie Vale Jr. No. 203291, whose dam and two nearest dams of his sire average 36 lbs. of butter in seven days.

If in the market for purebreds meet me at the sale.

STEVENS HOLSTEIN FARM, Paul H. Stevens, Prop. CORTLAND, N. Y.

KILL FLEAS
WITH
Bee Brand
INSECT POWDER
McCORMICK & CO.
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Gets rid of the bugs; does not kill everything else doing it.
THE SAFE INSECTICIDE
Non-injurious to plant, tree or vine, bird, bees or dumb animals
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IN ITS COMPOSITION
Farmers using it praise it most. You will appreciate its results. Write for booklet.
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Ideal For Fruit Trees
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PLANTS
CABBAGE, TOMATO, PEPPER AND CELERY
ALL LEADING VARIETIES
Cabbage Plants $1.00 per 1000
Tomato Plants $1.50 per 1000
Pepper Plants $4.00 per 1000
Celery Plants $3.00 per 1000
All Plants Packed Carefully in Moss
OROL LEDDEN, Sewell, N. J.
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Largest Grower of Vegetables Plants in N. J.

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Buy direct and save $10 to $20 on a bicycle. RANGER BICYCLES now come in 44 styles, colors and sizes. Greatly improved; prices reduced. WE DELIVER FREE to you on approval and 30 days trial, actual riding test.
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TIRES, lamps, wheels, parts, supplies at half usual prices. Do not buy a bicycle, tires, or sundries until you get our big free Ranger catalog, low prices and liberal terms. A postal brings everything.
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MEAD CYCLE COMPANY Dept. T-78, Chicago

GRADE YOUR FRUIT with a BURKE grader. Accurate and satisfactory work. Reasonable in price. Prompt delivery. American Orchard Products Company, Palmyra, N. J.

Vegetable Plants Leading varieties Cabbage, price per 100, 30c., per 500, 90c., per 1000 $1.50. Lots of 5000 or more $1.25 per 1000. Cauliflower, 100, 65c; 500, $2.50; 1000, $4.00. Tomato, 100, 45c; 500, $1; 1000, $1.75; lots of 5000 or more, $1.50. Send for prices on all kinds of plants. C. E. FIELD. SEWELL, N. J.

Lightning Rods EXCLUSIVE AGENCY AND QUICK SALES TO LIVE DEALERS SELLING "DIDDIE'S — UNIVERSAL RODS." Our copper tests 99.96% PURE. WRITE FOR AGENCY. PRICES ARE RIGHT
L. L. DIDDIE CO., MARSHFIELD, WIS.

HORTICULTURE

PEACH NOTES

By J. P. STEWART

Judging from the general crop reports and from the early prices quoted on the principal markets, this is going to be another banner year for those who are fortunate enough to have crops of peaches for sale, and are able to take care of them. Some of the best packs now available from Georgia are bringing as high as $4.50 per carrier, a package which holds conisderably less than a bushel. Incidentally, this price is quoted in one of our largest markets for the Redbird Cling, a relatively new variety, while the other early sorts, such as Alexanders, Greensboros, and Uneedas, are running from about $2 to $3.50. None of these sorts are particularly high grade, and all are noted chiefly for their earliness, but it is interesting to note that the Redbird is topping the market by a considerable margin for the present.

A Prolific Strip of Muck Land in New York: Onions, Lettuce and Celery

This variety is a very strong grower, is usually a very early and prolific bearer, and the fruit becomes almost entirely covered with red. From such limited experience as the writer has had with it, however, this is about all that can be said in its favor, excepting possibly that it is now selling well on the market. If these desirable characteristics could only be combined with some real edible quality, and also with greater freedom from the seed, we might then have something that has long been needed, viz: a really good, early, commercial peach.

Pests Abundant

The number of insects seems to be unusually great this year. Bumblebees, June bugs or May beetles, cherry aphids, and apparently also the curculio, have shown a very unusual abundance in several localities visited by the writer recently. This is rather unexpected to say the least, after the relatively severe winter we have just passed thru. It shows the necessity of continually being on guard, if one wishes to harvest his own crop before the bugs do, or before they have rendered it practically worthless. The curculio, is one of the principal aids to the brown rot fungus, which everyone knows is the chief enemy of the peach crop,—outside of the middleman.

Probably the best means of discouraging the curculio is with an application of plain slaked lime and lead arsenate, at the rate of three or four pounds of the former and about one pound of the powdered lead to fifty gallons of spray. This application is best made shortly after the shucks are shed. If it has not been made, something can still be acompished either with "dust" or with the self-boiled lime-sulphur and lead arsenate combination, which is usually applied about a month after the shucks have fallen. This is expected to control both curculio and brown rot.

The self-boiled preparation is not as economical nor as easy to apply as might be desired, but it is the only really safe wet spray that we have for the peach. The method of preparing it has been described so often that it is probably ancient history to most of our readers, but some of the details may not be entirely clear to all. It is made on the 8-8-50 formula, which means eight pounds each of fresh burnt lime and sulphur, to fifty gallons of water. Any kind of sulphur will do, and as with the regular lime-sulphur solution, the cheaper the better, so long as it is finely ground. The lime, should be relatively high in calcium and reasonably fresh, so that it will slake well without the necessity of using hot water. The lime is first started slaking and then the sulphur is added, along with enough additional water to keep the lime slaking properly. The whole mixture should be kept stirred thoroly until the lime is fully slaked, and it can then be allowed to stand if necessary, until a slight tinge of reddish sulphids begins appearing around the margins, whereupon the heating should be checked by the addition of cold water. The entire amount of cold water needed to bring the volume up to the final total may be added at once, or only part of it may be added then and the mixture can be held until later if desired. As soon as diluted to the final volume, and the lead arsenate is added, it is ready for spraying.

This is the best wet combination for the peach, wherever both rot and curculio are bad, and the fungicide alone may be repeated about a month before the fruit ripens, when conditions demand. This last application often sticks to the fruit too much and thus mars its appearance on the market, however, so that the dusting method is being used very widely, of late, for controlling practically all the peach troubles that can be reached by spraying. The results to date also seem to be very encouraging. One should be careful to get only lead arsenate for the arsenical portion of the powder, as I recently heard of a very serious case of burning last year, when a different kind of arsenical,—calcium arsenate, —was used in this way.

Beware of Unsafe Sprays on the Peach

This reminds us of many other serious injuries to peach crops that have come to our attention in recent years, as a result of attempts to spray with unsafe combinations,—some of them recommended by the manufacturers. Probably the worst of these are the so-called "soluble sulphurs." None of the are at all safe on the peach, especially when any type of arsenical is added, and they are also very questionable on the apple, under the latter conditions, unless they are definitely stated to be lime sulphur compounds. Practically all the other "soluble sulphurs" are not lime-sulphur at all, but are soda-sulphur compounds instead, and hence ar every unsafe in combination with any kind of arsenical, as shown by ample tests made by the writen ten years ago.

These soda-sulphur compounds are satisfactory for use against most scale insects during the dormant season, on any kind of fruit, and a few good apple growers have reported success with them as a summer application on apples when used in considerably smaller amounts than those recommended by the manufacturers. Unless one is carrying plenty of insurance on his crop, we would not advise him to try any of them on peaches during the growing season.

Anticipate Ripening Dates

Every orchard owner should know within a few days of the time each of his varieties should ripen. This is especially important with the peach, as most varieties have to be handled so promptly to avoid loss. It is also useful in planning the work, ordering cars, advising buyers of approximate shipping dates, providing for extra labor, etc. The exact dates will of course vary somewhat with the season, but if any owner of a commercial orchard does not know within at least a week of when all his varieties should ripen, he had better get ready to start a record now, so that he will never need to enter another season so much in the dark.

In a well-kept orchard in the Cumberland Valley, the average dates of first shipments of several important varieties for the last ten years are as follows: Carman around August 1st; Hiley, August 12 to 16; Champion, August 16 to 20; Niagara, August 20 to 21; Belle of Georgia, August 21 to 23; Elberta, August 22 to 2; Crawford Late, August 25 to September 3; Fox Seedling, September 3 to 7; Matthews Beauty, September 7; Smock, September 15 to 22; Heath Cling, September 21 to 24; Salway, September 24 to 27. Most of these varieties have completed their ripening periods in from five to fourteen days.

These dates will of course differ somewhat from those in other orchards located in different latitudes or on different soils, but they will show the approximate periods separating the varieties named, and the schedule can be partially adjusted to any particular orchard early in the season by noting the deviation from it which the earlier varieties show. Further correctons can then be made as his later varieties come on, and an accurate means of forecasting his own crops can gradually be built up.

TRAP THE MOLES

Moles do much damage to gardens and lawns. That damage is due entirely to disturbing the soil and so injuring the roots. They do not eat roots, bulbs or other vegetable matter found in the soil as they live entirely upon animal matter. You may rest assured that there are many insects—adults and larvae in the soil when you find moles working therein.

Pine and field mice follow the moles in the underground passages and they eat the bulbs and damage the crops growing in the ground.

To rid a piece of ground from moles, trap them. There are special mole traps for this purpose.

Poison vegetable baits are of little or no use against moles as they seldom, if ever, eat vegetable matter. Even such choice baits as sliced potatoes or sliced apples will not tempt them. They can sometimes be caught by using a little poisoned fresh meat, placing it in their runs.

MOVIES OF APPLE INDUSTRY IN PENNSYLVANIA

Pennsylvania ranks third in the United States in the production of apples despite the claims of the apple growing states of the Northwest. But due to poor methods employed by the orchardists of the state, Pennsylvania stands sixth in the production of commercial apples.

To educate the orchardists of the state to the needs of scientific methods in spraying, pruning and the general care of the trees, the Pennsylvania Department of Agriculture is portraying, in moving pictures, the complete story of the apple industry in the state.

The first nineteen scenes of the films have already been photographed in the apple belt in Erie County. The scenes deal with old orchards that have been headed back, young orchards improperly pruned, methods of cultivation, spraying and tree diseases.

The Adams County fruit belt will be visited later in the summer and the progress of the apple industry will be followed until fall, when the apples are picked and stored.

SOME APPLE VARIETIES SUSCEPTIBLE TO BLOTCH

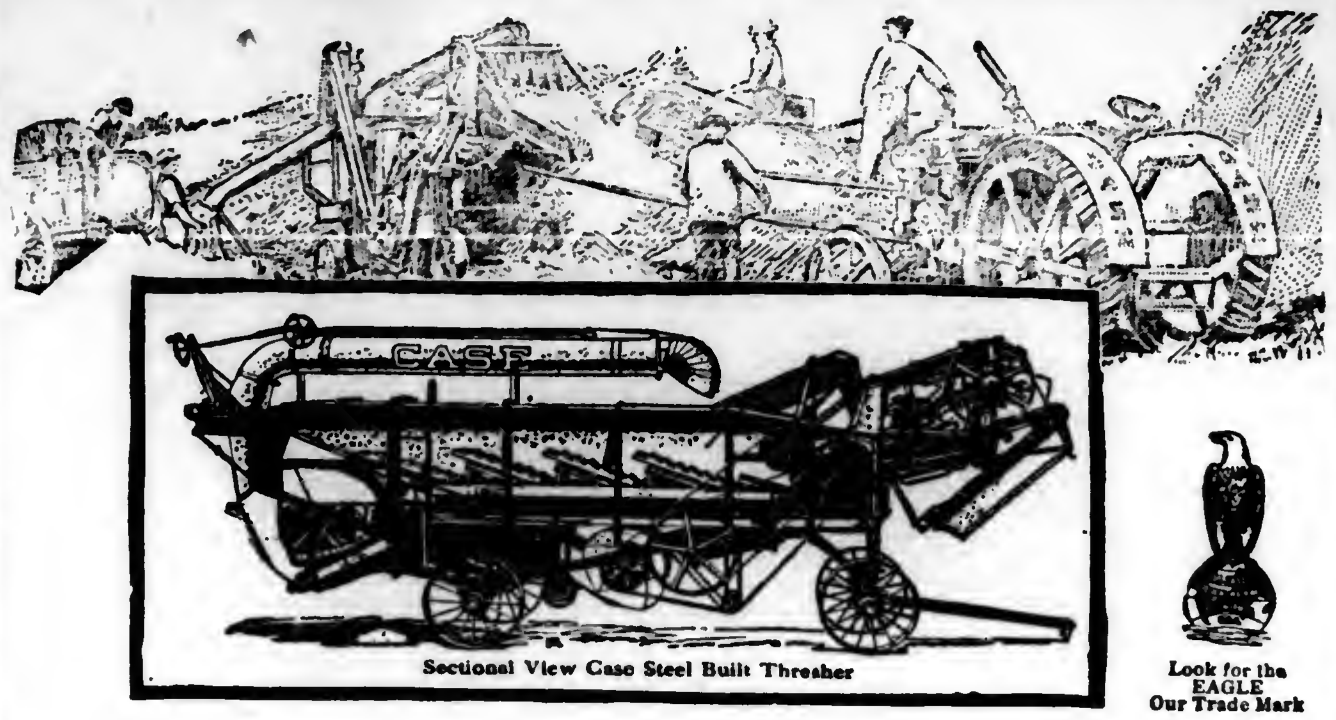
Studies in the control of apple blotch made by the Ohio Experiment Station shows that varieties vary greatly in susceptibility to the disease.

Apple blotch is a destructive disease particularly in southwestern Ohio; it has also become a problem of state-wide magnitude to apple growers.

Stark, Smith Cider, Mann, Maiden Blush, Duchess of Oldenburg, Missouri Pippin and Northwestern Greening are varieties very susceptible to the disease, it has been found. These varieties in an orchard generally carry the disease and it gradualy spreads to other trees.

Grimes, Winesap, Staymen, Delicious and Jonathan are varieties resistant to the disease.

Ben Davis, Gano, Yellow Transparent and Rome Beauty are regarded as susceptible to blotch.



Sectional View Case Steel Built Thresher

Look for the EAGLE Our Trade Mark

Case Threshers Save Your Crop

GOOD threshing is the climax of good farming. It's what you have been working for ever since you began preparing ground for seeding. It's just as important as fertile soil, summer showers and harvest sunshine,—and it's up to you. If you do not own a Case Thresher, the next best thing is to employ one.

The Case Steel Built Thresher, in any of the six sizes we manufacture, is the machine of *clean threshing, thorough separation, perfect cleaning* and *unequalled saving.*

You owe it to yourself to save all you harvest. You can do it with a Case Machine. It successfully handles Rice, Flax, Peanuts, Peas and Beans, Rye, Oats, Barley, Wheat, Clover and Alfalfa, Millet, Buckwheat, Timothy, Orchard Grass, Kaffir Corn, Sorghum, Broom Grass Speltz, Hungarian Grass, Red Top, Blue Grass, Milo Maize, Sudan Grass and Feterita.

After passing the cylinder, where all the grain is threshed and most of it separated, the straw is shaken,—shaken—shaken;—230 shakes a minute. Note the improved straw-rack, the great separating surface and ample space for straw.

Write for catalog of Case Steel Built Threshers showing sizes suitable for the individual farm or for custom threshing on the largest scale.

J. I. CASE THRESHING MACHINE CO., Inc.
Dept. CO-6, Racine, Wis., U. S. A.
Making Superior Farm Machinery Since 1842

To avoid confusion, the J. I. CASE THRESHING MACHINE COMPANY desires to have it known that it is not now and never has been interested in, or in any way connected or affiliated with the J. I. Case Plow Works, or the Wallis Tractor Company, or the J. I. Case Plow Works Co.

CASE
TRADE MARK REG. U.S. PAT. OFF. AND IN FOREIGN COUNTRIES
POWER FARMING
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NOTE
We want the public to know that our plows and harrows are NOT the Case plows and harrows made by the J. I. Case Plow Works Co.

FROM SOUP TO DESSERT WITH RICE

When we think of rice being served at a meal we usually picture it as plain boiled for a vegetable or as rice pudding. Either way is good if well prepared, but there are so many other ways of using rice that it is well to try them in these days when we must find some starchy food to replace the dwindling supply of potatoes. Rice has little or no flavor, and so blends well with highly flavored foods, such as tomatoes, peppers, onions and cheese. Rice should not be served as a sticky thick white paste but as a mass of flaky individual kernels.

How to Boil Rice

Wash one cup of rice in a strainer and stir gradually into two quarts of boiling salted water, using a fork to do the stirring. Boil until tender, about 20 minutes, then drain thoroly in a strainer. Pour hot water over the rice, return to the kettle to dry out or place in a hot oven for a few minutes.

Cream of Rice Soup

Wash one cup of rice and cook slowly in five cups of water. When the water reaches the boiling point add one stalk of celery cut up, and one small onion. Cook until the ingredients are tender. Press the mixture thru a wire sieve; add two cups mik, two tablespoons butter, 2 tablespoons flour, one teaspoon salt and ¼ teaspoon pepper. Return to the fire and cook five minutes. Add 1½ teaspoons chopped parsley, and serve hot.

Rice and Tomato Soup

Heat one pint canned tomatoes, adding ⅛ teaspoon soda. In another saucepan make a white sauce of 2 tablespoons butter, 2 tablespoons flour, one teaspoon salt, one-quarter teaspoon pepper and four cups milk; add 1 cup cooked rice, then add all slowly to the tomatoes. Add more seasoning if required, and serve at once.

Savory Rice

Put ½ cup rice over a quick fire in one quart of cold water. Heat to the boiling point, drain and rinse in cold water. Return to the fire in a double boiler with one cup of broth, 1 cup tomato pulp, ½ teaspoon salt, 1 onion cut into halves, 2 branches of parsley and 1 cup cheese. Cover and cook until tender, adding more broth if needed. Remove the onion and parsley, add 3 tablespoons butter, and mix with a fork. Serve as a vegetable when the meat supply for the meal is light.

Cheese and Rice Fondu

Mix together 1 level cup of hot boiled rice, 1½ cups tomato pulp, 3 tablespoons vegetable oil, ½ teaspoon salt, ½ teaspoon paprika and 1½ cups grated cheese. Beat in the yolks of 4 eggs, then fold in the stiffly beaten whites of the 4 eggs and turn into a well-greased baking dish. Set in a pan of boiling water, and bake in a moderate oven until firm in the center. Serve at once as the main dish of the meal.

Rice Cutlets With Peas and Cream Sauce

Pour one quart cold water over 1 cup of rice, and stir constantly while heating to the boiling point. Drain, rinse in cold water and drain again. Add 3½ cups boiling water, ½ cups tomato soup, 1 teaspoon salt and ½ teaspoon paprika, and let cook in a double boiler until the rice is tender and the liquid absorbed. Add one tablespoon butter, mix slightly and turn onto a large platter to cool. Have the layer about ½ inch thick. When cold shape into cutlets, dip in egg and bread crumbs, and fry in hot fat. Serve with hot peas, seasoned with salt, pepper, butter and hot cheese sauce, made thus:

An Attractively Arranged Desert For Festive Occasions

Hot Cheese Sauce

Melt ¼ cup fat; in it cook ¼ cup flour and seasoning to taste; add 2 cups milk and stir until boiling; then add ½ cup cheese and stir until melted without boiling.

Rice Salad

Cook 1 cup of rice in boiling salted water for 20 minutes; drain and dry, add one onion grated and pour over it while hot some French dressing. Set aside to cool, and when just cool arrange crisp lettuce leaves on a dish, turn the rice in the center and press into the rice sardines that have been carefully drained from the oil and cut into strips—one box will be needed. Baste the rice and lettuce with more French dressing; dust with chopped parsley, and take at once to the table. Tiny boiled beets make a pretty garnish for this salad.

Rice Lemon Pudding

Cook 1 cup of rice and 1 quart of milk in a double boiler until the rice is tender; chill and then add the well beaten yolks of 2 eggs, the juice and grated rind of 1 lemon, ⅓ cup sugar and a pinch of salt. Beat the two egg whites, add ¼ cup of sugar, and heap on top of the rice in a greased baking dish. Cook in a slow oven until a delicate brown. Serve hot or cold.

Grandmother's Rice Pudding

Wash well 1 cup of rice, cover with 1 quart milk and let stand in a cool place over night. Next morning add ¼ nutmeg grated, ½ teaspoon cinnamon, 1 pint milk and ½ cup raisins. Bake in a moderate oven ¾ hour, stirring down only the first crust. The pudding will be creamy and soft.

Rice Dumplings or Balls

Cook 1 cup of rice in boiling water 20 minutes; drain. Have ready six squares of cheesecolth. Spread some rice in the center of each ½ inch thick and the size of a saucer. In the center of this place half a peach or some slices of tart apple. Put a little rice in the place where the stone was, if you use peaches, then put the other half of one peach over it, gather up the sides of the cloth so that the rice will entirely cover the fruit, and tie tightly. When enough of these balls are made ready, put them into a kettle of boiling water and boil continuously 15 minutes. When done, remove the cloths, heap on a platter and serve while hot with a sauce made of canned peach juice, or sugar and cream when sugar gets plentier.—Mrs. F. W. Stillman, Union Co., N. J.

STUDIES IN NUTRITION—10

By Pearl MacDonald, Penna. State College

Having learned in our previous studies in nutrition what the food needs of the body are and what foods supply these needs, we may now take up a more detailed discussion of some of these foods, and suggest how and when to use them.

Cereal of Grains

Cereals are grasses the seeds of which are used for foods. Since the seeds are the storehouse of nourishment for the young plant, their food value is high.

The cereal grains most commonly used for human food are wheat, rye, oats, corn, barley, buckwheat and rice.

When mature, the grains contain only a small amount of water. They are firm and hard in structure, the amount of fiber (cellulose or woody matter) contained varies with the grain, oats having the largest amount and rice the least. Much of the fiber is removed in milling.

Valuable mineral matter is found in all grains. In many instances the mineral matter, being located in the outer part of the grain, is removed in the process of preparation for the market. However, if milk, eggs, fruits and vegetables (which really have larger supplies of mineral than the grains) are generally used in the diet, a sufficient supply of mineral matter is assured.

Oats and corn are the only two cereals having any considerable amount of fat. The fat in corn is extracted and sold on the market as corn oil. Refined corn oil makes a good salad oil, much less expensive than olive oil.

All grains have large amounts of starch, about three-fourths of their food value being in the form of starch. Since starch is used in the body as fuel to produce heat or energy and since the grain products are relatively inexpensive, we rely upon these products as one of the sources of inexpensive fuel.

As explained in the article on building and repair material, the cereals have about one-eighth of their food value in the form of protein. Neither this amount nor the character of the proteins in cereals completely meet the protein needs of the body. But if cereals are used with milk, our protein needs are very efficiently met. That is why whole wheat bread and milk, breakfast foods with milk and any grain product used with milk is a good combination from a dietetic standpoint, as well as an economic.

Flours and Meals

There are two generals ways in which cereal grains are used: in the form of flours and meals and as breakfast cereals or breakfast foods.

Wheat flour is most commonly used for bread in this country. Wheat flour made from the hard or spring wheat makes the best bread due to the fact that it has in it more gluten which, due to its tough elasticity, is what makes it possible for the mixture of flour and liquid to hold the gas formed as the yeast plant grows and thus make a porous loaf of bread. Winter wheat, having less gluten and more starch and, therefore, being a softer flour, makes more tender cakes and pastry. However, some varieties of winter wheat yield an excellent bread flour.

Graham flour is coarser than the patent flour because it contains more of the bran. Because of the bran, Graham bread has more laxative effect, and is good for persons troubled with constipation.

What Kind of Bread?

In this country, where bakeries bake bread every day, it has come to be quite the custom in cities to have fresh bread every day. However, authorities in nutrition tell us that children should not eat fresh bread, but rather bread at least twenty-four hours old. Toast for the chidren should be made from bread thoroly dried out and browned. There is no doubt but that grown people would be much better off not to eat so much fresh bread and so many rolls and other quick breads.

Rye bread is less used in this country than wheat bread. Next to wheat, rye has the best quality and amount of gluten for making a yeast loaf. Rye bread is best made by using part wheat flour, because all rye bread has a more compact texture, and used too constantly, it may cause digestive difficulties.

Quick Breads. — Other grains, when made into flour or meal, cannot be used to make a yeast loaf because they do not have the amount and quality of gluten necessary. They are therefore used, to some extent, in combination with wheat flour or in making cakes or quick breads. By quick breads, we mean those in which baking powder or soda and sour milk are used to make the mixture light.

Buckwheat Cakes.—Buckwheat is used mostly for griddle cakes. From a dietetic standpoint, buckwheat cakes too often are not desirable because they are eaten while hot with a good deal of fat and usually sweet, and thus do not make a good digestible combination. When eaten morning after morning during the winter months, as is the case in many families, digestive troubles frequently result. Certainly, they should not be given to children.

Barley is not much used in this country, except a little in soups and in infant feeding to check a too laxative conditions of the bowel.

(Next article will discuss corn and oat products and the rest of the breakfast cereals, and give recipes for using them.)

CHILDREN AND GARDENS

Madam Montessori, in her "Montessori Method," says: "For the physical life of the growing child it is necessary to have the child exposed to the vivifying forces of nature, and it is also necessary for his psychical life to place the soul of the child in contact with creation in order that he may lay up for himself treasure from the directly educating forces of lifing nature."

And so she spared no pains for the children who were being taught under her direction to be privileged to plant seeds and lovingly care for them, and to have the care of pigeons and animals. And that in a crowded city.

Do we farm people fully appreciate our opportunities, I wonder, we who have land and seeds and animals on every side? Do we carefully cultivate in our children a love for the animals and the growing things on our farms? Our children's attitude toward these things will be largely a reflection of our own.

We have just been assiduously studying seed catalogs, and have mentally raised the best gardens of our experience. How about our children! Have we permitted them to share with us the planning of the garden? Have we suggested to them a spot in the garden that they can have for their own, and allowed them to choose their seeds for it?

In the primary room of our centralized rural school we had a penny a packet sale of seeds for the school children. One, little fellow, just six, bore two pennies in his grimy hand to the teacher, and wanted "one packet of mushmelon and one packet of watermelon." A curly headed bit of a girl brought 25 cents from her own bank and took every variety of flower offered, but nary a vegetable! Each child expressed a desire dear to its heart, and in a way expressed its personality.

I thought what a pity it would be and what a disappointment to these children if they were so unfortunate as to have unthinking or unsympathetic parents who would not aid them in their plans and permit them to plant their precious seeds.

Give your child a spot in the garden this spring for its very own. And help it with sociable interest and advice and evidence of pride in the way that the child takes care of the garden; show it to visitors. This is education of the very highest type.—Mrs. Mary Hoover Mumaw.

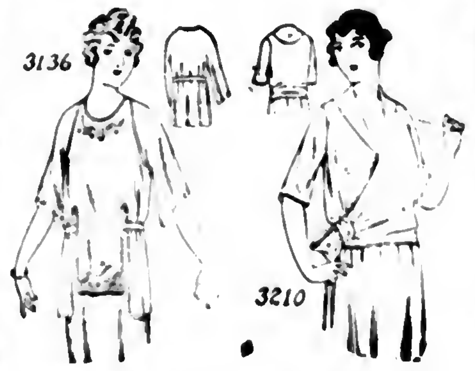
Strawberries even at a good round price look appetizing these spring days; but think how much milk, eggs and other really nourishing food the money will buy.

Home-made fried cakes taste good but the odor left in the house after frying them is not so appetizing. Ever try a few drops of oil of lavender on a cloth and waved about the room?

PENNSYLVANIA FARMER PATTERNS

Give figures and letters of each pattern exactly as printed at beginning of each description or we will not be responsible for correct filling of orders. Give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 261 S. Third Street, Philadelphia, Pa.

3136.—Attractive Blouse. — Pattern is cut in 6 sizes: 34, 36, 38, 40, 42, and 44 inches bust measure. It will require 3⅜ yards of 27-inch material for a 38-inch size. Pattern 10 cents.



3210.—A Pretty Blouse.— Pattern comes in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure, and provides a body lining, over which the blouse fulness is draped. Medium size will require 3⅜ yards of 36-inch material. Pattern, 10 cents.

THRIFT SEALS

Thrift Canned Foods Don't "Boil Away"

ONE great advantage in canning the Thrift Way is the fact that Thrift canned foods don't "boil away" in cooking.

They keep their natural shape because there is no *agitation* in the hermetically Thrift Sealed jars, as in old-style jars partially sealed before cooking. And no chance in Thrift Sealed jars for the rich juices and true flavors to escape. Thrift canned foods look better, taste better, bring higher prices; and the Thrift Way is easier and quicker.

If your dealer has not stocked Thrift Jars, Caps and Sealer, show him this advertisement, or write us direct for "The Thrift Way Makes Canning Pay"—a free booklet giving prices, canning chart, testimonials and valuable data on canning.

Local Agents and Dealers Wanted — Liberal Terms

THRIFT JAR COMPANY
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ONLY $2.98

SEND NO MONEY

You will look a long time, men, before you will find a pants bargain like this. Think of it! Only $2.98 for these well-tailored trousers of fine, durable Suiting with neat stripe effect—wide tunnels instead of flimsy belt straps—extra heavy pocketing—hand sewn buttons, reinforced seat seams—all seams serged, no raw edges—bar tacking at crotch and pockets which prevents tearing at seams. Color, gray mixture. Sizes, 30 to 44 waist measure; length, 30 to 36 inches.

This is certainly an extraordinary bargain — our limited supply will be snapped up quick at this remarkable low price. While they last, first come, first served, so act quick—order one or more pairs now. Remember, you take no risk and don't have to pay a cent until delivery.

Just send your name and address, giving waist and length measure, and we will send them to you, all charges prepaid.

Pay Mailman Our Low Introductory Price of Only $2.98 When Pants are Delivered.

(6) We are making this Special Low Introductory Offer to acquaint men everywhere of the wonderful saving that can be made by purchasing their wearing apparel by mail from The Howard-Lux Co., the house that has established a nation-wide reputation for fairness—low prices and extra high quality. Order one or more pairs now. Ask for No. 127D900.

Remember, money back if not pleased.

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YOU can't make hay while the sun shines if your tractor is limping along with one spark plug gone "dead." But you can overcome such annoying delays by using sure-fire Bethlehem Spark Plugs.

Their construction is different. The mica in the de Luxe Tractor Plug is wound around the center-spindle, *then reinforced* with little mica washers that cannot peel and which make misfiring practically impossible.

The great International Harvester Company, after exhaustive tests, has adopted Bethlehem Spark Plugs as standard equipment. There's a moral here for every farmer in America.

Bethlehem Automobile and Truck Plugs are just as dependable as the famous Tractor Plugs. Studebaker, Marmon and 48 other manufacturers equip with Bethlehem plugs. Have you read "Hit or Miss?"? Your copy is here waiting for your name and address.

BETHLEHEM SPARK PLUG CORPORATION
E. H. Schwab, *President*
Bethlehem, Pa.

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"They Pull You Through"

Farms for Sale

Farm For Sale

Beautiful Suburban Farm Home, consisting of 120 acres of choice farming land and an additional 12 acres timber lot, adjoining the town of Denton, county seat of Caroline Co., Eastern Shore, Md.

This is one of the most desirable homes on the Eastern Shore—fine large barn built last season, and good 10 room house, with beautiful lawn and maple shade, 3 minutes' walk to steamboat wharf, stores and canneries, and 10 minutes' walk to center of town which includes high school, churches of all leading denominations, picture-house and all the advantages of a live town.

This farm has a water frontage and a beautiful view of town and country and has produced some of the best crops of corn, wheat and alfalfa that have been grown in the county. Owner is a Canadian, and high rate of exchange makes immediate sale necessary. For price and further particulars, apply R. F. D. No. 3, Box 12, DENTON, MD.

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Big money-making Penna., fruit and general farm; near town, machine-worked fields, 15-cow spring-watered pasture, wood, 300 apple trees, 30 peach, also pears, plums, cherries; 2-story, 9-room house, pure water, wide piazza, magnificent shade, splendid view; basement barn, silo, spring water, other buildings; owner's plans force sale, throws in pr. horses, mowing machine, plow, harrow, part growing crops, all for $3200, easy terms. Details page 41 Strout's Big Illustrated Catalog Farm Bargains around Philadelphia, throughout Penn., Del., N. J., Md., and 29 other states. Copy free. STROUT FARM AGENCY, 1122 B E. Land Title Bldg., Philadelphia.

New Jersey Farms all sizes and kinds, in Burlington, Monmouth, Ocean and Mercer Counties. Mild winters, long growing seasons. Good roads, schools, and home markets. Close to summer resorts. Write me what kind of a farm you are looking for.
C. I. Lame Farm Agency, Inc., Burlington, N. J.

CORN Harvester One man, one horse, one row. Self Gathering. Equal to a Corn Binder. Sold direct to Farmers for 22 yrs. Only $28 with fodder binder. Free Catalog showing pictures of Harvester. PROCESS CORN HARVESTER CO., Salina, Kan.

TRY REG. BIG TYPE SPOTTED Poland Chinas. The hog of the hour. Write for prices. Satisfaction guaranteed or money refunded.
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Model "B" $2075—Continental Motor Worm Drive.
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America's Pioneer Dog Medicines
BOOK ON
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30 YEARS SALE
HEAVES, COUGHS, COLDS, DISTEMPER, INDIGESTION
Cures Heaves by correcting the cause—Indigestion. Prevents Colic, Staggers, etc. Best Conditioner and Worm Expeller. Three large cans guaranteed to cure Heaves or money refunded.
$.65 and $1.30 per can (includes War Tax). At dealers' or mail. Largest packages. Dose is small. Cheapest to use.
THE NEWTON REMEDY COMPANY, Toledo, Ohio

MINERAL HEAVE COMPOUND In use over 50 years
CURES HEAVES
Booklet Free
$3.25 Box guaranteed to give satisfaction or money back. $1.10 Box Sufficient for ordinary cases (Includes War Tax.)
MINERAL HEAVE REMEDY CO., 408 Fourth Ave., Pittsburgh Pa.

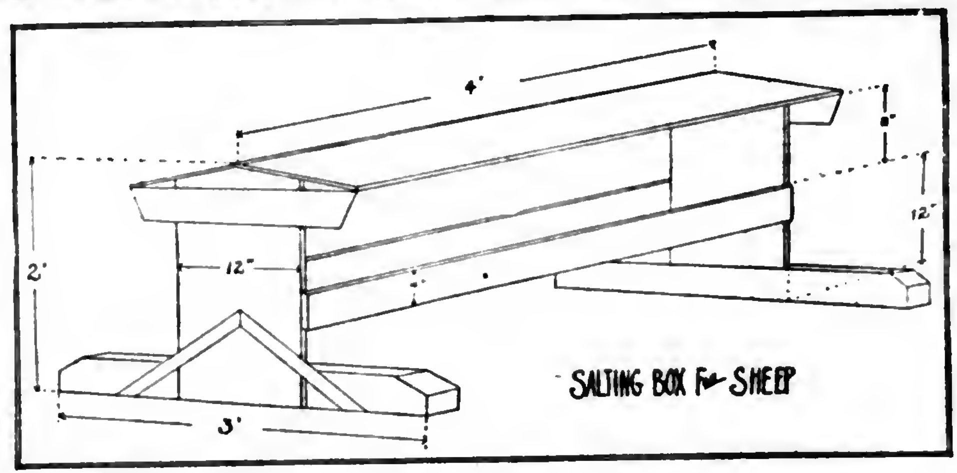
FARM AND HERD FOR SALE
40 good producing grade Holstein cows, all in milk; also 340 acre farm, finest dairy in Wayne Co., Penna. near markets, 2 miles to State road. Address BOX 37, care Pennsylvania Farmer, Philadelphia, Pa.

LIVE STOCK

CONTROLLING STOMACH WORMS IN SHEEP

Sheep on pasture should be protected against an attack of stomach worms. Tobacco dust or a good commercial worm powder mixed with salt will furnish some protection. It is hard to feed salt and powder successfully without a salting box. The accompanying drawing shows the salting box that we have used with success.

In controlling the stomach worms one must understand its life history. The female of the parasite produces eggs which leave the body of the host animal in the fleeces. These eggs hatch in two days under favorable conditions and in its embryo stage the worm keeps growing for about two weeks then it goes into an unsheathed stage and stops feeding. In the unsheathed stage it is resistant to weather conditions but before this it is easily killed by dry or cold weather. While the grass is wet the embryo worm will work up under the blades and the sheep while foraging will take it into their stomach where it will develop into an adult worm if nothing is done to kill it.



SALTING BOX FOR SHEEP

This brief statement of the life history of the parasite shows that it developes more rapidly under wet weather conditions and that the embryo worm is taken into the stomach of the sheep while in a weak condition. It is safe to say that old pastures which have been used for some time are infected. When a sheep becomes gaunt and does not feed well one may properly expect stomach worms as the cause. Large flocks are more susceptible than small flocks as they are usually crowded on the pasture. We have found after years of experience that the fine wool breeds are more hardy and battle better with stomach worms than do the coarse wool breeds.

Drenching With Copper Sulfate

As a precaution and good business, we drench the flock as they go to the pasture using a copper sulfate solution. The solution is given the flock after twenty-four hours of fasting using the following method which is common in this section.

In the preparation of the dose use only clear blue crystals of copper sulfate (bluestone). Crush the crystals to a fine powder when ready to make up the solution. Dissolve ½ pound (avoirdupois) of the powdered crystals in one point of boiling water, using a porcelain or enamelware dish as the bluestone will corrode most metals. Then add enough cold water to make a solution up to three gallons, using wooden, earthenware or other non-metalic receptacles. This will make an approximate one percent solution and will be enough to dose 100 adult sheep allowing for about a ten percent waste.

The amounts of the dosage for both old sheep and lambs are: For lambs under one year of age 1¾ ounces (50cc). For sheep past one year old, 3½ ounces, (100cc).

A glass with marks scratched on the side with a file may be used for measuring the doses.

The drenching apparatus consists of a small strong rubber tube about three feet long and ⅜ of an inch in diameter, a hard rubber, porcelain, or enamel-ware funnel, which is fastened to one end of the tube and a brass mouthpiece ⅜ of an inch in diameter and nine inches long fastened to the other end of the tube.

While being drenched the sheep should remain on all four legs with its head held horizontally. This is important for if the head is held above the horizontal (nose higher than the eyes) there is danger of some of the fluid passing into the lungs, thereby causing pneumonia and almost certain death. In order to prevent the sheep from stopping up the end of the mouthpiece with its tongue and thus interfering with the flow of the fluid, the person holding the mouthpiece in the sheep's mouth should give it a rotary motion.

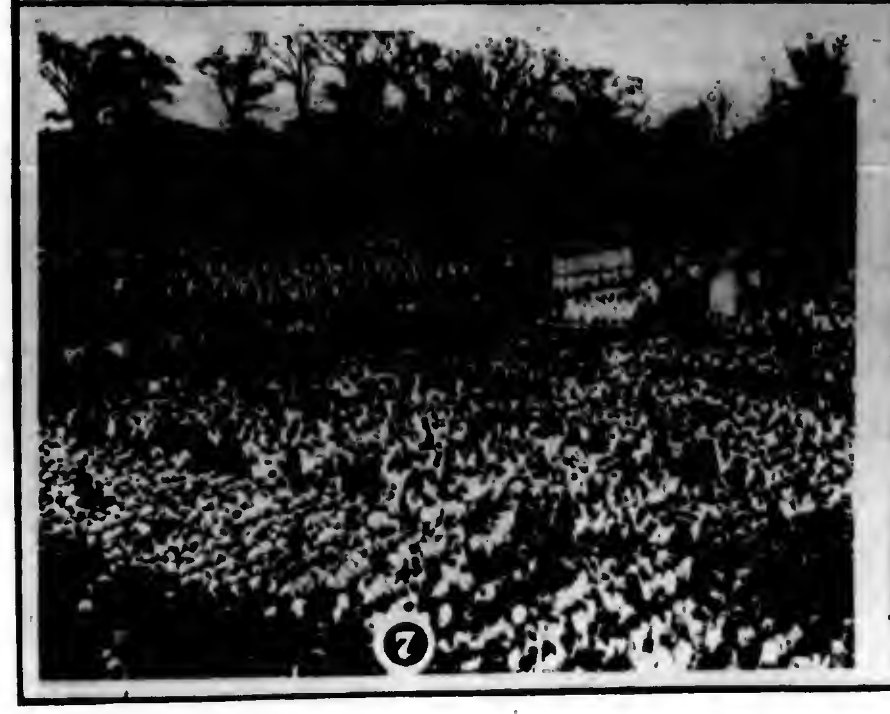
The Salting Box

Putting the salt around on the ground once a week is not a satisfactory method of salting sheep. It is inefficient and wasteful if powders or tobacco are mixed with the salt. For this reason and mainly because we want the salt before the flock at all times, we have made permanent salting boxes which are easily transported from pasture to pasture and will protect the salt in all kinds of weather. The boxes are made of one inch lumber in the rough. They are inexpensive and a good job for a rainy day.

Mixing the tobacco dust or a good commercial worm powder with the salt and keeping it before the sheep all the time gives them an opportunity to take this into their stomach whenever they choose and if enough is taken the embryo of the stomach worm will be killed. You will remember from the life history of the worm that the embryo was taken into the stomach in a weak condition where it will develop if nothing is done to prevent such development.

We buy the tobacco dust from a commercial tobacco house and mix it with the salt in a proportion of one part of tobacco dust to four parts of salt.—E. C. W.

PASSING EVENTS IN PICTURES



(Photo. Copyright by Underwood & Underwood

1—General Pershing passing thru Culebra Cut, Panama Canal, in a Submarine Chaser.

2—The "Dewitt Clinton," first steam engine in N. Y. State. It made 6 miles in 30 minutes.

3—Dick McKinney, an old slave back on his job as town crier of Macon, Missouri

4—Connecticut College Girls play baseball as a part of their outdoor Pageant.

5—Tommy Milton in his 16-cylinder Dusenberg racing car at Daytona Beach, Florida just after he had set six new speed records.

6—The Italian Military Cross, one of General Pershing's many foreign decorations.

7—Magnificent Joan of Arc Pageant at Fordham, portraying the life of the new saint.

8—Grant's Tomb overlooking the North River and Riverside Drive, New York City

Whispering Smith

by Frank H. Spearman

SYNOPSIS OF PREVIOUS CHAPTERS

The wrecking of a heavy freight train at Smoky Creek had piled up dozens of box cars loaded with merchandise. The wrecking crew, lead by Sinclair the foreman, was at work clearing the tracks when McCloud, the superintendent, arrived. It had been the custom of Sinclair and his crew to appropriate whatever their fancy suggested from the goods carried by a wrecked train. They were now loading up a wagon when McCloud arrived and stopped the pilfering. At this, Sinclair became angry and because they would not agree to stop looting were discharged. Sinclair afterwards told Whispering Smith that his mistake was in not then killing McCloud. The only one injured in the wreck was a tramp who called for help and water but Sinclair would give neither. Dicksie Dunning, of the Crawling Stone Ranch, suddenly appears upon the scene and she and McCloud become acquainted. The adherents of Sinclair tried to have him reinstated, but Phil Hailey was appointed in his place. McCloud, who had been threatened, nearly had a clash with Sinclair in the boarding house, but this was prevented by the tact of Marion Sinclair, the proprietress.

(Continued from Last Week.)

CHAPTER XII

Parley

It was recalled one evening not long ago at the Wickiup that the affair with Sinclair had all taken place within a period of two years, and that practically all of the actors in the event had been together and in friendly relation on a Thanksgiving Day at the Dunning ranch not so very long before the trouble began. Dicksie Dunning was away at school at the time, and Lance Dunning was celebrating with a riding and shooting fest and a barbecue.

The whole country had been invited. Bucks was in the mountains on an inspection trip, and Bill Dancing drove him with a party of railroad men over from Medicine Bend. The mountain men for a hundred and fifty miles around were out. Gene and Bob Johnson, from Oroville and the Peace River, had come with their friends. From Williams Cache there was not only a big delegation—more of one that was really desirable—but it was led by old John Rebstock himself. When the invitation is general, lines cannot be too closely drawn. Not only was Lance Dunning something of a sport himself, but on the Long Range it is part of a stockman's creed to be on good terms with his neighbors. At a Thanksgiving Day barbecue not even a mountain sheriff would ask questions, and Ed Banks, tho present, respected the holiday truce. Cowboys rode that day in the roping contest who were from Mission Creek and from Two Feather River.

Among the railroad people were George McCloud. Anderson, the assistant superintendent, Farrell Kennedy, chief of the special service, and his right-hand man, Bob Scott. In especial, Sinclair's presence at the barbecue was recalled. He had some cronies with him from among his up-country following, and was introducing his new bridge foreman, Karg, afterward known as Flat Nose, and George Seagrue, the Montana cowboy. Sinclair fraternized that day with the Williams Cache men, and it was remarked even then that tho a railroad man he appeared somewhat outside the railroad circle. When the shooting matches were announced a brown-eyed railroad man was asked to enter. He had been out of the mountains for some time and was a comparative stranger in the gathering, but the Williams Cache men had not forgotten him; Rebstock, especially, wanted to see him shoot. While much of the time out of the mountains on railroad business, he was known to be closely in Bucks's counsels, and as to the mountains themselves, he was reputed to know them better than Bucks or Glover himself knew them. This was Whispering Smith; but, beyond a low-voiced greeting or an expression of surprise at meeting an old acquaintance, he avoided talk. When urged to shoot he resisted all persuasion and backed up his refusal by showing a bruise on his trigger finger. He declined even to act as judge in the contest, suggesting the sheriff, Ed Banks, for that office.

The rifle matches were held in the hills above the ranch-house, and in the contest between the ranches, for which a sweepstakes had been arranged, Sinclair entered Seagrue, who was then working for him. Seagrue shot all the morning and steadily held up the credit of the Frenchman Valley Ranch against the field. Neither continued shooting nor severe tests availed to upset Sinclair's entry, and riding back after the matches with the prize purse in his pocket, Seagrue, who was tall, light-haired, and perfectly built, made a new honor for himself on a dare from Stormy Gorman, the foreman of the Dunning ranch. Gorman, who had ridden a rack back with Sinclair, was at the foot of the long hill, down which the crowd was riding, when he stopped, yelled back at Seagrue, and, swinging his hat from his head, laid it on a sloping rock beside the trail.

"You'd better not do that, Stormy," said Sinclair. "Seagrue will put a hole thru it."

Gorman laughed jealously. "If he can hit it, let him hit it."

At the top of the hill Seagrue had dismounted and was making ready to shoot. Whispering Smith, at his side, had halted with the party, and the cowboy knelt to adjust his sights. On his knee he turned to Whispering Smith, whom he seemed to know, with an abrupt question: "How far do you call it?"

The answer was made without hesitation: "Give it seven hundred and fifty yards, Seagrue."

The cowboy made ready, brought his rifle to his shoulder, and fired. The slug passed thru the crown of the hat and a shower of splinters flying back from the rock blew the felt into a sieve. Gorman's curiosity, as well as that of everybody else, seemed satisfied, and, gaining the level ground, the party broke into a helter-skelter race for the revolver-shooting.

In this Sinclair himself had entered, and after the early matches found only one troublesome contestant—Du Sang from the Cache, who was present under Rebstock's wing. After Sinclair and Du Sang had tied in test after test at shooting out of the saddle, Whispering Smith, who lost sight of nothing in the gun-play, called for a pack of cards, stripped the acres from the deck, and had a little conference with the judge. The two contestants, Sinclair and Du Sang, were ordered back thirty-five paces on their horses, and the railroad man, walking over to the targets, held out between the thumb and the forefinger of his left hand the ace of clubs. The man that should first spot the pip out of the card was to take the prize, a Cheyenne saddle. Sinclair shot, and his horse, perfectly trained stood like a statue. The card flew from Smith's hand, but the bullet had struck the acre almost an inch above the pip, and a second ace was held out for Du Sang. As he raised his gun his horse moved. He spurred angrily, circled quickly about, halted, and instantly fired. It was not alone that his bullet cut the shoulder of the club pip on the card; the whole movement, beginning with the circling dash of the horse under the spur, the sudden halt, and the instantly accurate aim, raised a quick, approving yell for the newcomer. The signal was given for Sinclair, and a third ace went up. In the silence Sinclair, with deliberate care, brought his gun down on the card, fired, and cut the pip cleanly from the white field. Dun Sang was urged to shoot again, but his horse annoyed him and he would not.

With a little speech the prize was given by Ed Banks to Sinclair. "Here's hoping your gun will never be trained on me, Murray," smiled the modest sheriff.

Sinclair responded in high humor. He had every reason to feel good. His horses had won the running races, and his crowd had the honors with the guns. He turned on Du Sang, who sat close by in the circle of horsemen, and, holding the big prize out toward him on his knee, asked him to accept it. "It's yours by rights anyway, Du Sang," declared Sinclair. "You've a whole lot better shot than I am, every turn of the road. You've shot all day from a nervous horse."

Not only would Sinclair not allow a refusal of his gift, but, to make his generosity worth while, he dispatched Flat Nose to the corral, and the foreman rode back leading the pony that had won the half-mile dash. Sinclair cinched the prize saddle on the colt with his own hands, led the beast to Du Sang, placed the bridle in his hand, and bowed. "From a jay to a marksman," he said, saluting.

Du Sang, greatly embarrassed by the affair—he had curious pink eyes—blinked and got away to the stables. When Rebstock joined him the Williams Cache party were saddling to go home. Du Sang made no reference to his gift horse and saddle, but spoke of the man that had held the target aces. "He must be a sucker!" declared Du Sang, with an oath. "I wouldn't do that for any man on top of ground. Who is he?"

"That man?" wheezed Rebstock. "Never have no dealings with him. He plays 'most any kind of a game. He's always ready to play, and holds aces most of the time. Don't you remember my telling about the man that got Chuck Williams and hauled him out of the Cache on a buckboard? That's the man. Here, he give me this for you; it's your card." Rebstock handed Du Sang the target ace of clubs. "Why didn't you thank Murray Sinclair, you mule?"

Du Sang, whose eyelashes were white, blinked at the hole thru the card, and looked around as he rode back across the field for the man that had held it; but Whispering Smith had disappeared.

He was at that moment walking past the barbecue pit with George McCloud. "Rebstock talks a great deal about your shooting, Gordon," said McCloud to his companion.

"He and I once had a little private match of our own. It was on the Peace River, over a bunch of steers. Since then we have got along very well, tho he has an exaggerated opinion of my ability. Rebstock's worst failing is his eyesight. It bothers him in seeing brands. He's liable to brand a critter half a dozen times. That albino, Du Sang, is a queer duck. Sinclair gave him a fine horse. There they go." The Cache riders were running their horses and whooping across the creek. "What a hand a state's prison warden at Fort City could draw out of that crowd, George!" continued McCloud's companion. "If the right man should get busy with that bunch of horses Sinclair has got together, and organize those up-country fellows for mischief, wouldn't it make things hum on the mountain division for a while?"

McCloud did not meet the host, Lance Dunning, that day, nor since the day of the barbecue had Du Sang or Sinclair seen Whispering Smith until the night Du Sang spotted him near the wheel in the Three Horses. Du Sang at once drew out of his game and left the room. Sinclair in the meantime had undertaken a quarrelsome interview with Whispering Smith.

"I supposed you knew I was here," said Smith to him amiably. "Of course I don't travel in a private car or carry a bill-board on my back but I haven't been hiding."

"The last time we talked," returned Sinclair, measuring words carefully, "you were going to stay out of the mountains."

"I should have been glad to, Murray. Affairs are in such shape on the division now that somebody had to come, so they sent for me."

The two men were sitting at a table. Whispering Smith was cutting and leisurely mixing a pack of cards.

"Well, so far as I'm concerned, I'm out of it," Sinclair went on after a pause, "but, however that may be, if you're back here looking for trouble there's no reason, I guess, why you can't find it."

"That's not it. I'm not here looking for trouble; I'm here to fix this thing up. What do you want?"

"Not a thing."

"I'm willing to do anything fair and right," declared Whispering Smith, raising his voice a little above the hums of the rooms.

"Fair and right is an old song."

"And a good one to sing in this country just now. I'll do anything I can to adjust any grievance, Murray. What do you want?"

Sinclair for a moment was silent, and his answer made plain his unwillingness to speak at all. "There never would have been a grievance if I'd been treated like a white man." His eyes burned sullenly. "I've been treated like a dog."

"That is not it."

"That is it," declared Sinclair savagely, "and they'll find it's it."

"Murray, I want to say only this—only this to make things clear. Bucks feels that he's been treated worse than a dog."

"Then let him put me back where I belong."

"It's a little late for that, Murray; a little late," said Smith gently. "Shouldn't you rather take good money, Murray—and peace.'"

Sinclair answered without the slightest hesitation: "Not while that man McCloud is here."

Whispering Smith smiled. "I've got no authority to kill McCloud."

"There are plenty of men in the mountains that don't need any."

"But let's start fair," urged Whispering Smith softly. He leaned forward with one finger extended in confidence. "Don't let us have any misunderstanding on the start. Let McCloud alone. If he is killed—now I'm speaking fair and open and making no threats, but I know how it will come out—there will be nothing but killing here for six months. We will make just that memorandum on McCloud. Now about the main question. Every sensible man in the world wants something."

"I know men that have been going a long time without what they wanted."

Smith flushed and nodded. "You needn't have said that, but no matter. Every sensible man wants something Murray. This is a big country. There's a World's Fair running somewhere all the time in it. Why not travel a little? What do you want?"

"I want my job, or I want a new superintendent here."

"Just exactly the two things, and, by heavens! the only two, I can't manage. Come once more and I'll meet you."

"No!" Sinclair rose to his feet. "No—damn your money! This is my home. The high country is my country; it's where my friends are."

"It's filled with your friends; I know that. But don't put your trust in your friends. They will stay by you, I know; but once in a long while there will be a false friend, Murray, one that will sell you—remember that."

"I stay."

Whispering Smith looked up in admiration. "I know you're game. It isn't necessary for me to say that to you. But think of the fight you are going into against this company. You can worry them; you've done it. But a bronco might as well try to buck a locomotive as for one man or six or six hundred to win out in the way you are playing."

"I will look out for my friends; others—" Sinclair hitched his belt and paused, but Whispering Smith, cutting and running the cards, gave no heed. His eyes were fixed on the green cloth under his fingers. "Others—" repeated Sinclair.

"Others?" echoed Whispering Smith good-naturedly.

"May look out for themselves."

"Of course, of course! Well, if this is the end of it, I'm sorry."

"You will be sorry if you mix in a quarrel that is none of yours."

"Why, Murray I never had a quarrel with a man in my life."

"You are pretty smooth, but you can't drive me out of this country. I know how well you'd like to do it; and, take notice, there's one trail you can't cross even if you stay here. I suppose you understand that."

Smith felt his heart leap. He sat in his chair turning the pack slowly, but with only one hand now; the other hand was free. Sinclair eyed him sidewise. Smith moistened his lips and when he replied spoke slowly: "There is no need of dragging my allusion to her into it. For that matter, I told Bucks he should have sent any man but me. If I'm in the way, Sinclair, if my presence here is all that stands in the way, I'll go back and stay back as before, and send any one else you like or Bucks likes. Are you willing to say that I stand in the way of a settlement?"

Sinclair sat down and put his hands on the table. "No; your matter and mine is another affair. All I want between you and me is fair and right."

Whispering Smith's eyes were on the cards. "You've always had it."

"Then keep away from her."

"Don't tell me what to do."

"Then don't tell me."

"I'm not telling you. You will do as you please; so will I. I left here because Marion asked me to. I am here now because I have been sent here. It is in the course of my business. I have my living to earn and my friends to protect. Don't dictate to me, because it would be of no use."

"Well, you know now how to get into trouble."

"Every one knows that; few know how to keep out."

"You can't lay your finger on me at any turn of the road."

"Not if you behave yourself."

"And you can't bully me."

"Surely not. No hard feelings, Murray. I came for a friendly talk, and if it's all the same to you I'll watch this wheel awhile and then go over to the Wickiup. I leave first—that's understood, I hope—and if your pink-eyed friend is waiting outside tell him there is nothing doing, will you, Murray? Who is the albino, by the way? You don't know him? I think I do. Fort City, if I remember. Well, good-night, Murray."

It was after twelve o'clock and the room had filled up. Roulette-balls were dropping and above the faro-table the extra lights were on. The dealers, fresh from supper, were putting things in order for the long trick.

At the Wickiup Whispering Smith found McCloud in the office signing letters. "I can do nothing with him," said Smith, drawing down a windpw-shade before he seated himself to detail his talk with Sinclair. "He wants a fight."

McCloud put down his pen. "If I am the disturber it would be better for me to get out."

"That would be hauling down the flag across the whole division. It is too late for that. If he didn't centre the fight on you he would centre it somewhere else. The whole question is, who is going to run this division, Sinclair and his gang or the company? and it is as easy to meet them on one point as another. I know of no way of making this kind of an affair pleasant. I am going to do some riding, as I told you. Kennedy is working up thru the Deep Creek country, and has three men with him. I shall ride toward the Cache and meet him somewhere near South Mission Pass."

"Gordon, would it do any good to ask a few questions?"

"Ask as many as you like, my dear boy, but don't be disappointed if I can't answer them. I can look wise, but I don't know anything. You know what we are up against. This fellow has grown a tiger among the wolves, and he has turned the pack loose on us. One thing I ask you to do. Don't expose y

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"And suppose you were?" Smi had risen from his chair. He had few mannerisms, and recalling the man the few times I have seen him, the only impression he has left on me is that of quiet and gentleness. "Suppose you were?" He was resting one arm on top of McCloud's desk. "What of it? You have done for me up here what I couldn't do, George. You have been kind to Marion when she hadn't a friend near. You have stood between him and her when I couldn't be here to do it, and when she didn't want me to—helped her when I hadn't the privilege of doing it." McCloud put up his hand in protest, but it was unheeded. "How many times it has been in my heart to kill that man. She knows it; she prays it may never happen. That is why she stays here and has kept me out of the mountains. She says they would talk about her if I lived in the same town, and I have stayed away." He threw himself back into the chair. "It's going beyond both of us now. I've kept the promise I made to her today to do all in my power to settle this thing without bloodshed. It will not be settled in that way, George."

"Was he at Sugar Buttes?"

"If not, his gang was there. The quick get-away, the short turn on Van Horn, killing two men to rattle the posse—it all bears Sinclair's earmarks. He has gone too far. He has piled up plunder till he is reckless. He is crazy with greed and insane with revenge. He thinks he can gallop over this divison and scare Bucks till he gets down on his knees to him. Bucks will never do it. I know him, and I tell you Bucks will never do it. He is like that man in Washington; he will fight it to the death. He would fight Sinclair if he had to come up here and meet him single-handed, but he will never have to do it. He put you here, George, to round that man up. This is the price for your advancement, and you must pay it."

"It is all right for me to pay it, but I don't want you to pay it. Will you have a care for yourself, Gordon."

"Will you?"

"Yes."

"You need never ask me to be careful," Smith went on. "That is my business. I asked you to watch your window-shades at night, and when I came in just now I found one up. It is you who are likely to forget, and in this kind of a game a man never forgets but once. I'll lie down on the Lincoln lounge, George."

"Get into the bed."

"No; I like the lounge and I'm off early."

In the private room of the superintendent, provided as a sleeping apartment in the old headquarters building many years before hotel facilities reached Medicine Bend, stood the only curio the Wickiup possessed—the Lincoln lounge. When the car that carried the remains of Abraham Lincoln from Washington to Springfield was dismantled, the Wickiup fell heir to one piece of its elaborate furnishings, the lounge, and the lounge still remains as an early-day relic. Whispering Smith walked into the bedroom and disposed himself in an incredibly short time. "I've borrowed one of your pillows, George," he called out presently.

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He lay like a boy asleep. On the chair beside his head he had placed his old-fashioned hunting-case watch as big as an alarm-clock, the kind a railroad man would wind up with a spike-maul. Beside the watch he had laid his huge revolver in its worn leather scabbard. Breathing peacefully, he lay quite at his companion's mercy, and McCloud, looking down on this man who never made a mistake, never forgot a danger and never took an unnecessary chance, thought of what between men confidence may sometimes mean. He sat a moment with folded arms on the side of his bed, studying the tired face, defenceless in the slumber of fatigue. When he turned out the light and lay down, he wondered whether, somewhere in the valley of the great river to which he was to take his men in the morning, he should encounter the slight and reckless horse-woman who had blazed so in anger when he stood before her at Marion's. He had struggled against her charm too long. She has become, how or when he could not tell, not alone a pretty woman but a fascinating one—the creature of his constant thought. Already she meant more to him than all else in the world. He well knew that if called to choose between Dicksie and all else he could only choose her. But as he drew together the curtains of thought and sleep stole in upon him, he was resolved first to have Dicksie; to have all else if he could, but, in any case Dicksie Dunning. When he awoke day was breaking in the mountains. The huge silver watch, the low-voiced man, and the formidable six-shooter had disappeared. It was time to get up, and Marion Sinclair had promised an early breakfast.

(Continued Next Week.)

Rosie had an inveterate dislike of geography, and her teacher, growing impatient, sent Rosie's mother a note, asking her to see that Rosie studied her lesson. The next day showed no improvement.

"Did your mother read my note, Rosie?" asked the teacher.

"Yes, miss," was the demure reply.

"And what did she say?"

"Please, miss, mother said she didn't know geography an' she got married; an' Aunt Ella didn't know geography an' she got married; an' you know geography an' you're not married."

The hot school lunch saves work for the teacher instead of making work. Pupils study better after a warm lunch than they do after a cold snack.

MUTILATED TEXT

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reen at 30@50c per bunch, but poor stock is not wanted at the lower price of 8@30c per bunch. N. J. green and wax beans have made their appearance and from this time on southern beans will be neglected, as these N. J. beans will get the preference. This morning N. J. green beans sold at $2@3 per ⅝ basket, and the wax beans at $2@2.50 per hamper. As the supplies get heavier, these high prices will gradually seek lower levels. Southern beans sold this morning at $1.50@3.50 per half barrel hamper.

New Jersey and Pennsylvania are supplying practically all the beets and carrots now on our market, the beets selling at 5@6c per bunch and the carrots at 6@8c per bunch. There is also a fair supply of Pennsylvania grown cabbage which is selling at $3.50@4.50 per barrel. Eastern Shore cabbage sold this morning at $4.25@5 per crate and Norfolk cabbage at $4.50 per crate. Pennsylvania cauliflower is showing better and larger heads than it did last week when the first arrivals of the season were here and prices are ranging from 10@15c per head on good stock, with poor at much lower and very irregular prices as to condition.

Nearby kale remains about steady at 75c @$1.50 per barrel. N. J. and Penn. lettuce is plentiful, some of very poor quality, and low prices are prevailing. New Jersey stock is selling from 25c@$1.50 per box, while the Penn. sells from 75c@$3 per barrel. New Jersey onions are ready and a few of them have been here, but owing to the extremely low prices prevailing in southern grown onions, the receivers are advising the N. J. growers to hold back their onions for a few days. Parsley is selling generally at $3@3.50 per bushel hamper.

N. J. peas were plentiful this morning, and sold mostly at 65@90c per ⅝ basket altho some sold as high as $1, and some very poor ones sold down to 40@50c per basket. Rhubarb continues to sell around 4@6c per bunch. N. J. romaine continues in abundant supply and sells at the low price of 50c@$1 per box with the Penn. barrel stock at $1@1.25. Radishes show little or no change at 1½@3c per bunch as to condition. Spinach moved rather hard last week at low prices, but at this writing under light supplies barrel spinach sold at $2@2.50 per barrel, while the boxes sold at 75c@$1.25 per box. Nearby white turnips are lower at 2@3c per bunch mostly. Watercress continues in light supply and unchanged at 3@3½c per bunch.

Fruits.—As the season advances the market is getting a larger and better assortment of fruits with which to meet requirements. Georgia peaches are showing better condition and better quality as the season advances, selling from $2@3 per crate, with the best varieties yet to come forward.

Maryland strawberries sold this morning at 13@18c per quart, while the New Jersey strawberries sold at 10@25c per quart, and the Penns. which are the best of all brought 23@35c quart. Three cars of N. C. blackberries brought 15@20c per quart, and huckleberries are selling at 20@30c per quart. N. J. gooseberries are in active demand at 12@15c per quart. There is also a good demand for sour cherries at 10@12c per pound, while sweet cherries which are in light supply range from 20@32c par quart. N. J. raspberries have made their appearance, the first selling at 25c pint, while at the present writing they are selling at 15@20c pint.

Poultry.—The lower prices prevailing in the poultry market seemed to have the effect of decreasing supplies and stimulating the market. At this writing the market is firmer and 2@3c per pound higher on fowls, which are selling at 39@41c on fancy and 37@39c on fair to good. Old roosters remain firm and unchanged at 22@25c per pound. There has been no change to note in the price of fancy broiling chickens which are still selling at 55@70c per pound as to size, except from leghorn broilers which are selling at 40@55c per pound. Ducks continue practically unchanged at 30@32c per pound.

Eggs.—As is usual during the summer months there is a wide range in the quality of eggs, and consequently there is a wider range in price. Current receipts are selling at 44@44½c per dozen with firsts at 47c, while the western firsts bring 42@45c, and the extra firsts 48c per dozen. Some of the poor eggs are selling as low as 30@41c per dozen.

LANCASTER PRODUCE

—June 21, 1920

New county-grown potatoes and strawberries featured business in the produce markets here today, potatoes selling for sixty

k, and berries at twen-
s per box, regardless
heavy in berries be-
d for canning pur-

eamery butter, 70c
butter, 62@70c per lb.;
per dozen; duck eggs,
oose eggs, 6@7c each.

oultry. ssed old chickens, $2.25@
.50 each; ssed young chickens, $1.90@
2.10 each.

Vegetables.—Spinach, 15@30c per half peck; new potatoes, 60c per ¼ peck; old potatoes, 60c per ½ peck; do., $4.50 per bushel; sweet potatoes, 50c per ½ peck; cauliflower, 15@20c per head; asparagus, 10@15c per bunch; new peas, 40c per ½ pk.; new beans, 60c per ½ peck; rhubarb, 3@5c per bunch; lettuce, 15@25c per head; oyster plant, 15c per bunch.

Fruit.—Apples, 40@60c per ½ peck; strawberries, 20@25c per box; cherries, 20c per quart; cantaloupes, 20@25c each.

BALTIMORE PRODUCE

—June 21, 1920

Butter.—Creamery, Western separator, extras, 57@58c; do., firsts, 55@56c; Western prints, ½-pound, extras, 59@60c; do., firsts, 57@58c; do., 1-pound, extras 59@60c; do., firsts, 57@58c; nearby creamery, extras, 48@50c; do., firsts, 46@47c; dairy prints, Maryland, Pennsylvania and Virginia, extras, 43@44c; do. firsts, 42@43c; store-packed, firsts, 42@43c.

Eggs.—Loss off.—Western Maryland and Pennsylvania nearby, firsts, 43c; Eastern Shore, Maryland and Virginia, firsts, 43c; Western (Ohio) firsts, 43c; West Virginia, firsts, 42c; Southern, (North Carolina) firsts, 41c.

Live Poultry.—Chickens, spring, under 1½ pounds, pound, 60c; do., spring, 1½ pounds and up pound, 65@68c; do., old roosters, pound, 20c; do. old hens, over 4 pounds, pound, 36c; do., small pound, 35c; do., white Leghorn hens, pound, 35@36c; do., young white Leghorns pound, 45c. Ducks, Muscovy and mongrel, pound, 27@28c; do., white Pekins, pound, 28@30c; do., puddle, 4 pounds and over, pound, 27@28c; do., small, poor, pound, 25@26c. Pigeons, old, pair, 45@50c; do., young, pair, 45@50c.

PITTSBURGH PRODUCE

—June 21, 1920

Butter.—Prints, 62½@63c; Tubs, 62@62½c; Cooking, 45@48c; Ohio, 56@57c.

Cheese.—New York full cream, 33@35c; Roquefort, $1@1.20; Wis. Swiss, 58@60c; Do., 1-lb. brick, 35@36c; Swiss, 20-lb. block, 39@40c; Phila. cream, dozen, $1.00; Longhorns, 35@36c; Limburger, 1-lb. 39c; Do., 2-lb., 38c.

Eggs.—Fresh select, 46@47; Specials, at mark, 43@44c; Current receipts, 40@41c; do., candled, 43@44c.

Vegetables.—Potatoes, bbl., $11; do., Eastern Shore, bbl., $12.50; onions, Texas, yellow, crt., $1.50@1.75; do., white, crt., $1.50@2; do., green, bunch, 15@25c. Cabbage, crate, $7@8. Lettuce, box, 50c@$1. Turnips, bu., $2.25@2.50. Parsley, doz., 50c@$1. Radishes, doz., 25@30c. Beans, wax and green, hamper, $2@3. Cauliflower, crt., $3.25@3.50. Carrots, new dozen, 50@65c. Rhubarb, h. g., bunch, 20@25c. Beets, new, dozen, 75@90c. Spinach, home grown, bu., 50c@$1. Green peas, Cal., drum, $3@4.25. Asparagus, Del., bunch, 20@30c. do., home grown, $1.25@1.50.

Fruit.—Strawberries, 32-quart crate, $7.50@9. Dewberries, crate, $8.50@9.

NEW YORK PRODUCE

—June 21, 1920

Butter.—Steady; receipts, 5,466 tubs; creamery, higher than extras, 58½@59c; extra (92 score), 57½@58c; first (88 to 91 score), 53@56¾c; packing stock, current make, No. 2, 41c.

Eggs.—Irregular; receipts, 17,344 cases storage packed, extra first, 47@48c; do., first, 44@46½c; fresh gathered, extra first, 45@47½c; do., first, 42@44c; state, Pennsylvania and nearby western hennery white, first to extra, 47@56c; do., brown, extras, 50@53c; do., gathered brown and mixed colors, first to extras, 42@49c.

Cheese.—Firm; receipts, 1,292 boxes; state, whole milk flats, current make, white and colored, specials, 25½@26½c; do., average run, 24½@25c; state, whole-milk twins, held, white and colored specials, 27½@28½c; do., current make, 25½@26½c; do., average run, 24½@25c.

Poultry.—Live firm; freight broilers, 65c; express broilers, 45@68c; fowls, 38c; roosters, 21c; turkeys, 35c. Dressed steady and unchanged.

Vegetables. — Asparagus, dozen green, $1.50@5; white, $1@4. Potatoes, old, $11@12.50 per 165-pound sack. Beets, nearby, 100 bunches, $5@8. Carrots, nearby, $2.50 for 100 bunches. Endive, 25@50c. Kale, nearby, $1@1.50 barrel. Lettuce, state, crate, 75c@$1.50 nearby, barrel, $1@2. Peas, Jersey large, $1.50@2, small, $1@1.75. Radishes, nearby, 100 bunches, 50c@$1.50. Rhubarb, $2@5 per 100 bunches. Scallions, nearby, 100 bunches, $1@2. Spinach, nearby, barrel, 75c@$1.25. Turnips, white, new, $1.50@2.50.

LIVESTOCK MARKETS

—June 21, 1920

Chicago.—Cattle.—Receipts, 1,500; compared with week ago, beef steers, butcher bulls and choice cows and heifers 25c lower; other classes and calves, 50c to 75c lower.

Hogs.—Receipts, 9,000; market mostly steady to 15c higher than yesterday's average; better grades gaining most; top, $15.85, and bulk, all weights, $14.50@15.70.

Sheep.—Receipts, 10,000; no market today; most receipts direct to packers; compared with week ago, new crop lambs, 75c to $1 lower; spot, $1.50 lower; yearlings or shorn lambs, $1.50 to $2.50 lower; handyweight ewes, mostly $1 lower; heavyweight, off more.

New York.—Cattle.—Receipts, 575; no trading.

Calves.—Receipts, 520; lower; veals, $12.50@16; culls, $10@12; no skim-milk calves.

Sheep and Lambs.—Receipts, 2,015; steady; sheep (ewes), $6@9; lambs, $16.25@17.50.

Hogs.—Receipts, 1,625; steady at $16.25@16.75; pigs, $15; roughs, $13.

East Buffalo.—Cattle.—Receipts, 900; dry fed steady; others slow.

Calves.—Receipts, 1,000; 50c lower at $6@15.50.

Hogs.—Receipts, 3,200; 25c higher; heavy, $16@16.35; mixed, $16.50; yorkers, $16.50@16.35; mixed, $16.50; yorkers, $16.50@16.60; light yorkers, $15.50@16.50; pigs, $15; roughs, $12.50@13; stags, $9.90@10.

Sheep and Lambs.—Receipts, 1,000; slow, easier, lambs, $12@18.50; others unchanged.

PHILADELPHIA LIVESTOCK

—June 21, 1920

Receipts for the week ending June 19th, were as follows:

	Beef Cattle	Sheep and Lambs	Hogs
Totals for week ..	2,603	9,291	8,116
Previous week ...	2,463	6,334	8,853

Calves.—Receipts of calves were 3,972 head against 2,874 head previous week.

Beef Cattle.—Steers and cows were in good request and higher under moderate offerings. There was a fair demand for veal of desirable quality, and values generally were steadily maintained. Quotations follow: Steers, fair to good, $15@17; common to fair $13.50@15; cows, dairy good to choice, 10@11c; do., fair to good, 8½@10c; calves, extra to choice, $17.50@18; do., fair to good, $16@17; do., common, $10@12; do., heavy and rough, $7@10; Tennessee, $15@16; other southern, $8@12.

Sheep and Lambs.—The market for sheep was steady with demand and supply both fair. Lamb was more freely offered and lower, due to a slow demand and increased pressure to sell. We quote: Sheared sheep, wethers, extra, $11@11.50; do., good to choice, $8@9.50; do., medium, $7@8; do., common, $2.50@4; ewes, heavy, fat, $7.50@8; lambs, spring choice, $17@17.50; sheared, choice, $12@14; do., medium grades, $10@12; do., culls and common, $7@9.

Hogs.—The market ruled steady under moderate supplies and a fair demand. We quote: Best western, $17.50@18; hogs, good, nearby, $16@16.25.

City Dressed Stock.—There was a good demand for steers and heifers and the market was firm and higher. Cows were firmly held. There was a steady feeling in the market for veal and lamb of desirable quality, with demand fair. Sheep were dull and easier. We quote: Steers, 27@30c; heifers, 25@28c; cows, choice, 22@25c; cows lights, 18@22c; calves, city dressed, choice, 27@29c; calves, country dressed, 24@26c; lambs, spring, choice, 35@38c; lambs, winter, choice, 30@33c; sheep, 15@23c; hogs, 22c.

PHILADELPHIA HAY AND GRAIN

—June 21, 1920

Baled Hay and Straw.—Receipts, 132 tons of hay and 2 cars of straw. Steadily held but quiet. We quote: Timothy hay, No. 1, none here; No. 2 $42@44; No. 3, $39@40; sample, $33@37; no grade, $28@32; clover-mixed hay, light mixed, $42@43; No. 1 mixed, $40@41; straw, No. 1 straight rye, $17@17.50; No. 2 do., $16@16.50; No. 1 wheat straw, $14.50@15; No. 2, do., $13.50@14; No. 1 oat straw, $14.50@15; No. 2, $13.50@14.

Bran.—Quiet but steady. We quote: Car lots, including sacks, soft winter bran, western, in 100-lb. sacks, per ton, $60.50@61.

Corn.—No. 2 Yellow, $2@2.04.

Wheat.—No. 1 red winter, $3.10; No. 2, ditto, $3.07; No. 3, do., $3.04; No. 4, do., $3.00; No. 5, do., $2.96.

Oats.—No. 1 White, $1.31@1.32; No. 2, do., $1.29@1.30; No. 3, do., $1.28@1.29; No. 4, do., $1.26@1.27.

PITTSBURGH HAY AND GRAIN

—June 21, 1920

The receipts of hay still continue very light and not sufficient to meet the demand. Market active and according to reports received from Western sources on new crop, it looks as if conditions will continue in this manner for some time. The lower grades of hay, while disposed of at market values, are placed with some difficulty. Clover and clover mixed hay are also difficult to dispose of. On the whole, the market is in fairly good shape. Oat straw is still scarce and wanted. Some wheat straw arriving and readily placed at market quotations. Oat receipts are about normal while the demand is about fair. Market on this commodity steady. The following prices can be realized:

No. 1 Timothy, $45@45.50; Standard Timothy, $44@44.50; No. 2 Timothy, $42@43; No. 3 Timothy, $40@41; No. 1 Light Clover Mixed, $42@43; No. 1 Oat Straw, $18.50@19; No. 2 Oat Straw, $18@18.50; No. 1 Wheat Straw, $18@18.50; No. 2 Wheat Straw, $17.50@18; No. 1 Rye straw, $18.50@19; No. 2 Rye Straw, $16@18.50.

NEW YORK HAY AND GRAIN

—June 21, 1920

Feed.—The market for mill feed was quiet and irregular. Spot goods were in demand and consequently firm, while the trade was not inclined to buy for forward shipment on account of the fears of long delays in delivery.

Quotations: City feed, bran, $64; middlings, $66, in 100-pound sacks; red dog, $76, nominal, in 100-pound sacks; Western spring bran, $58; standard middlings, $63; flour middlings, $67; red dog, $73, all in 100-pound sacks, 30-day shipment. Oat feed, $42; rye middlings, $58; white hominy feed, $74, all in 100-pound sacks. Cottonseed oil meal, $72; linseed oil meal, $66, in 100-pound sacks.

Hay and Straw.—Trade is very slow but offerings are not excessive and there is generally a steady holding, tho some receivers are inclined to let go at the best prices obtainable. Straw is scarce at the moment and firm.

Hay.—Large Bales Timothy— No. 1, $50@52; No. 2, $47@50; No. 3, $42@45; Shipping, $38@41; No grade, $26@35. Clover, Mixed, Fancy, $46@49; No. 1, $42@44; No. 2, $37@40.

Straw.—Large Bales.—No. 1 rye, $22; No. 1 oat, $25; No. 1 wheat, $20.

Wheat.—No. 2, red, $3.

Corn.—No. 2 Yellow, $2.08⅝.

Oats.—All Whites, $1.34@1.35.

Rye.—$2.35.

Barley.—Feeding, $1.67.

PHILADELPHIA DAIRY MARKET

—June 21, 1920

Butter.—Receipts, 2,292 tubs. The market as usual on Saturday showed no important changes. Wholesale trade was virtually at a standstill. Fresh, solid-packed creamery, fancy, high-scoring goods, 59@61c, the latter for jobbing sales; extra, 58c; do., extra firsts, 55@57c; firsts, 50@52c; seconds, 45@48c; sweet creamery, choice to fancy, 60@62c; fair to good, 50@59c; ladle packed, as to quality, 44@45c; packing stock, 40@41c; fancy brands of nearby prints were jobbing at 67@69c; good to choice, 59@66c; fair, 56@58c.

Cheese.—Steadily held but quiet. New York whole milk, flats, fancy, 28@29c; specials higher; ordinary to good, 23@27c; current make, best, 27c; common to fair, 23@26c; jobbing sales of fancy held goods, 30@31c.

INTERSTATE MILK PRICES

—June 21, 1920

The basic price for 3 percent milk within 10 miles of Philadelphia is $3.28 per 100 pounds and one cent per hundred less for each 10 miles distant. Four cents per 100 pounds is paid for each one-tenth of one percent fat above 3 percent. These are prices for the basic quantity or less. The price for amount exceeding of basic quantity is on the basis of 6.6c for 3 percent milk.

THE MILK MARKET

—June 21, 1920

Business was more active last week and export demand for powdered and preserved milk on the increase. The rate for June for 3 percent milk in 200 mile zone is $2.83 per 100 lbs.; add 4 cents per 100 lbs. for each additional one-tenth of one percent butterfat.

Receipts of milk and cream in 40-quart cans for the week ending June 19, 1920 were as follows:

Railroad	Milk	Cream
Erie	40,085	4,634
Susquehanna	9,248	149
West Shore	15,970	2,310
Lackawanna	60,765	1,884
N. Y. Central (long haul) .	192,643	6,716
Ontario	47,116	1,615
Lehigh Valley	67,200	3,537
New Haven	6,640	70
Pennsylvania	12,050	490
Other Sources	6,000	200
Totals	457,717	21,605
Same week last year	429,309	22,365

TOBACCO MARKET

—June 21, 1920

Information from Ohio indicates that the delayed movement has at last given way to activity and that the major part of the 1919 product has passed from growers hands. Little has been said with reference to prices but it is presumed that same have been satisfactory.

In Connecticut, the movement has been active and last year's product is now practically all sold. The situation here was characterized by an acute shortage in shade-grown tobacco, the supply of same being no short as to necessitate a rationing system of distribution. Much of the Wisconsin product is yet in the growers hands as indicated by reports from that section. Recent sales of crop lots ranged from $21 and $8 to $24 and $10 per cwt

It is stated that the unsold part of crop is widely scattered and that in most instances where sales have been delayed it is a matter of difference of opinion as to merits of tobacco. Upon the whole the supply of cigar leaf tobacco is well out of the hands of growers the residue being insufficient to cause any considerable change in the present scale of valuations. In some instances the field is not as well cleaned up as might be desired but it is probable that before a new crop is ready the offerings of old will be few and far between.

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	Analysis		
	Ammonia	Phosphoric Acid	Potash
Swift's Champion Wheat & Corn Grower	2	12	2
Swift's High Grade Acid Phosphate Fertilizer	0	16	0
Swift's 10-4 Fertilizer	0	10	4
Swift's Clay Soil Special	2	12	0

AMMONIA gives the plant a quick start, particularly necessary when seeding is delayed to combat the fly, increases vegetative growth, and aids in stooling.

PHOSPHORIC ACID increases root growth, aids in stooling, plumps the berry and hastens maturity

POTASH stiffens the straw and aids in starch formation

Select from the above list the brand best suited to your requirements. Other brands on request.

REMEMBER—The higher the analysis, the cheaper the plant food per pound.

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POULTRY

Preparing Poultry for the Market

By P. Thomas Ziegler, State College, Pa.

PART I

The natural broiler season is now rapidly approaching. Starting in May and extending up to the Christmas holidays, every farmer will have some chickens to sell, broilers, roasters, capons, fowls or roosters.

In preparing poultry for consumption we shall discuss the operation under two headings, viz: Dressing—Trussing.

A fowl is said to be "dressed" when it has been killed and plucked. The operations incident to dressing are (1) Killing and bleeding; (2) Picking; (3) Cooling.

Birds to be slaughtered should have been kept off feed for at least 24 hours previous to killing and given plenty of water to help clean out the digestive tract. A crop distended with feed gives the bird an unattractive appearance and the contents will discolor the flesh when the bird is in storage.

Killing and Bleeding

The method of killing will depend on the market.

Local or home consumption: Sever the head from the fowl. This is the most common practice, executed by means of a sharp hatchet, an axe, or by means of a sharp knife.

Or dislocate the neck by grasping the bird by the legs with the left hand, with the right hand grasp the head between the thumb and forefinger, the thumb being placed on the back of the head. Bend the head backward, then give the neck a twist about half way round with a quick jerk downward. A fowl killed in this manner will show no outward mutilation as the blood will collect in a pocket in the neck. The objection to this method is that the fowls do not bleed out well.

For Shipment: Suspend the fowl to a cord attached to the legs, grasp the head with the left hand, holding the mouth open by means of pressure exerted with the thumb and forefinger. Be sure not to put pressure on windpipe as this will at the same time transmit pressure to the arteries which run along the neck and thus keep the fowl from bleeding freely. Using a narrow bladed knife, insert the blade in the mouth to a position directly behind the eyes and make an incision across the roof of the mouth, severing the arteries that feed the brain. Let the fowl bleed out a little and then insert the point of the knife in the groove on the roof of the mouth and above the blade into the brain, destroying the brain tissue. This paralyzes the feather muscles allowing the feathers to come out readily. In order that you may know when you have pierced the brain of the fowl, note that as soon as you have done so, the fowl struggles and spreads its tail in the shape of a fan. The advantage of this cut is that it is invisible to the eye, thus leaving no unsightly appearance, and at the same time allows the bird to bleed out well.

Thirty percent of the poultry received on the New York market has been incompletely bled, the bad cases resulting in a loss of two to eight cents a pound.

The results of improper bleeding are: bad appearance of carcass; keeping qualities are very inferior; flesh loses its firmness sooner; flavor of flesh is not as good; the odor of stale flesh and putrefaction come sooner.

Picking

There are two methods practiced depending upon the destination of the fowl.

This practice of scalding is common and needs no explanation except to say that in case the water is very hot, grasp the bird by the head and feet and run the bird thru the water in the same direction as the feathers. This process loosens the plumage by steaming and does not allow the water to come into contact with the skin, thus making a better appearance when dressed.

Poultry Prepared and Packed For Market

The advantages of scald picking are: That it is the most rapid method, that in the case of yellow skinned fowls, it brings out the color better.

The disadvantages of scald picking are: That is destroys the cuticle of the skin, thus allowing putrefactive bacteria to gain entrance more quickly.

That the feathers are a loss. That the carcass disintegrates more rapidly.

Dry Picking

When dry picking, always use the method in which you stick the bird in the mouth and destroy the brain tissue. As soon as you have destroyed the brain, grasp the wings over the back of the bird with the left hand holding the head with the thumb and forefinger of the same hand and with the right hand pluck the feathers from the thighs, breast, back and neck first. If the bird was properly brained there will be no danger of tearing the skin, but if this was not properly done, the feathers will pluck hard and care must be taken not to tear the flesh

The usual method employed in an organized picking room is to divide the work between "roughers" and "pinners." The "roughers" bleed, brain, and remove the large feathers. The "pinners" remove the pin and down feathers.

The advantages of dry picking are as follows: Carcass stands holding better; better appearance of finished carcass; possible to save the feathers; no danger of ruining the flesh by hot water.

The Dry Method of Cooling

Place the carcasses in a refrigerator or cooling room in which the temperature is about 32 to 35 degrees F. until the animal heat has all escaped. Fowls should not be frozen unless they can be kept frozen because freezing and thawing deteriorate the quality of the flesh. To cool properly, the fowls should be hung on racks.

The Wet Method

Placed the carcasses in a tank or tub of cold water, ice water preferred, and leave them to cool. This plumps the fowl, making it look in better condition than it actually is, due to the water passing into the pores of the skin and flesh. It has been found that 4 percent of the protein in the flesh will dissolve out in an hour and that for every ounce of protein dissolved, 4.3 ounces of water is absorbed. The soaked skin gives an entrance to injurious bacteria and consequently this practice is discriminated against where refrigerator facilities are available. After cooling thoroly the fowls are ready to be packed and shipped. If for home consumption or for trade that requires that the birds be drawn, trussing is performed while the bird is still warm.

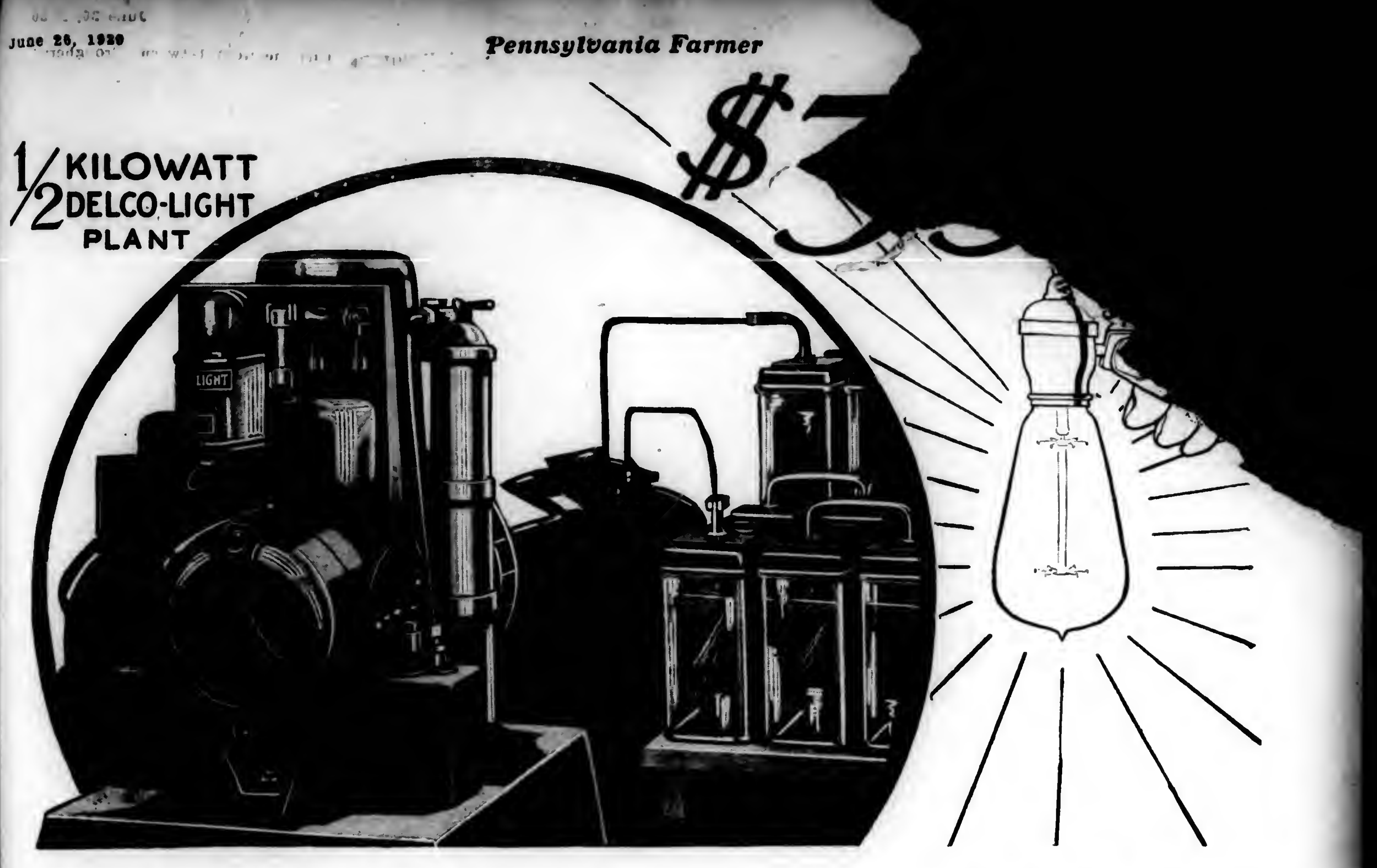
A little paint goes a long way toward sprucing up about the farm.

Sunlight in the poultry house is a good disinfectant; but the careful poultryman will not rely on sunlight alone.

A farmer who has faith in his calling even when many problems perplex is the one who is most likely to succeed.

If the instruction book which accompanied your binder is lost, better get another. It may save a lot of time later in the season.

It takes considerable food to feed the 30,000,000 dogs in the United States. Some of them are worth their keep; the sheep-killing dog is not among them.



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Hummer's Famous Chicks. Large, healthy and strong. Bar. Rock per 100, $18; 50, $9.50; R. I. Reds 100, $19.50; 50, $10; S. C. B. Leghorns 100, $17; 50, $9; S. C. White Leghorns 100, $16.50; 50, $8.50; Anconas 100, $31; 50, $16. Prompt delivery each week, prepaid, live arrival. E. R. HUMMER & CO., Frenchtown, N. J.

CHICKS 11cts each AND UP Rocks, Leghorns, Reds and Broilers. Money back for dead ones as far as Colorado, Texas and Maine. Pamphlet free. SANDY KNOLL HATCHERY. C. M. Lauver, Prop., Box 43, McAlisterville, Pa.

Strickler's husky, pepful Baby Chicks. Tom Barron, 300 egg strain S. C. White Leghorns. Prices slashed for July and August delivery. Sent by special delivery insured prepaid parcel post; safe delivery guaranteed. Thorobred quality chicks at scrub chick prices. $14 per 100. LEONARD F. STRICKLER, SHERIDAN, PA.

Look! BABY CHICKS $11 a 100 up! By insured parcel post, postage paid. 40 breeds chicks, 4 breeds ducks. Get June and July chicks for January layers. Catalog free, stamps appreciated. NABOB HATCHERIES, GAMBIER, OHIO.

200,000 CHICKS Reds, Rocks, Leghorns, Minorcas and Broilers at rock bottom prices by Parcel Post. Prepaid and safe delivery guaranteed. Our 11th year. Catalog free. KEYSTONE HATCHERY, Richfield, Pa.

LIVE POULTRY Hay and all farm products wanted. Daily demand at good prices. GIBBS & BRO., 325 North Front St., Philadelphia, Pa. Estd. in 1844.

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Selby Service Satisfies Ship us your produce, poultry and eggs. Penna. Potatoes a specialty. Returns day goods are sold. Ask for our market letter. SELBY PRODUCE CO., PHILADELPHIA

TIFFANY'S SUPERIOR CHIX Wyandottes, Reds, Rocks & Leghorns. **DUX** Pekin, Rouen and Runner Ducklings. ALDHAM POULTRY FARM, Phoenixville, Pa. R 39.

Baby Chix at special low summer prices, for July, Aug. and Sept. Write for free catalog and price list. OHLS POULTRY & HATCHERIES, Marion, O

...00 CHICKS for 1920, Leghorns, Barred P. Rocks and mixed chicks. Write for booklet for June and July delivery. Safe delivery guaranteed. THE CYCLONE HATCHERY, Millerstown, Pa.

That Lay and Pay Beautiful Buff Rocks. Vigorous and prolific. Eggs, $1.50 for 15, balance of season. M. W. THOMAS, Chestertown, Md.

SHIREY'S S. C. White Leghorn Baby Chicks 14c and up according to season. They make the greatest egg producers on earth. C. P. Shirey, Stewartstown, Pa.

1,000 B. P. ROCKS 1 to 1 1-2 lb. chicks for sale at once, priced to sell, also 1,000 W. Leghorns 6 to 8 wks. old. Crystal Spring Stock Farm, Littlestown, Pa.

DAIRY

SUNNYBROOK GUERNSEYS 40 head, free of tuberculosis, bull calves for sale. EDWIN B. MAULE, COATESVILLE, PA.

GUERNSEYS Heifers and bulls by a son of Imp. King of The Ma... Locust Lawn Farm, Bird-in-Hand, Lanc. Co., Pa.

Ayrshire Bull Calves From high record A. R. Dams. ROBERT TEMPLETON & SON, ULSTER, PA.

Registered Holstein and Guernsey bulls from calves to serviceable age. 250 animals in the herd. BONNYMEADS FARMS, R. D. 1, Harrisburg, Pa.

Ayrshire Bull and heifer calves for sale; or will exchange for good [illegible]. WM. J. W. BECHTEL, Bechtelsville, Pa.

GUERNSEY BULL FOR SALE, 3 yrs. old, sure breeder. Will be sold reasonably to close estate. ...O. L. BORZ, TIONESTA, PA.

OUTLOOK IN SOUTHERN NEW YORK

...ys the crop outlook in ...er of Counties of ...e is not as favorable ...his is partly due to ...ndition. First, we had a long... spring, followed by several weeks of extreme drouth, which left the pastures in a dry state. Milk has not so far reached its average flow. In fact, it fell off considerably by reason of the prolonged dry weather.

Then, too, help is and has been very scarce. Farmers are crippled in this respect as they never have been before. A ride thru the country shows that far less corn has been put in and the planting of potatoes at this writing, June 7th, has scarcely been commenced. Here and there we see great pieces of land that have not been touched this year, and will not be unless some unexpected event arises to provide needed help. What this will mean in sowed and planted crops it is not difficult to imagine. The hay crop bids fair to be short because of dry and cold weather, while other crops cannot be gotten in and could not be cared for properly if they could be gotten into the ground.

We are not discouraged, however. The reduction in the number of cows, so that men can do the most of their own work alone with the help of machinery and the exchange of help on the farms of the different neighborhoods, is in some ways a relief. The wages demanded by hired men had reached a point that well-nigh took the profits of the farm. The money the farmers make now, however, will be theirs and more will probably stick to their fingers than formerly.

Then, too, the growth of brotherly kindness among the men of a good many localities is certainly encouraging to consider. The time was, whether rightly or wrongly this is not the place to consider, when farmers were called unsociable, independent and inclined to do their own business in their own way. The pressure of high prices paid in town for work of all kinds have stripped the country of young men and women and thrown the farmers back on their own resources. They are learning that we all need the helping hand of our neighbors sometimes. More farmers are working together to get their work done than I have ever seen before. When any man gets in a tight place, his neighbors turn in and help him out, and it is all done so cheerfully and with such a brotherly spirit that we cannot help feeling that it is indeed "an ill wind that blows nobody any good."

Another good thing is coming from present conditions, and that is a disposition to save wherever possible. Old machines are being repaired to last another season; discarded machinery is being dug up and made to do pretty good work; men are hunting up their old clothes and washing up and mending harnesses that were thought to have served their day.

Prices for such things as farmers have to sell are good as a rule. Eggs bring from fifty to sixty cents, potatoes $4.00 a bushel, hay $25 to $30 a ton delivered, and so on. These prices seem high to those who buy, but they are not when we consider the cost of production. For example, an export at Cornell has carefully figured out the cost of producing a gallon of maple syrup and finds it to be $2.70. Most of the syrup produced in this section was sold at $3 a gallon, not an excessive profit to say the least.

We all feel that things are in a transition state and are trying to do the best we can while waiting for them to adjust themselves properly. —E. L. V.

GETTING BETTER

My father thinks that the paper is better every week. What you have said in about raising potatoes is worth the price of the subscription. —Roland Peacock, Bath, N. Y., May 17, 1920.

COUNTY NOTES

Delaware County, Pa., (SE) June 7, 1920.—The weather has been, until the past week, unusually cold, making a very backward spring. Most farmers have their corn and potatoes planted, and the rain we have just had will do a wonderful amount of good, as the ground was so dry vegetation seemed at a standstill. Wheat looks good. Grass, like all crops, is more backward than usual, altho it is picking up now, and farmers are getting ready to cut alfalfa. Potatoes for seed, were very high—$7 to $9 per bushel; seed corn was $3 per bushel, as there was so little fit for seed. Fruit seems to promise well, as the trees never were so covered with blossoms. Strawberries are beginning to ripen and are very abundant, commanding from 35 to 40 cents per quart box. No demand for rhubarb as sugar is so high in price. Chickens, 45 to 55 cents per pound. Eggs, 50 to 65 cents per dozen. Good butter, 80c per pound. Help very scarce.—M. A. Croll, Del. Co.

Adams, O., (SC).—Cool nights and not very warm days still continue. Plenty of rain. A large amount of corn was not planted till June. Corn has come up well. The area planted is not as large as usual. Squirrels are very numerous and taking up the corn to get the seed grain. Farm work is fully one month late, caused by so much wet and shortage of farm help. A promise of fair crops of apples, peaches, plums and cherries.—Walter Roberts.

On a certain evening last Autumn, a group of farmers sat around the stove in a general store and joined in a general and heartfelt complaint about the ravages of the potato bug.

"The pests ate my whole potato crop in two weeks,' said one farmer.

"They ate my crop in two days," said a second farmer, "and then roosted in the trees to see if I would plant more."

A salesman who was traveling for a seed house cleared his throat. "That's remarkable," he said, "but let me tell you what I saw in my own store. I saw a couple of potato bugs examining the books a week before planting time to see who had bought seed."

Ability to select appropriate design and materials, and colors that are suited to the individual, is of more importance to the woman who would be well dressed than the size of the pocketbook.

White straw hats which look a bit dingy may be given a new lease of life if rubbed well with cornmeal dampened with peroxide.

Facts in BLACK & WHITE

The Wisdom of Keeping Strictly Dairy Cows

The class of cows that should be kept for dairy purposes is well illustrated by a farm survey made by P. H. Ross, County Agent of Leavenworth County, Kansas, in which he states: "Blood will tell." The greatest producers and the most profitable producing cows always have been and always will be of dairy breeds, bred to produce milk and butter economically. Fifty-nine farms included in this survey were dairy farms, and the comparison with other breeds in producing milk and profits, showed $38 more return for the Holstein-Friesian per year per cow than the other breeds, and more than three times as great an income per cow as did the dual purpose cows.

Send for the valuable Holstein booklets. They are sent free.

THE HOLSTEIN-FRIESIAN ASSOCIATION
218 Hudson Street
Brattleboro, Vermont

POLLED HOLSTEINS registered in the Herd Books of the Holstein Friesian Association of America. Herd sire out of world's record senior four-year-old, KEYSTONE BEAUTY PLUM JOHANNA No. 161646

At 4-19-20, 365 days—25787.5 milk; (4.02%) 1294.7 butter

At 3-3-23, 365 days—22496.6 milk; (3.94%) 1108.9 butter

2 years under full age—48284.1 milk; 2403.6 butter. The youngest cow in the world to have two consecutive records averaging over 24,000 lbs. of 4% milk in a year.

Bull calves $100.00 and up. GEORGE E. STEVENSON & SONS, Clarks Summit, Pa.

HOLSTEINS Registered & Grades 150 reg. cattle, 20 reg. bulls, 100 high grades, a carload of any age that you may want. Holstein heifer calves $20 each express paid in lots of 5. Over 2,000 satisfied customers will send list in your states for reference of square dealing at SPOT FARM. J. C. Reagan, Tully, N. Y.

MAPLE LAWN HOLSTEINS High grade heifer calves, $25 ea. safe arrival guaranteed, shipped C. O. D. I have the finest line of reg. and grade cows in central New York. Wire me when you will be in Cortland; my farm and offices will give you quick, efficient service. For immediate sale 100 heavy producing cows, all young, will freshen in next 60 days. Everything in Holsteins. C. W. Ellis, Jr., Maple Lawn Farms, Cortland, N. Y.

Registered Berkshires Big type service boars from litters farrowed in Sept. and Oct. 1919. Four grandsons of Epochal's Progress sired by a son of Matchless Lee 8th. One grandson of Old Forge Successor sired by Su... Masterpiece's Baron Duke. Three grandsons of Superior Emblem, sired by Winona Lee Champion 6th. Here are eight extra good young boars. Good enough to head any herd. EZRA J. NOLT, R. 2, MT. JOY, PA.

STEVENS' HOLSTEIN FARM OF CORTLAND, N. Y. King Korndyke Sadie Vale Jr., No. 20391, two nearest dams averaging 36 pounds of butter in 7 days heads my herd. Butter records from 17 pounds two-year olds to 34 pounds at full age. Also high grade Holstein calves, either sex, $20.00 each. Write your wants. PAUL H. STEVENS, Prop.

GUERNSEY HERD SIRE FOR SALE Of extra good breeding and a splendid individual. A sure breeder and throws nice large calves. 2 yrs. 1 mo. old. Both parents in the A. R. class. Descendant of "Pride of Place," "Viola Rose," etc. Details upon request. Price $225. A. L. UMSTEAD, Perkasie, Pa. R. 1.

We will give the Use of a Finely Bred **Registered Holstein Bull Calf** for 3 years to any responsible farmer. Write for our plan. Mugget Hill Farm, Charlton, Mass.

PENN'S VALLEY STOCK FARM Percherons, Holsteins, Berkshires. Six large type yearling sows bred to farrow Sept. 1st. Can furnish sow pigs for club work. W. F. RISHEL, CENTRE HALL, PA.

Reg. O. I. C.'s 20 choice pigs ready for shipment. Gilts, service boars and bred sows for fall litters. We are over stocked, and will to make [illegible]. Ship C. O. D. ELM GROVE STOCK FARM, Cortland, N. Y.

HOLSTEIN FRIESIAN HEIFER AND BULL CALVES Purebred registered and high grade. Price $20 up. Splendid individuals and breeding. Write us your requirements. BROWNCROFT FARMS, McGraw, N. Y.

Brown Swiss Pure Bred Bulls for sale. Fine as silk. Come and see them. G. EUGENE BOWN, FORKSVILLE, PA.

MILKING SHORTHORN BULL CALVES of the best breeding. Also a few females for sale. C. M. KENNEDY & SONS, ULSTER, PA.

Registered Holstein Friesian Cattle Sons of the great Finderne Sir Valdessa, a 37 lb. bull, for sale. MILLARD E. BASEHOAR, Littlestown, Pa.

Reg. Holstein Bull Calves, from officially tested dams and a 30 lb. sire. Write for prices, pictures and pedigrees. Walter H. COLLTENDEN, Forty Fort, Pa.

AUCTION SALE HOLSTEINFRIESIANCATTLE

On Monday, June 28th, at 1 P. M..

TYRONE, Blair County, PA.

Maple Lawn Farms and The Stevens Holstein Farms, Cortland, N. Y., will sell one express load of choice registered and high-grade Holstein cattle. Included in this shipment will be choice young registered springers, registered heifers, heifer calves, service bulls and bull calves of choice breeding and high A. R. O. backing. Also a few choice grade springer cows.

The sale will take place rain or shine.

C. W. Ellis, Jr. and Paul H. Stevens
CORTLAND, N. Y.
Geo. Baxter of Elmira, Auctioneer

Swine

FOWLER'S PURE BRED HAMPSHIRES Will please you. Best and largest herd in East. THE FOWLER FARMS, MACUNGIE, PA.

Reg. Duroc-Jersey Pigs Orion, Kellys Pilot Wonder and Cherry King breeding. Shipped C. O. D. and guaranteed to please. Prices reasonable. ORANGEDALE FARM, Orangeville, Pa.

BIG TYPE CHESTER WHITE PIGS sired by a son of Big Nellie 2nd, Grand Champion sow of the National Swine Show. Reg. free. G. B. GINTER & SON, Carlisle, Pa., R. 9.

Large Type Reg. Berkshires of all ages for sale. Select a breeder from a large litter. Pay when you see stock. No cash in advance. DAVID WIANT, HUNTINGTON MILLS, PA.

Registered Duroos Best blood lines. Sold out at present. Will book orders for spring pigs. Northumberland County Duroc-Jersey Breeders' Association, J. M. FRY, Corresponding Secretary, Sunbury, Pa.

REG. BERKSHIRE SWINE Both sexes, all ages. Reasonable prices. G. NORMAN ACKER, West Chester, Pa. R. 2.

Some of America's Best Durocs. 40 head bred and open gilts and service boars at Public Sale, December 2, 1920. SLATY RIDGE FARM, Palmyra, Pa., Box 5.

REG. DUROCS Large size, heavy bone, best blood lines, prices reasonable. Satisfaction guaranteed. JOHN W. COX & SON, New Wilmington, Pa.

BELROSE DUROCS— EXPRESS PAID Boars and Bred Sows bred and open gilts all sizes. Prices right. BELROSE FARMS, RICHFORD, N. Y

Berkshire Pigs, sired by States Majestic, one of the best boars ever bred by Penna. State College. Also two extra good boars ready for service. A. B. Kirsch, Nicktown, Pa.

REG. BERKSHIRES Longfellow, Masterpiece, King Louis and Delchester Artful Lady blood lines. Special offerings, bred gilts, Fall pigs. Priced right. Nearby Stock Farm, J. A. McMahan, Pottsgrove, Pa.

O. I. C. March Pigs. Reg. free. Big prolific strain; sired by Frank No. 74413, Vol. 21. Prices right, sat. guaranteed. Edw. N. Lydick, Indiana, Pa., R. 23.

Chester Whites Boars and Sow Pigs. Bred Sows. Collie dogs. ARCADIA FARM, BOX D, BALLY, PA.

Large Type Duroc. Boars and Fall Gilts. Also some fine Spring pigs. Guaranteed to please or money refunded. B. H. SAGER, BASIL, OHIO

Reg. Big Type SPOTTED POLAND-CHINA Pigs, bred from a son of O. K.'s Pride No. 30, also 5 Reg. Holstein Bulls. H. C. Kymer, R 4, Shippensburg, Pa.

DUROCS. Sept. boars ready for service. Also 2 Spring boars. Sept. Gilts bred for Sept. Spring pigs not akin. All im. I. D. Jackson, R 10, Van Wert, Ohio

REG. O. I. C'S, all ages. Open and bred gilts at prices to move them. Black Diamond Minorca Farm, Mt. Bethel, Pa.

BIG TYPE POLAND'S Baby herds a specialty. KEYSOR & CLELAND, Greenwich, Ohio.

CHESTER WHITE PIGS.—A fine lot now ready to ship, either singly or in pairs. R. L. MUNCE, Canonsburg, Pa.

I. I. C. Pigs, either sex. We ship on approval and register free. L. B. COFFMAN & CO., Palmyra, Pa., R. 2

CHESTER WHITES and O. I. C. Big Type prize winners. Pigs $15.00 and up prepaid. GEO F. GRIFFIE, NEWVILLE, PA. R 3

Reg. O. I. C.'s Booking orders for Spring pigs. Silver strain breeding. RHUBAKER BROS., Star R., Cocolamus, Pa.

REG DUROCS Choice Pigs, Orion and Col. Blood lines. Satisfaction guaranteed. Price reasonable. ALLEN L. METZLER, SOMERSET, PA R 4.

Registered Berkshires Spring Pigs $15.00 each. Bred sows $50 to $75. L. C. TOMKINS, Ellenton, Lyc. Co., Pa.

Hampshire Hogs, bred sows, and 8 and 10 weeks old pigs. A H FUNSTON, WILLOW HILL, PA.

Chester Whites and HAMPSHIRE SHEEP Write your wants. We can please you. TWIN BROOK FARM, Newville, Pa

Reg. Chester Whites. Stock guaranteed as represented or money refunded. Fine thrifty well bred stock, reasonably priced. L. O. GARRIGUES, Tiarnton, Pa.

TARRYMOOR BERKSHIRES
Quality Growthiness Prolificacy
We guarantee satisfaction.
Robt. E. Atkinson, Wrightstown, Pa. Bell Phone

Veterinary

Conducted by W. C. Fair, V. S.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also the name and address of writer. Initials only will be published. We cannot make reply by mail. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, make one of the most valuable medical symposiums a farmer-stockman can obtain.

Indigestion.—I have a 12-year-old horse that eats well, but is running down, growing thin, and not able to do full work. I have quit working him for a while. Thought he might have worms, treated him for same, but none passed him. Some of the food passes thru him undigested. H. F. C., Tyrone, Pa.—Give him a teaspoonful fluid extract of cinchona and a tablespoonful of Fowler's Solution at a dose, in either feed or in drinking water, three times daily. His teeth may require floating. Feed him plenty grain, but let him have enough grass to keep his bowels open.

Obstructed Teat.—I have a cow that was fresh early this spring and in some manner got a cut or scratch on one teat, either by the calf biting it or by cutting it on something, only a small wound. But that quarter of the bag becomes hard and I applied camphorated oil and different remedies to reduce the swelling and soon had that under control. But there seemed to be something in the teat so that I could hardly squeeze the milk out. Calf could hardly suck it out. I finally called a veterinary and he recommended putting in a milk tube which we did, but soon lost it, and as we could not buy one here and the veterinarian had no more, he suggested making little round pins out of Hickory wood and putting one in every time after milking and leaving it in from one milking to another; always boiling pins to keep them clean. I also dip pin in iodine before I insert it, this lets the milk out all right when it is removed. I usually boil pins. When I let her go between milking time without a pin I am unable to draw milk easily. Near the end of teat there seems to be a thickening and partial closing of the teat canal. When squeezed I can detect a hard sort of growth near end of teat and I might add, she is not now giving as much milk from this quarter as formerly. I am tempted to let this quarter go dry. Why should such a small scratch cause so much troube, is what bothers me. E. H. Z., Denton, Md.—Your cow suffers from an infected wound. Had you promptly painted scratch with tincture iodine or any other good penetrating wound remedy, her ailment might have been avoided. A wound should be protected from external dirt and germs. Her recovery is doubtful. However, if you will use a teat dilator and occasionally paint teat with tincture of iodine she will improve. You have managed this case well, for if not, she would have been dry by now. Slitting teat canal on four sides would be considered good practice.

Bruised Shoulder. — Abscess. — Sore Feet.—My 6-year-old mare hurt her shoulder, causing it to swell badly. Some time later it opened and much pus flows from it and as it has been going on for 3 weeks I would like to have her cured. She is not lame. I also have a heifer troubled with sore feet. The sores are all situated low down. She dislikes to walk. T. C. R., Rutland, Pa.—Doubtless some cutting should be done to admit of proper drainage, then swab out abscess with tincture of iodine. Apply one part iodoform and 8 parts boric acid twice a day. Mix equal parts oxide of zinc and boric acid and apply to sores on heifer twice a day. One part oxide of zinc and 3 parts vaseline should be applied after the sores are almost healed.

NOT A RUBBER-NECK

First Class Scout: Say, boy, don't you know that you can't get your kite out of that tree that way; why don't you use your head?

Tenderfoot: Because my neck is not long enough.

H...

at ...

THE ONEIDA COUNTY BREEDE...

Utica N. Y. Sale will be held at Troop D Armory located on Lafayette St., affording one of the best places in the city in which to sell

HEALTH INDIVIDUALITY These are the two features which the Oneida County Breeders wish to impress upon the buying public. Individuality has been the paramount issue and if you attend this sale you will see that the committee has been most successful in the carrying out of their work. In addition to all this they have insisted that all animals over six months of age must be tuberculin tested and are being sold under a 60-day retest guaranteed. It is by reason of these things that they solicit your patronage in this, their first annual event. The following men will consign animals:

F. N. Kelsey, Deansboro
Daniel Thomas, Stittsville
Mayhew Farms, Marcy
H. J. Perry, Holland Patent
A. C. Howe, New Hartford
Oneida Community, Oneida
E. H. Lloyd & Son, New Hartford
Thos. Carroll, Westernville
Shanley Bros., Clinton
F. M. Jones, Clinton
Ora Hines, Poland
J. D. Karlen, Boonville
Wm. Gasbacker, Boonville
C. C. Pillmore, Rome
Gordon Smith, Rome
F. J. de Bisschop, Rome
W. K. Agne, Rome
Paris Stock Farm, Paris
F. W. Hoag, Rome
Shirley Dye, Bridgewater
Geo. Tuckerman, Cassville
Risley Estate, Cassville
J. H. Phelps & Son, Vernon
F. J. Boysen, Rome
W. G. Comstock, Clinton
Brothertown Farms, Utica
S. F. Sherman)

HERE ARE SOME OF THE BIG FEATURES OF THE SALE:

Two yearling daughters of King Veeman Pontiac Hengerveld, one from a 20-lb. daughter of a 27-lb. dam, another from a 24-lb. daughter of a 26-lb. dam. Both are in calf to K. K. S. V. Imperial whose seven nearest dams average over 30 lbs. A daughter of K. K. S. V. Imperial from a 27-lb. dam, second dam with 31.66 lbs. A young bull sired by a 31-lb. son of King Korndyke Sadie Vale from a 20-lb. 2-year-old, next dam a 20-lb. 2-year-old, third dam also with 20 lbs.

Three granddaughters of King Echo Sylvia Johanna sired by a brother to Carnation King Sylvia the $106,000 bull. Fairview Duno Korndyke 2d, a 21-lb. cow tracing on both sides to Pontiac Korndyke. There will also be sold three of her daughters one by a son of King Pieter, one by a son of King Lyons and one by a son of It.

A yearling daughter of Spring Farm King from Milkspring Pontiac Lass, a 30.22-lb. daughter of Spring Farm Pontiac Cornucopia who is a son of the breed's first 44-lb. cow.

A 21-lb. 4-year-old in calf to Spring Farm King, a full brother to the breed's first 44-lb. cow.

A 6-year-old daughter of King Korndyke Pontiac Lass, son of K. P. Pontiac Lass, former world champion.

A 26-lb. 4-year-old granddaughter of Sir Sadie Vale 33rd from Polly Veeman Hengerveld, a daughter of the famous Sir Veeman Hengerveld.

A 26-lb. 4-year-old granddaughter of Sir Rag Apple Korndyke safely in calf to Spring Farm King.

A Yearling son of Spring Farm King 13th from a 24-lb. 3-year-old. Ten nearest dams of this heifer average 32.96.

A granddaughter of King Pontiac Konigen and a 35-lb. cow, in calf to Cherry-crest King whose dam is a 34-lb. daughter of Spring Farm King Pontiac.

A 4-year-old daughter of Sir Korndyke Pontiac Artis, a 23-lb. 4-year-old with over 500 lbs. milk.

Spring Farm King 22d, one of the good sons of Spring Farm King from May Rose 2d with 30.47 lbs. butter from almost 600 lbs. milk.

Utica has most excellent railroad facilities and its location together with the quality of the animals which are to be offered should make this sale appeal to Holstein fanciers wherever located. A special appeal is made to those desirous of founding new herds and to men and to dairymen wishing to add a number of heavier producing cows to their herd. You will find whatever you want in this sale; A. R. O. cows, bred heifers and young service bulls.

COME—YOU WILL NOT BE DISAPPOINTED

ONEIDA COUNTY HOLSTEIN CLUB
W. G. COMSTOCK, Sec'y CLINTON, N. Y.

FAMOUS O. I. C.'s The world's grand champion herd—Home of two grand champion boars, one grand champion sow. Write for illustrated catalog. It is free. Stock of all ages for sale. CRANDELL'S PRIZE HOGS. Cass City, Mich.

HAMPSHIRES All ages. Strong and vigorous stock. When you buy you want the best, don't you? Then write us. Inspection invited. ROSS B. WITMER, LAMPETER, PA. Member Lanc. Hampshire Breeders' Co-operative Association.

EDGEWOOD HAMPSHIRES Everything sold. Booking orders for gilts bred for fall farrow, and pigs for Pig Club work only. DEPEW HEAD, MARION, OHIO

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REG. BIG TYPE POLAND CHINA PIGS Big ... Down Sheep all from the best [illegible]. C. E. SECHLER, MARKLETON, PA.

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Large Berkshire Swine Registered High Grade. Prices reasonable. Write HOME FARM, Center Valley, Pa

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SPECIAL OFFERS OF PURE BRED LIVESTOCK

JERSEYS.—Mixed car lot of females, also several young bulls. Register of Merit and Cow Testing Association Records.
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All of the above are pure bred cattle with proper registration papers. Address inquiries to
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Write for prices or come and see the fine bred gilts and young sows ready for breeding in the Fall, that we are offering at bargain prices. The bred gilts are part of our foundation herd. For reference—our satisfied customers.
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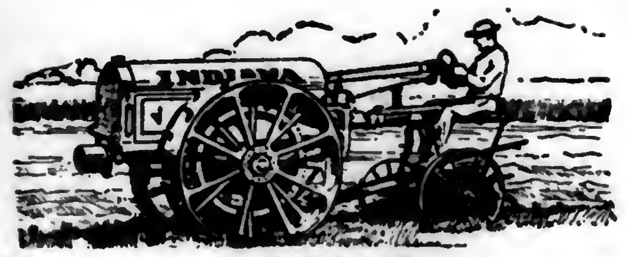
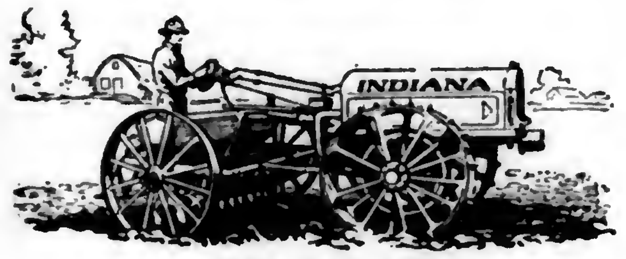
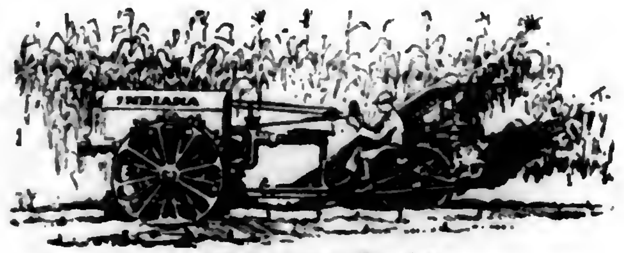
Are you working for your horses?



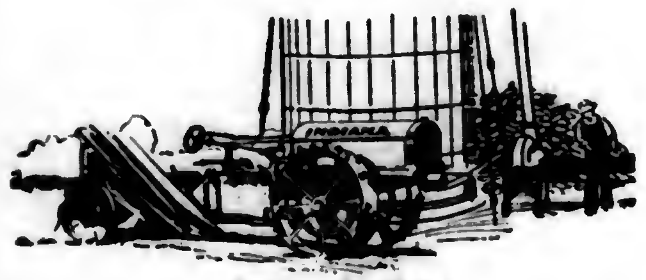
With Sulky Plow



With Grain Drill



With Corn Binder



Cutting Ensilage

WHEN you sell two teams and put the money into an Indiana Tractor you cut down the time you have to spend doing chores and raising feed for horses. You quit working a month or two a year for your horses and work all the time for yourself.

Horses in excess of one team for hauling and odd jobs can be used on most farms only 90 to 100 days during the crop season. But the high cost and trouble of keeping them runs on through the winter.

The Indiana Tractor will do the work of four horses and do everything that they do. Plowing is only 15 per cent of what a tractor must do to replace horses. The Indiana plows more than two teams, and is light enough to go on the ground any time horses should.

It attaches to all makes of harrows, discs, planters, one and two row cultivators, mowers, binders, corn binders, rollers, drills, cultipackers, potato diggers, and all orchard and vineyard tools.

The regular implements you already have are the only practical size and type for row cultivation. The Indiana Tractor will use them with inexpensive hitches. In many operations it will replace six or eight horses. The driver rides the implement and has his work in front of him. The Indiana is the all-round, single unit, one-man tractor.

H. P. Purviance of Logan County, Ills., say: "My Indiana Tractor certainly is a success with the grain binder or anything else one can do with four horses. Used it on double tandem 7 ft. disc, also on double corrugated roller and Nisco manure spreader. I like it better to cut grain than horses, for heat and flies do not bother it and the power is more steady. It stays on top in low spots better than horses."

An Indiana will work every day and the money you can get for four horses and the cost of keeping them a year will more than pay for it. Some owners do not have a horse on their places.

Clayton McFarland, Tippecanoe County, Ind., says: "My corn is equal to any corn in the community and I cultivated it entirely with my tractor. I can plow 20 acres of corn a day with a two row cultivator. I can turn at the ends and break less corn than with a team. I harvested both wheat and oats myself with no trouble from the tractor."

Many owners report cutting grain of all kinds at a fuel and oil cost of 10 to 12 cents an acre.

You can get an Indiana promptly from any of our branches, get rid of four horses, and do two men's work yourself. In the last four years this tractor has made hundreds of enthusiastic farmer friends, who help us sell more Indianas.

For 20 years the Indiana Silo and Tractor Company has been known for high quality products and fair dealing. Ask any of the 75,000 owners of the Indiana Silo.

Mail coupon for book of pictures showing the Indiana doing all the work horses do, and book of letters from users. If you need a silo, we have one for you. We are the largest silo manufacturers in the world.

DEALERS: This tractor can be used more on more farms than any other. It's the biggest dealer proposition in the field.

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